

# Structural Engineering (SE)

STUDENT AFFAIRS: 240 Science and Engineering Research Facility (SERF), University Center  
<http://www.structures.ucsd.edu>

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**Structural Engineering** is the branch of engineering concerned with the design and analysis of civil, mechanical, aerospace, marine, naval and offshore structures. It requires knowledge and competence in the areas of materials, response of individual structural components and the behavior of entire structural systems.

## Department Focus

The instructional and research programs of the department are grouped into four programmatic focus areas: civil structures, aerospace and composite structures, renewal of structures, and earthquake engineering. Both the undergraduate and graduate programs are characterized by strong interdisciplinary relationships with the Departments of Mechanical and Aerospace Engineering, Physics, Mathematics, Bioengineering, Chemistry, Electrical and Computer Engineering, Computer Science and Engineering, the Materials Science Program, and associated campus institutes such as the Institute of Geophysics and Planetary Physics, Institute for Pure and Applied Physical Sciences, Institute for Biomedical Engineering, Center of Excellence for Advanced Materials, California Space Institute, Calit2, and Scripps Institution of Oceanography.

The programs and curricula of the Department of Structural Engineering will educate and train engineers in a holistic approach to structural systems engineering by emphasizing and building on the commonality of engineering structures in materials, mechanics, analysis and design across the engineering disciplines of civil, aerospace, marine and mechanical engineering.

Although structural engineering is traditionally viewed as an activity within civil engineering, in actuality many other engineering disciplines such as aerospace, marine (naval, offshore), and mechanical engineering contain well established discipline-specific structural systems and components. In all of the various engineering disciplines there exists a large commonality in the structural materials used, in the general principles of structural mechanics, in the overall design philosophy and criteria, and in the modeling and analysis tools employed for the numerical quantification and visualization of structural response. Particularly, small disciplinary differences in materials and computational tools are rapidly disappearing with the civil engineering community opening up to new structural materials developed and used to date primarily in the aerospace industry, and with computational developments which are less product specific but more geared towards a holistic structural systems design approach with interactive graphics, object-oriented database management and concurrent visualization and data processing. Developments in overall struc-

tural systems design are increasingly cross-disciplinary over many traditional engineering areas.

## The Undergraduate Program

### *Degree and Program Options*

The Department of Structural Engineering offers an unique engineering program leading to the B.S. degree in structural engineering which is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET). The Department of Structural Engineering also offers a nonaccredited B.S. degree in engineering sciences. The B.S. programs require a minimum of 148 units, plus college requirements in humanities and social sciences.

All Structural Engineering programs of study have strong components in laboratory experimentation, numerical computation, and engineering design. Design is emphasized throughout the curricula by open-ended homework problems, by laboratory and computer courses which include student-initiated projects, and finally, by senior design project courses which involve teams of students working to solve engineering design problems brought in from industry. The Structural Engineering programs are designed to prepare students receiving bachelor's degrees for professional careers or for graduate education in their area of specialization. In addition, the programs can also be taken by students who intend to use their undergraduate engineering education as preparation for postgraduate professional training in non-technical fields such as business administration, law or medicine.

**Structural Engineering** is concerned with the design and analysis of civil, mechanical, aerospace, marine, naval, and offshore structures. Examples include bridges, dams, buildings, aircraft, spacecraft, ships, oil platforms, automobiles, and other transportation vehicles. This field requires a thorough knowledge of the behavior of solids (concrete, soils, rock, metals, plastics, and composite materials), fluid mechanics as it relates to structural loads, dynamics as it relates to structural response, mathematics for the generation of theoretical structural models and numerical analysis, and computer science for simulation purposes associated with computer-aided design, response analyses, and data acquisition. Basic understanding of materials behavior

and structural performance is enhanced by laboratory courses involving static and dynamic stress failure tests of structural models, and response of structural systems. Within this area, students can specialize in (a) civil structures, (b) aerospace structures, (c) renewal of structures, or (d) earthquake engineering.

The **engineering sciences** program follows the overall Structural Engineering program except that the number of required design courses is reduced. In addition to core courses in dynamics, vibrations, structures, fluid mechanics, thermodynamics, heat transfer, and laboratory experimentation, a large number of technical electives are scheduled. This aspect of the curriculum allows flexibility by permitting specialization and in-depth study in one area of the engineering sciences or through a sequence of courses on various emerging technologies. Students must consult their advisers to develop a sound course of study to fulfill the technical elective requirements of this program.

### **Major Requirements**

Specific course requirements for the major are outlined in a table herein. In addition to the required technical courses specifically indicated, a suggested scheduling of humanities and social science courses (HSS) are distributed in the curricula for students to use to meet college general-education requirements. To graduate, students must maintain an overall GPA of at least 2.0, and the department requires at least a C– grade in each course required for the major.

Deviations from the program of study must be approved by the Undergraduate Affairs Committee prior to taking alternative courses. In cases where a student needs to take a course outside UCSD, prior departmental approval is essential. In addition, technical elective (TE) course selections must have departmental approval prior to taking the courses. In the accredited program, TE courses are restricted to meet ABET standards. Courses such as SE 195, SE 197 and SE 198 are not allowed as technical electives in meeting the upper-division major requirements. SE 199 can be used as a technical elective only under restrictive conditions. Policies regarding these conditions may be obtained from the department's Student Affairs Office. Graduate level courses may be petitioned for technical elective credit.

Students with different academic preparations may vary the scheduling of lower-division

courses such as math, physics and chemistry, but should consult the department prior to doing so. Deviations in scheduling lower-division Structural Engineering courses are discouraged due to scheduling constraints. A tentative schedule of course offerings is available from the department each spring quarter for the following academic year.

### **General-Education/College Requirement**

For graduation, each student must satisfy general-education course requirements determined by the student's college, as well as the major requirements determined by the department. The six colleges at UCSD require widely different general-education courses, and the number of such courses differs from one college to another. Each student should choose his or her college carefully, considering the special nature of the college and the breadth of general education.

The Structural Engineering program allows for twelve humanities and social science (HSS) courses so that students can fulfill their college requirements. In the ABET accredited programs, students must develop a program that includes a total of at least twenty-four units in the arts, humanities, and social sciences, not including subjects such as accounting, industrial management, finance, or personnel administration. It should be noted, however, that some colleges may require more than twelve HSS courses indicated in the curriculum tables. Accordingly, students in these colleges may take longer to graduate than the indicated four-year schedule. Students must consult with their college to determine which HSS courses to take.

### **Professional Licensing**

All students are encouraged to take the Engineering-in-Training (EIT) examination as the first step in becoming licensed as a professional engineer (PE). Students graduating from an accredited program can take the PE examination after EIT certification and two years of work experience; students graduating from a nonaccredited program can take the PE examination after EIT certification and four years of work experience.

For further information please contact the Student Affairs Office or your local Board of Registration for Professional Engineers and Land Surveyors.

## **STRUCTURAL ENGINEERING (ABET Accredited Program)**

### **Mission Statement**

To provide a comprehensive education and training to engineers using a holistic approach to structural systems engineering by emphasizing and building on the commonality of engineering structures at the levels of materials, mechanics, analysis, and design.

### **GOALS**

1. To provide our students with a strong technical education that will prepare students receiving Bachelor's degrees for professional careers in industry, or for continued graduate education in their area of specialization.
2. To provide our students with cross-disciplinary technical education to adequately prepare them for a rapidly changing technological world based on the commonality of knowledge across structural engineering disciplines thereby ensuring that they are able to continuously meet professional objectives throughout their careers.
3. To provide our students with a firm foundation for professional advancement not just through technical expertise, but also through communication skills, team and group activities, and ethical/professional responsibility as designers and engineers.

### **OBJECTIVES**

- To provide a sound basis in the general sciences and mathematics that underlie the cross-disciplinary field of structural engineering.
- To provide a thorough training in the design principles and structural action as related to components and systems over a broad range of application areas.
- To provide a thorough training in the methods of analysis, including problem formulation and the use of current mathematical and computational tools.
- To provide an understanding of structural action at the component and systems level through design, analysis, and experimentation.
- To provide through structure and flexibility in the curriculum the opportunity for students to have both specialization (through focus

sequences) and breadth (through technical electives) in the area of structural engineering.

- To instill in students the ability of critical and innovative thinking, and ability to formulate solutions based on sound principles of structural mechanics and materials.
- To teach students techniques of experimentation and data analysis, including the use of statistics and reliability methods required for structural applications.
- To teach the fundamentals of the design process initiating in conceptual design and culminating in final design including the use of appropriate codes of practice.
- To prepare students in the skills needs for successful professional practice as related to team participation, and effective verbal and written communication.
- To instill in our students an understanding and acceptance of their professional and ethical responsibilities.

FALL	WINTER	SPRING
<b>FRESHMAN YEAR</b>		
Math. 20A	Math. 20B	Math. 20C
SE 1	MAE 9	SE 2
Chem. 6A	Phys. 2A	Phys. 2B/2BL
HSS <sup>1</sup>	HSS	HSS
<b>SOPHOMORE YEAR</b>		
Math. 20D	Math. 20F	Math. 20E
Phys. 2C/2CL	SE 102	SE 103
SE 101A	SE 101B	SE 110A
HSS	HSS	HSS
<b>JUNIOR YEAR</b>		
SE 121	SE 120	MAE 170
SE 125	MAE 101A	TE <sup>2</sup>
SE 110B	SE 130A	SE 130B
HSS	HSS	HSS
<b>SENIOR YEAR</b>		
SE 101C	SE 131	SE 140
TE	TE	TE
TE	TE	TE
HSS	HSS	HSS

<sup>1</sup> In fulfilling the humanities and social science requirements (HSS), students must take a total of at least twenty-four units in the arts, humanities, and social sciences, not including subjects such as accounting, industrial management, finance, or personnel administration. Twelve HSS courses are listed here; individual college requirements may be higher.

<sup>2</sup> Technical elective (TE) course must be an upper-division or graduate course in the engineering sciences, natural sciences or mathematics, selected with prior approval of the department to meet ABET standards.

<sup>3</sup> Students must take one full-focus sequence (FS) in: (a) Civil Structures, (b) Aerospace Structures, (c) Renewal of Structures, or (d) Earthquake Engineering. Students

should note that not all focus sequence classes will be offered every year.

### ENGINEERING SCIENCES (Non-Accredited Program)

FALL	WINTER	SPRING
<b>FRESHMAN YEAR</b>		
Math. 20A	Math. 20B	Math. 20C
SE 1	MAE 9	SE 2
Chem. 6A	Phys. 2A	Phys. 2B/2BL
HSS <sup>1</sup>	HSS	HSS
<b>SOPHOMORE YEAR</b>		
Math. 20D	Math. 20F	Math. 20E
Phys. 2C/2CL	SE 102	SE 103
SE 101A	SE 101B	SE 110A
HSS	HSS	HSS
<b>JUNIOR YEAR</b>		
SE 121	SE 120	MAE 170
SE 125	MAE 101A	TE <sup>2</sup>
SE 110B	SE 130A	SE 130B
HSS	HSS	HSS
<b>SENIOR YEAR</b>		
SE 101C	SE 131	SE 140
TE	TE	TE
TE	TE	TE
HSS	HSS	HSS

<sup>1</sup> In fulfilling the humanities and social science requirements (HSS), students must take a total of at least twenty-four units in the arts, humanities, and social sciences, not including subjects such as accounting, industrial management, finance, or personnel administration. Ten HSS courses are listed here; individual college requirements may be higher.

<sup>2</sup> Technical elective (TE) course must be an upper-division or graduate course in the engineering sciences, natural sciences or mathematics, selected with prior approval of the department to meet ABET standards.

## Policies and Procedures for Structural Engineering Undergraduate Students

### Admission to the Major

Admission to the department as a Structural Engineering major, or to fulfill a major in another department which requires Structural Engineering courses, is in accordance with the general requirements established by the School of Engineering. The admission requirements and procedures are described in detail in the section on "Admission to the School of Engineering" in this catalog. All students are expected to complete lower- and upper-division courses, as suggested in the curriculum tables, in a timely fashion in the sequences outlined.

### Transfer Students

Requirements for admission as a Structural Engineering major, or into Structural Engineering courses, are the same for transfer students as they are for continuing students (see section on "Admission to the School of Engineering" in this general catalog). Accordingly, when planning their program, transfer students should be mindful of lower-division prerequisite course requirements, as well as for meeting collegiate requirements.

Students who have taken equivalent courses elsewhere may request to have transfer credits apply toward the department's major requirements. This is accomplished by submitting a petition for transfer credits together with a transcript and catalog course description from the institution where the course(s) were taken. These documents are reviewed for approval by the Structural Engineering Undergraduate Affairs Committee.

Effective **fall 2004**, it is **strongly recommended** that transfer students complete the following preparation for engineering majors\*:

- Calculus I—for Science and Engineering (Math. 20A)
- Calculus II—for Science and Engineering (Math. 20B)
- Calculus and Analytic Geometry (Math. 20C)
- Differential Equations (Math. 20D)
- Linear Algebra (Math. 20F)
- Complete calculus-based physics series with lab experience (Physics 2A-B-C)
- Chemistry 6A (except Computer Science and Computer Engineering majors)
- Highest level of introductory computer programming language course offerings at the community college\*\*

\*Effective **fall 2006**, these courses will be **required** preparation for all engineering transfer students.

\*\*Refer to the *UCSD General Catalog* to select major prerequisite requirement for computer language courses.

No transfer credit will be given for courses similar to SE 1 and SE 2. SE 1 and SE 2 must be taken by all students majoring in Structural Engineering.

Transfer petitions are available from the Structural Engineering Student Affairs Office.

## ***Academic Advising***

Upon arrival, students must make an appointment with the undergraduate adviser in the Structural Engineering Student Affairs Office to plan a program of study. The program plan may be revised in subsequent years, but revisions involving curricular requirements require approval by the undergraduate adviser or the Undergraduate Affairs Committee. Because some courses and/or curricular changes may be made every year, it is imperative that students consult with the department's undergraduate adviser and their assigned faculty adviser on an annual basis.

Many Structural Engineering courses are offered only once a year and therefore should be taken in the recommended sequence. If courses are taken out of sequence, it may not always be possible to enroll in subsequent courses as desired or needed. If this occurs, students should seek immediate department advice. When a student deviates from the sequence of courses specified for the curriculum in this catalog, it may be impossible to complete the Structural Engineering major within the normal four-year period. Structural Engineering advisers will be monitoring the progress of students in order for them to remain on track.

In addition to the advising available through the Structural Engineering Student Affairs Office, programmatic or technical advice may be obtained from Structural Engineering faculty members. A specific Structural Engineering faculty adviser is assigned to each Structural Engineering student. All Structural Engineering students are required to meet with their faculty adviser at least once a year, preferably before the beginning of fall quarter.

## ***Program Alterations/Exceptions to Requirements***

Variations from, or exceptions to, any program or course requirements are possible only if a petition is approved by the Structural Engineering Undergraduate Affairs Committee before the courses in question are taken. Petition forms may be obtained from the Structural Engineering Student Affairs Office and must be processed through this office.

## ***Independent Study***

Structural Engineering students may take SE 199, Independent Study for Undergraduates, under the guidance of a Structural Engineering faculty member. Normally, this course is taken as an elective on a P/NP basis. Under very restrictive conditions, however, it may be used to satisfy upper-division technical elective course requirements for the major. Students interested in this alternative must identify a faculty member with whom they wish to work and propose a two-quarter research or study topic. After obtaining the faculty member's concurrence on the topic and scope of the study, the student must submit a Special Studies Course form (each quarter) and the "SE 199 as Technical Elective Contract" form to the Structural Engineering Undergraduate Affairs Committee. These forms must be completed, approved, and processed **prior** to the beginning of the quarter in which the course is to be taken. This should not be done during the add/drop period. Detailed policy in this regard and the requisite forms may be obtained from the Student Affairs Office.

## ***Teaching***

Students interested in participating in the instructional activities of the department may take SE 195, Undergraduate Teaching. Policy in this regard and the appropriate forms may be obtained from the Structural Engineering Student Affairs Office.

## ***Bachelor's/Master's Program***

The department offers a bachelor's/master's degree program to enable students to complete both the B.S. and M.S. degrees in an accelerated timeframe. Undergraduate students in the Department of Structural Engineering who have at least 148 quarter units with a cumulative 3.5 M.W. GPA are eligible to apply. Admission to the bachelor's/master's degree program is not automatic. Student applications are reviewed and the final decision is made by the Department of Structural Engineering. Acceptance into this program is an honor which carries with it practical benefits—the graduate application process is simplified (no GREs required) and advanced students are given access to graduate level courses. Upon acceptance as an undergraduate into the program, a faculty member will be assigned who will serve as the student's adviser. Interested stu-

dents should contact the Structural Engineering Student Affairs Office. Students must fulfill all requirements for the B.S. degree prior to being formally admitted to graduate status.

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## **The Graduate Program**

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The Department of Structural Engineering offers instruction leading to the degrees of master of science (M.S.) and doctor of philosophy (Ph.D.) in structural engineering (SE). In addition, an M.S. degree in structural health monitoring, prognosis, and validated simulations has been activated. The graduate program is aimed at training a select number of highly skilled professionals in structural engineering with the academic and engineering credentials to assume leadership roles in industry and academia.

The M.S. degree program is intended to provide students with additional fundamental knowledge as well as specialized advanced knowledge in selected structural engineering aspects over and above the undergraduate degree course work.

The doctor of philosophy (Ph.D.) degree program is intended to prepare students for careers in teaching, research, and/or in their chosen professional specialties. The Ph.D. program requires a departmental comprehensive examination, a Ph.D. candidacy examination, a Ph.D. dissertation based on new and unique research, and a dissertation defense.

Both degrees offer opportunities for training in one or more of the four primary research thrusts within the SE department which are in (1) Earthquake Engineering, (2) Advanced Composites and Aerospace Structural Systems, (3) Renewal Engineering, and (4) Structural Health Monitoring, Prognosis, and Validated Simulations.

Admission to the UCSD graduate division requires at least a B.S. degree in engineering, physical sciences, or mathematics with an overall upper-division GPA of 3.0. Applicants must provide three letters of recommendation and recent GRE general test scores. A minimum TOEFL score of 550 (213 computer-based) is required from international applicants whose native language is not English. Based on the candidate's background, qualifications, and career objectives, admission to the program is in one of two categories: M.S. or Ph.D.

Applicants seeking enrollment in SE courses via UC Extension's concurrent registration pro-

gram are advised to refer to the "Graduate Studies: Transferring Credit" section of the UCSD General Catalog for clarification.

## Master's Degree Program

The M.S. degree program is intended to provide the student with additional fundamental knowledge as well as specialized advanced knowledge in selected structural engineering aspects over and above the undergraduate degree course work. Two plans, the M.S. Thesis Plan and the M.S. Comprehensive Examination Plan, are offered. The M.S. Thesis Plan is designed for those students with an interest in research prior to entering the structural engineering profession or prior to entering a doctoral degree program. The M.S. Thesis Plan involves course work and research culminating with the preparation and defense of a master's thesis. The M.S. Comprehensive Examination Plan involves course work and culminates with a report and a public oral presentation related to the courses the student has taken. The topic is selected by the student's adviser, and must draw on at least two focus sequences the student has taken. The student will be required to prepare a final written report on the topic that must be approved by the student's adviser and must be presented orally to a committee of three faculty members (one being the student's adviser) during the final quarter of study. The written report must be submitted to the adviser two weeks before the oral presentation and to the other committee members one week before the oral presentation.

M.S. students must complete forty-eight units of credit for graduation. For the M.S. Comprehensive Examination Plan all forty-eight units of credit must consist of regular courses (twelve courses). For the M.S. Thesis Plan, thirty-six units (nine courses) from regular courses are required, in addition to twelve units of graduate research for the master's thesis. For both M.S. plans, students are required to complete a minimum of two sequences from the following focus areas:

1. Structural Analysis
2. Structural Design
3. Earthquake Engineering
4. Advanced Composites
5. Solid Mechanics
6. Advanced Structural Behavior

A sequence is composed of three regular courses from the same focus area. The courses comprising the focus sequences are listed in the table in this section. To meet the specific needs of some students, other focus areas may be developed by a student in consultation with his or her adviser, but these must be approved by the SE Graduate Affairs Committee. To allow for greater flexibility in the program, the remaining credits required from courses may be earned by completing additional focus sequences, parts of focus sequences, or other appropriate courses. Students may elect to take other appropriate technical electives (with the approval of their adviser and the SE Graduate Affairs Committee). Up to twelve units of upper-division undergraduate (100-level) courses will be allowed in the M.S. program. Units obtained in SE 290, 291, and 298 may not be applied towards course work requirements. No more than four units of SE 296 may be applied toward course work requirements and only with **prior** approval of the SE Graduate Affairs Committee.

The department also offers two seminar courses each quarter dealing with current research topics in Earthquake Engineering (SE 290) and Advanced Composites (SE 291). The SE distinguished seminar series is administered within these two seminar courses. The SE distinguished seminar series features prominent speakers from academic, industry, and national laboratories. All master's students are required to take one of these two seminar courses each quarter they are registered.

### Focus Sequences

FOCUS SEQUENCE	COURSES
Structural Analysis	Advanced Structural Analysis Structural Stability Structural Dynamics Structural Reliability and Risk Analysis
Structural Design	Advanced RC/PC Design Advanced Structural Steel Design Bridge Design
Earthquake Engineering	Structural Dynamics Random Vibrations Earthquake Engineering Geotechnical Earthquake Engineering Advanced Seismic Design of Structures

Advanced Composites	Design of Composite Structures Processing Science of Composites Textile Composite Structures FRP Rehabilitation of Civil Structures
Solid Mechanics	Solid Mechanics for Structural and Aerospace Engineering Theory of Elasticity Theory of Plasticity and Viscoelasticity Experimental Mechanics and NDE
Advanced Structural Behavior	Nonlinear Mechanical Vibrations Structural Reliability and Risk Analysis Random Vibrations Experimental Mechanics and Nondestructive Evaluation Structural Health Monitoring Principles

The thesis defense is the final examination for students enrolled in the M.S. thesis plan and must be conducted after completion of all course work. Upon completion of the research project, the student writes a thesis that must be successfully defended in an oral examination and public presentation conducted by a committee composed of three faculty. A complete copy of the student's thesis must be submitted to each member of the M.S. thesis committee (comprised of a minimum of three faculty) at least two weeks before the defense.

## M.S. Degree in Structural Engineering with Specialization in Health Monitoring, Prognosis, and Validated Simulations (SHMP&VS)

The M.S. degree in SHMP&VS provides specialized multidisciplinary knowledge in the three technology areas of (1) sensing technology, (2) data interrogation, and (3) predictive modeling. Many courses currently offered within the Jacobs School of Engineering may be grouped into numerous focus sequences within each technology area, as shown in the following list:

## A. SENSING TECHNOLOGY AREA

FOCUS SEQUENCE	COURSES
Sensing Methodologies	SE 252 Experimental Mechanics and NDE MAE 261 Sensors and Measurements MAE 268 MEMS Materials, Fabrication, and Applications
Data Acquisition Systems	ECE 257B Principles of Wireless Networks ECE 258A-B Digital Communications ECE 259CN Advanced Coding and Modulation for Digital Communications MAE 261 Sensors and Measurements CSE 237A Introduction to Embedded Computing CSE 237B Software for Embedded Computing CSE 237C Validation/Testing of Embedded Systems CSE 237D Design Automation and Prototyping for Embedded Systems
Controls	MAE 280A Linear Systems Theory MAE 280B Linear Control Design MAE 282 Adaptive Control MAE 284 Robust and Multi-Variable Control MAE 285 Optimal Control and Estimation

## B. DATA INTERROGATION TECHNOLOGY AREA

FOCUS SEQUENCE	COURSES
Signal Processing	ECE 161A/SIO 207A Introduction to Digital Signal Processing ECE 251AN/SIO 207B Digital Signal Processing I ECE 251BN/SIO 207C Digital Signal Processing II ECE 251CN Filter Banks and Wavelets ECE 251DN or SIO 207D Array Processing ECE 253A Fundamentals of Digital Image Processing ECE 253B Digital Image Analysis ECE 254 Detection Theory ECE 255AN Information Theory
System Identification	MAE 283A Parameter Identification: Theory and Methods MAE 283B Approximate Identification and Control ECE 256A-B Time Series Analysis and Applications ECE 275A Parameter Estimation I ECE 275B Parameter Estimation II

Pattern Recognition	CSE 250A Artificial Intelligence: Search and Reasoning CSE 250B Artificial Intelligence: Learning CSE 253 Neural Networks for Pattern Recognition CSE 254 Statistical Learning CSE 255 Data Mining and Artificial Intelligence Applications ECE 270A-B-C Neurocomputing
Statistical/Probabilistic Methods	MTH 281A-B-C Mathematical Statistics CSE 254 Statistical Learning SE 206 Random Vibrations SE 224 Structural Reliability and Risk Analysis

## C. PREDICTIVE MODELING TECHNOLOGY AREA

FOCUS SEQUENCE	COURSES
Structural Analysis	SE 201 Advanced Structural Analysis SE 202 Structural Stability SE 203 Structural Dynamics SE 224 Structural Reliability and Risk Analysis
Finite Element	MAE 232A Finite Element Methods in Solid Mechanics I MAE 232B Finite Element Methods in Solid Mechanics II MAE 232C Advances in Materials Computations SE 274 Nonlinear Finite Elemental Methods
Solid Mechanics	SE 271 Solid Mechanics for Structural and Aerospace Engineering SE 272 Theory of Elasticity SE 273 Theory of Plasticity and Viscoelasticity SE 252 Experimental Mechanics and NDE MAE 238 Stress Waves in Solids
Material Behavior/Modeling	MAE 233B Micromechanics MAE 233C Advanced Mechanics of Composite Materials MAE 232C Advances in Materials Computations MAE 250 Fatigue, Fracture, and Failure Analysis in Engineering Materials MAE 273A Dynamic Behavior of Materials SE 245 Constitutive Modeling and Numerical Implementation
Advanced Structural Behavior	SE 205 Nonlinear Mechanical Vibrations SE 206 Random Vibrations SE 224 Structural Reliability and Risk Analysis SE 252 Experimental Mechanics and NDE

Earthquake Engineering	SE 265 Structural Health Monitoring Principles SE 203 Structural Dynamics SE 206 Random Vibrations SE 221 Earthquake Engineering SE 222 Geotechnical Earthquake Engineering SE 223 Advanced Seismic Design of Structures
Advanced Composites	SE 142 Design of Composite Structures SE 251 Processing Science of Composites SE 253 Mechanics of Laminated Composite Structures MAE 233C Advanced Mechanics of Composite Materials SE 255 Textile Composite Structures SE 254 FRP Rehabilitation of Civil Structures

Two degree plans in SHMP&VS will be offered: M.S. Thesis Plan and M.S. Comprehensive Examination Plan. Students in both plans must complete forty-eight units of credit for graduation. For both plans, students must complete thirty-six units of course work consisting of one focus sequence from each of the three technology areas A, B, and C listed above. Any three of the courses listed under a specific topic area constitute a focus sequence. Courses must be chosen in consultation with the student's adviser. The remaining twelve units must be completed as graduate research SE 299.

For the M.S. SHMP&VS Comprehensive Examination Plan, the twelve-unit graduate research SE 299 must be conducted as a mentored research project. This project is intended to provide a mentored practicum whereby students integrate knowledge learned from their technology areas into comprehensively solving a problem from structural health monitoring/prognosis or model validation and uncertainty quantification, at their discretion. This project will emphasize professional practice, with both oral and written communication of technical data, and will include a strong design component. The project will be presented to a committee of two faculty members in Structural Engineering and one from another department within the Jacobs School of Engineering or an adjunct faculty member in an appropriate area of focus.

For the M.S. SHMP&VS Thesis Plan, the twelve-unit graduate research SE 299 culminates with the preparation of a research thesis. The thesis must be successfully defended in an oral exami-

nation and public presentation conducted by a committee composed of three faculty members. The committee will consist of two faculty members in Structural Engineering and one from another department within the Jacobs School of Engineering or an adjunct faculty member in an appropriate area of focus. A complete copy of the student's thesis must be submitted to each member of the M.S. thesis committee at least two weeks prior to the defense.

Because of the inherent multidisciplinary nature of the M.S. SHMP&VS degree, research within SE 299 can be conducted at outside locations (industry or government facilities). In this case a scientist on location, with an adjunct faculty appointment at UCSD, will be part of the student's committee.

All students in the M.S. SHMP&VS program are required to take one of the two seminar courses (SE 290 or SE 291) each quarter they are registered.

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## Doctoral Degree Program

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The Ph.D. program is intended to prepare students for a variety of careers in research, teaching and advanced professional practice in the broad sense of structural engineering, encompassing civil and aerospace structures, earthquake and geotechnical engineering, composites, and engineering mechanics. Depending on the student's background and ability, research is initiated as soon as possible. All students, in consultation with their advisers, develop course programs that will prepare them for the Departmental Comprehensive Examination and for their dissertation research. However, these programs of study and research must be planned to meet the time limits established to advance to candidacy and to complete the requirements for the degree. Doctoral students who have passed the Departmental Comprehensive Examination may take any course for an S/U grade, with the exception of any course that the student's Departmental Comprehensive or Ph.D. Candidacy Examination Committee stipulates must be taken in order to remove a deficiency. It is strongly recommended that all Structural Engineering graduate students take a minimum of two courses (other than research) per academic year after passing the Departmental Comprehensive Examination.

The department also offers two seminar courses each quarter dealing with current

research topics in Earthquake Engineering (SE 290) and in Advanced Composite Materials (SE 291). All Ph.D. students are required to take one of these two seminar courses each quarter they are registered.

**Doctoral Examinations:** A Structural Engineering Ph.D. student is required to pass three examinations. The first is a **Departmental Comprehensive Examination** which should be taken within three to six quarters of full-time graduate study and requires a 3.5 GPA. This examination is intended to determine the student's ability to successfully pursue a research project at a level appropriate for the doctoral degree. It is administered by at least four faculty, three of whom must be in Structural Engineering. The student is responsible for material pertaining to four focus areas. One focus area can be satisfied by course work, provided that all courses in that area have been taken at UCSD, the grade in each course is B or better, and the overall GPA in that area is at least 3.5. In order to insure appropriate breadth, the focus areas should consist of the following: (a) two focus areas within Structural Engineering which are closely related to the student's research interests, (b) one focus area within Structural Engineering that is not directly related to the student's area of research, and (c) one minor focus area outside the Department of Structural Engineering. An updated list of sample focus areas for Ph.D. students is available in the *Structural Engineering Graduate Handbook*. Minor areas too closely related to the major areas will not be approved by the SE Graduate Affairs Committee. The Solid Mechanics Focus Sequence, which is jointly taught by the Department of Structural Engineering and the Department of Mechanical and Aerospace Engineering, cannot be used to satisfy the outside Structural Engineering requirement. Students intending to specialize in the emerging areas of structural health monitoring, damage prognosis, and validated simulations are advised to take courses in the focus areas of Advanced Structural Behavior and elective courses MAE 283, MAE 261, ECE 251AN, ECE251BN, ECE 254, and CSE 291, which can be used to satisfy the outside Structural Engineering requirement.

Since the examination areas must be approved by the Structural Engineering Graduate Affairs Committee, students are advised to seek such approval well before their expected examination date, preferably while planning their graduate

studies. Although students are not required to take particular courses in preparation for the Departmental Comprehensive Examination, the scope of the examination in each area is associated with a set of three graduate courses, generally in focus areas offered or approved by the department. A list of focus areas is available in the *Structural Engineering Graduate Handbook*. A candidate can develop a sense of the level of knowledge expected to be demonstrated during the examination by studying the appropriate syllabi and/or discussing the course content with faculty experienced in teaching the courses involved. The Departmental Comprehensive Examination may be a written or an oral examination, at the discretion of the committee.

**Teaching experience** is required of all Structural Engineering Ph.D. students prior to taking the Ph.D. Candidacy Examination. Teaching experience is defined as lecturing one hour per week in either a problem-solving section or laboratory session, for one quarter in an undergraduate course designated by the department. The requirement can be fulfilled by service as a teaching assistant or taken as a course for academic credit. Students must contact the Student Affairs Office to plan for completion of this requirement.

The **Ph.D. Candidacy Examination** is the second examination required of Structural Engineering doctoral students. In preparation for the Ph.D. Candidacy Examination, students must have completed the Departmental Comprehensive Examination and the Departmental Teaching Experience requirement, obtained a faculty research adviser, have identified a topic for their dissertation research, and have made initial progress in that research. At the time of application for advancement to candidacy, a doctoral committee responsible for the remainder of the student's graduate program is appointed by the Graduate Council. In accordance with Academic Senate Regulations 715(D): "A doctoral committee of five or more members shall be appointed by the dean of Graduate Studies under the authority of the Graduate Council. The committee members shall be chosen from at least two departments, and at least two members shall represent academic specialties that differ from the student's chosen specialty. In all cases, each committee must include one tenured UCSD faculty member from outside the student's major department." The committee conducts the Ph.D. Candidacy Examination, during which students must demonstrate the ability to engage in dis-

sertation research. This involves the presentation of a plan for the dissertation research project. A short written document describing the research plan must be submitted to each member of the committee at least two weeks before the Ph.D. Candidacy Examination. The committee may ask questions directly or indirectly related to the research project and general questions that it determines to be relevant. Upon successful completion of this examination, students are advanced to candidacy and are awarded the Candidate in Philosophy degree. The Ph.D. Candidacy Examination is an oral examination.

**The Dissertation Defense** is the final Ph.D. examination. Upon completion of the dissertation research project, the student writes a dissertation that must then be successfully defended in an oral examination and public presentation conducted by the doctoral committee. A complete copy of the student's dissertation must be submitted to each member of the doctoral committee at least four weeks before the defense. While the copy of the dissertation handed to the committee is expected to be complete and in final form, it should be noted that students are expected to make changes in the text per direction of the committee as a result of the defense. This examination cannot be conducted earlier than three quarters after the date of advancement to doctoral candidacy. Acceptance of the dissertation by the Office of Graduate Studies and Research and the university librarian represents the final step in completion of all requirements for the Ph.D.

**Ph.D. Time Limit Policy.** Pre-candidacy status is limited to four years. Doctoral students are eligible for university support for six years. The defense and submission of the doctoral dissertation must be within seven years.

**Evaluations.** In the spring of each year, the faculty evaluate each doctoral student's overall performance in course work, research, and prospects for financial support for future years. A written assessment is given to the student after the evaluation. If a student's work is found to be inadequate, the faculty may determine that the student cannot continue in the graduate program.

## COURSES

*For course descriptions not found in the 2006–2007 General Catalog, please contact the department for more information.*

All students enrolled in Structural Engineering courses or admitted into a Structural Engineering program are expected to meet prerequisite and performance standards, i.e., students may not enroll in any SE courses or courses in another department which are required for the major prior to having satisfied prerequisite courses with a C– or better. (The department does not consider D or F grades as adequate preparation for subsequent material.) Additional details are given under the various program outlines, course descriptions, and admission procedures for the School of Engineering in this catalog. Furthermore, the majority of SE courses have enrollment restrictions which give priority to, or are open only to, declared pre-engineering students and/or to students who have been admitted to an engineering major. Where these restrictions apply, the registrar will not enroll other students except by department stamp on class enrollment cards. The department expects that students will adhere to these policies on their own volition and enroll in courses accordingly. Students are advised that they may be dropped at any time from course rosters if prerequisites and/or performance standards have not been met.

While some lower-division courses may be offered more than once each year, most SE upper-division courses are taught only once per year, and courses are scheduled to be consistent with the curricula as shown in the tables. When possible, SE does offer selected large-enrollment courses more than once each year. A tentative schedule of course offerings is available from the department each spring for the following academic year.

### LOWER-DIVISION

#### **SE 1. Introduction to Structures and Design (4)**

Introduction to structural components, systems from aerospace, civil, mechanical, marine and offshore areas. Structural action, the design process. History of structural engineering. Role and responsibility of structural engineers in society. Engineering economics, costs-benefits analysis. Implications on safety. Professional ethics. Priority enrollment given to structural engineering majors.

#### **SE 2. Structural Materials (4)**

Structure of engineering materials (metals, ceramics, concrete, composites) tailoring to produce desired properties and response in structural components and systems. Mechanical tests, elasticity, plastic deformation, fracture, toughness, creep and fatigue. Selection based on performance requirements/application. Laboratory demonstrations and tests. *Prerequisites:* Chem. 6A, Phys. 2A. Priority enrollment given to structural engineering majors and mechanical and aerospace engineering majors.

#### **SE 87. Freshman Seminar (1)**

The freshman seminar program is designed to provide new students with the opportunity to explore an intellectual topic with a faculty member in a small seminar setting. Freshman seminars are offered in all campus departments and undergraduate colleges, and topics vary from quarter to quarter. *Prerequisite:* open to freshmen only.

### UPPER-DIVISION

#### **SE 101A. Mechanics I: Statics (4)**

Principles of statics using vectors. Two- and three-dimensional equilibrium of statically determinate structures under discrete and distributed loading including hydrostatics; internal forces and concept of stress; free body diagrams; moment, product of inertia; analysis of trusses and beams. *Prerequisites:* grades of C– or better in Math. 20C and Phys. 2A.

#### **SE 101B. Mechanics II: Dynamics (4)**

Kinematics and kinetics of particles in two- and three-dimensional motion using vector representation. Orbital mechanics. Work, energy, and power. Conservative forces, conservation principles. Momentum, impulsive motion, and impact. Rigid body kinetics and kinematics; Coriolis acceleration, Eulerian angles. Undamped vibrating systems. *Prerequisites:* grade of C– or better in Math. 20D, and SE 101A, or MAE 130A.

#### **SE 101C. Structural Mechanics III: Structural Dynamics (4)**

Free and forced vibrations of damped 1-DOF systems; vibrations isolation, impact and packaging problems. Analysis of discrete MDOF systems using matrix representation; normal mode of frequencies and modal matrix formulation. Lagrange's equations. Modal superposition for analysis of continuous vibrating systems. *Prerequisites:* grade of C– or better in SE 101B (or MAE 130B) and SE 130B; SE major.

#### **SE 102. Numerical, Computational, and Graphical Tools (4)**

Introduction to engineering graphics and computer-aided design (CAD). Introduction to numerical computer algorithms and symbolic computation. Introduction to the development of methods for assessing the accuracy of numerical methods. *Prerequisites:* grade of C– or better in MAE 9 and SE 101A or MAE 130A; SE major.

#### **SE 103. Conceptual Structural Design (4)**

Introduction to design principles and structural action. Development of design theories, approaches and methodology. Concepts of load and resistance factors, factors of safety, limit and ultimate states, design allowables. Simple design examples from aerospace, civil, marine, offshore and mechanical structural systems. *Prerequisites:* grade of C– or better in SE 2, SE 101A. Priority enrollment given to structural engineering majors.

#### **SE 110A. Solid Mechanics I (4)**

Mechanics of deformable bodies under axial, torsional, shearing, and bending loads. Elastic and plastic uniaxial material response as well as 3-D Hooke's law. Mohr's circle for stress and strain. Problems of design for rods, shafts, beams, columns, pressure vessels, and thin walled members. *Prerequisites:* grades of C– or better in Math. 20D, 20F, SE 101A. Priority enrollment given to structural engineering majors.



**SE 110B. Solid Mechanics II (4)**

Advanced concepts in the mechanics of deformable bodies. Unsymmetrical bending of symmetrical and unsymmetrical sections. Bending of curved beams. Shear center and torsional analysis of open and closed sections. Stability analysis of columns, lateral buckling. Application of the theory of elasticity in rectangular coordinates. *Prerequisite: grade of C- or better in SE 110A.* Priority enrollment given to structural engineering majors.

**SE 120. Engineering Graphics & Computer Aided Structural Design (4)**

Engineering graphics, solid modeling, CAD applications including 2-D and 3-D transformations, 3-D viewing, wire frame and solid models, Hidden surface elimination. *Prerequisite: grade of C- or better in MAE 9.* Priority enrollment given to structural engineering majors.

**SE 121. Numerical Methods in Engineering (4)**

Advanced numerical methods for applications for engineering problems. Solution of systems of linear and nonlinear equations, function interpolation and curve fitting, function approximation, computation of integrals, numerical differentiation, and solution of systems of ordinary differential equations. *Prerequisites: grade of C- or better in SE 102, and Math. 20F; SE major.*

**SE 125. Statistics, Probability and Reliability (4)**

Probability theory. Statistics, data analysis and inferential statistics, distributions, confidence intervals. Introduction to structural reliability and random phenomena. Applications to components and systems. Priority enrollment given to structural engineering majors.

**SE 130A-B. Structural Analysis (4)**

Classical methods of analysis for statically indeterminate structures. Development of computer codes for the analysis of civil, mechanical, and aerospace structures from the matrix formulation of the classical structural theory, through the direct stiffness formulation, to production-type structural analysis programs. *Prerequisites: grades of C- or better in SE 110 A, SE 121, and SE 130A for SE 130B.* Priority enrollment given to structural engineering majors.

**SE 131. Finite Element Analysis (4)**

Development of stiffness and mass matrices based upon virtual work and variational principles. Application to static and dynamic problems in structural and solid mechanics. The use of general purpose finite element structural analysis codes. *Prerequisites: grade of C- or better in SE 103, SE 130B, MAE 170, and senior standing in the major.*

**SE 140. Structures and Materials Laboratory (4)**

Introduction to instrumentation and testing techniques. Discussion of standard tension and compression tests. Similitude relationships for structural models. Term project in model structure including complete engineering report on theory, design and results of the term project. *Prerequisites: grade of C- or better in SE 103, SE 130B, MAE 170, and senior standing in the major.*

**SE 142. Design of Composite Structures (4)**

Design and analysis of lightweight structures composed of laminated composite materials. Stiffness, strength, failure mechanisms, micromechanics, and hygrothermal behavior. Fabrication and experimental testing. Design projects that involve computer imple-

mentation. *Prerequisite: grade of C- or better in SE 110A-B; Priority enrollment given to engineering majors.*

**SE 144. Aerospace Structural Analysis (4)**

Aspects of structural analysis pertinent to the design of flight vehicles; aerodynamic/inertial loadings, aerospace laminated materials, elements of plate theory, aeroelastic divergence, introduction of matrix methods for structural dynamics and buckling. *Prerequisites: grades of C- or better in SE 101C, SE 110A-B.* Priority enrollment given to structural engineering majors and mechanical and aerospace engineering majors.

**SE 150. Design of Steel Structures (4)**

Design concepts and loadings for structural systems. Working stress and ultimate strength design theories. Properties of structural steel. Elastic design of tension members, beams, and columns. Design of bolted and welded concentric and eccentric connections. Design of composite floors. Introduction to plastic design. *Prerequisites: grade of C- or better in SE 103, and SE 130A.* Priority enrollment given to structural engineering majors.

**SE 151A-B. Design of Structural Concrete (4-4)**

Concrete and reinforcement properties. Service and ultimate limit state analysis and design. Design and detailing of structural components. Concept of prestressing. Design and application of prestressed structures and components. *Prerequisites: grade of C- or better in SE 103, SE 130A and SE 130B. SE 151A for SE 151B; SE major.*

**SE 152. Seismic Design of Structures (4)**

Seismic design philosophy. Ductility concepts. Lateral force resisting systems. Mechanisms of nonlinear deformation. Methods of analysis. Detailing of structural steel and reinforced concrete elements. Lessons learned from past earthquakes. Multistory building design project. *Prerequisites: grade of C- or better in SE 103, SE 130A, SE 130B, SE 150 and SE 151A; concurrent enrollment in SE 151B; SE major.*

**SE 154. Design of Timber Structures (4)**

Properties of wood and lumber grades. Beam design. Design of axially loaded members. Design of beam-column. Properties of plywood and structural-use panels. Design of horizontal diaphragms. Design of shear walls. Design of nailed and bolted connections. *Prerequisites: grade of C- or better in SE 103 and SE 130A; SE major.*

**SE 160A. Aerospace Structural Design (4)**

Aircraft and spacecraft flight load definition and operational envelopes, metallic and composite material selection and comparison, applied elasticity, failure theories, stiffened shear panels, thin-wall open and closed-cell torsion pressure vessels, unsymmetrical beam bending, shear center, and bending of plates. *Prerequisites: grade of C- or better in SE 2, SE 101B (or MAE 130B), and SE 110A (or MAE 131A); Priority enrollment given to engineering majors.*

**SE 160B. Aerospace Structural Design (4)**

Work-energy principles, statically indeterminate structures, matrix methods, application of finite element method to aerospace structures, sandwich composite structures, structural dynamics of space structures, structural stability of beams, and shells, tension field beams, wing divergence and control reversal, flutter, fasteners, and structural joints. *Prerequisites: grade of C- or better in SE 160A, and SE 101C or MAE 130C; Priority enrollment given to engineering majors.*

**SE 163. Nondestructive Evaluation (4)**

Damage detection, materials characterization. Introduction to nondestructive evaluation. Impedance-based methods, ultrasonics, acoustic, thermography, shearography, liquid penetrant, proof testing, stress coatings, vibrational techniques. *Prerequisites: grade of C- or better in SE 110A and SE 110B or consent of instructor; SE major.*

**SE 180. Earthquake Engineering (4)**

Elements of seismicity and seismology. Seismic hazards. Dynamic analysis of structures underground motion. Elastic and inelastic response spectra. Modal analysis, nonlinear time-history analysis. Earthquake resistant design. Seismic detailing. *Prerequisites: grade of C- or better in SE 110A, and SE 130A.* Priority enrollment given to structural engineering majors.

**SE 181. Geotechnical Engineering (4)**

General introduction to physical and engineering properties of soils. Soil classification and identification methods. Compaction and construction control. Total and effective stress. Permeability, seepage, and consolidation phenomena. Shear strength of sand and clay. *Prerequisites: grade of C- or better in SE 110A or MAE 131A; SE major.*

**SE 182. Foundation Engineering (4)**

Application of soil mechanics to the analysis, design, and construction of foundations for structures. Soil exploration, sampling, and in-situ testing techniques. Stress distribution and settlement of structures. Bearing capacities of shallow foundations. Axial and lateral capacity of deep foundations, earth pressures on retaining walls. *Prerequisites: grade of C- or better in SE 181; SE major.*

**SE 183. Engineering Geology (4)**

Influence of geology on design of engineering works. Mineral and rock identification and their engineering behavior. Geologic mapping. Rock mechanics, rock slope stability, and tunnel engineering. Local field trips.

**SE 195. Teaching (2-4)**

Teaching and tutorial assistance in a SE course under supervision of instructor. Not more than four units may be used to satisfy graduation requirements. (P/NP grades only.) *Prerequisites: B average in major, upper-division standing and consent of department chair. Department stamp required.*

**SE 197. Engineering Internship (1-4)**

An enrichment program, available to a limited number of undergraduate students, which provides work experience with industry, government offices, etc., under the supervision of a faculty member and industrial supervisor. Coordination of the Engineering Internship is conducted through UCSD's Academic Internship Program. *Prerequisites: completion of ninety units with a 2.5 GPA and consent of department chair. Department stamp required.*

**SE 198. Directed Study Group (4)**

Directed group study, on a topic or in a field not included in the regular department curriculum, by special arrangement with a faculty member. (P/NP

grades only.) *Prerequisite: consent of instructor or department stamp.*

#### **SE 199. Independent Study (4)**

Independent reading or research on a problem by special arrangement with a faculty member. (P/NP grades only.) *Prerequisite: consent of instructor or department stamp.*

### **GRADUATE**

#### **SE 201. Advanced Structural Analysis (4)**

Applications of advanced analytical concepts to structural engineering problems. Effects of approximations in the discretization and the type of finite elements under consideration. An introduction is given to the nonlinear behavior of structural systems focusing on basic concepts and computational techniques. *Prerequisites: SE 130A-B or equivalent, or consent of instructor.*

#### **SE 202. Structural Stability (4)**

Static, dynamic, and energy-based techniques and predicting elastic stability. Linear and nonlinear analysis of classical and shear deformable beams and plates. Ritz, Galerkin, and finite element approaches for frames and reinforced shells. Nonconservative aerodynamic (divergence flutter) and follower forces. *Prerequisite: SE 110B or consent of instructor.*

#### **SE 203. Structural Dynamics (4)**

Response of the linear systems to harmonic, periodic and transient excitations. Duhamel's integral response spectra. Principles of dynamics, Hamilton's principle and Lagrange's equations. Linearization of the equations of motion. Free and forced vibrations. Matrix iteration, Jacobi, normal mode and frequency response method. *Prerequisites: MAE 231A-B or consent of instructor.*

#### **SE 205. Nonlinear Mechanical Vibrations (4)**

Advanced analytical techniques to understand nonlinearity in mechanical vibration. Phase plane analysis instability, and bifurcations. Application in nonlinear structural resonance. Introduction to chaotic dynamics, advanced time series analysis, and using chaotic dynamics in applications such as structural damage assessment. *Prerequisite: SE 206 or consent of instructor.*

#### **SE 206. Random Vibrations (4)**

Introduction to probability theory and random processes. Dynamic analysis of linear and nonlinear structural systems subjected to stationary and nonstationary random excitations. Reliability Studies related to first excursion and fatigue failures. Applications in earthquake engineering, offshore engineering, wind engineering, and aerospace engineering. *Prerequisites: SE 203 or equivalent and basic knowledge of probability theory (e.g., SE 125).*

#### **SE 207. Topics in Structural Engineering (4)**

A course to be given at the discretion of the faculty in which topics of current interest in structural engineering will be presented.

#### **SE 211. Advanced Reinforced and Prestressed Concrete Design (4)**

Advanced topics in concrete design, including frame and shear wall structures, design of connections. reinforced and prestressed concrete system evaluation for seismic resistance including confinement and ductility requirements. Upper and lower bound theories for slab design. *Prerequisite: SE 151, or equivalent background in basic RC/PC design, or consent of instructor.*

#### **SE 212. Advanced Structural Steel Design (4)**

(Formerly AMES 245) Load and resistance factor design (LRFD) philosophy. Behavior and design of steel elements for global and local buckling. Bracing requirements for stability. Conventional and advanced analysis techniques for P-delta effects. Cyclic behavior. Ductility requirement for seismic design. Composite construction. *Prerequisites: SE 201 and SE 150, or equivalent course, or consent of instructor.*

#### **SE 213. Bridge Design (4)**

Design and analysis of bridge structures, construction methods, load conditions. Special problems in analysis—box girders, curved and skewed bridges, environmental and seismic loads. Bearings and expansion joints. Time-temperature-dependent superstructure deformations. Conceptual/preliminary bridge design project. *Prerequisites: SE 201 and fundamental courses in RC and PC design, or consent of instructor.*

#### **SE 214. Masonry Structures (4)**

Analysis and design of unreinforced and reinforced masonry structure using advanced analytical techniques and design philosophies. Material properties, stability, and buckling of unreinforced masonry. Flexural strength, shear strength, stiffness, and ductility of reinforced masonry elements. Design for seismic loads. *Prerequisites: SE 151, or equivalent basic reinforced concrete course, or consent of instructor.*

#### **SE 220. Seismic Isolation and Energy Dissipation (4)**

Concepts, advantages and limitations of seismic isolation techniques; fundamentals of dynamic response under seismic excitation; spectral analysis; damping; energy approach; application to buildings and structures. *Prerequisite: background in structural dynamics, or consent of instructor*

#### **SE 221. Earthquake Engineering (4)**

Introduction to plate tectonics and seismology. Rupture mechanism, measures of magnitude and intensity, earthquake occurrence and relation to geologic, tectonic processes. Probabilistic seismic hazard analysis. Strong earthquake ground motion; site effects on ground motion; structural response; soil-structure interaction; design criteria; code requirements.

#### **SE 222. Geotechnical Earthquake Engineering (4)**

Influence of soil conditions on ground motion characteristics; dynamic behavior of soils, computation of ground response using wave propagation analysis and finite element analysis; evaluation and mitigation of soil liquefaction; soil-structure interaction; lateral pressures on earth retaining structures; analysis of slope stability.

#### **SE 223. Advanced Seismic Design of Structures (4)**

Introduction to fundamental concepts in seismic design of structures. Ductility. Elastic and inelastic response. Time-history analysis. Response spectral analysis. Force- and displacement-based design. Capacity design principles. Learning from earthquake damage. Performance-based design concepts.

#### **SE 224. Structural Reliability and Risk Analysis (4)**

Probability theory and random processes; fundamentals of structural reliability theory. Modern methods of structural reliability analysis including computational aspects; structural component and system reliability. Reliability-based design codes; structural modeling for performance and safety. Risk analysis of structural systems. *Prerequisite: basic knowledge of probability theory (e.g., SE 125).*

#### **SE 225. Probabilistic Seismic Hazard Analysis (4)**

Modern seismic hazard analysis including seismic source characterization, ground motion attenuation relations, near source effects, development of design spectra and time histories, seismic risk studies, and implementation of the PEER framing equation.

#### **SE 241. Advanced Soil Mechanics (4)**

Advanced treatment of topics in soil mechanics, including state of stress, pore pressure, consolidation and settlement analysis, shear strength of cohesionless and cohesive soils, mechanisms of ground improvement, and slope stability analysis. Concepts in course reinforced by laboratory experiments.

#### **SE 242. Advanced Foundation Engineering (4)**

Advanced treatment of topics in foundation engineering, including earth pressure theories, design of earth retaining structures, bearing capacity, ground improvement for foundation support, analysis and design of shallow and deep foundations, including drilled piers and driven piles.

#### **SE 243. Soil-Structure Interaction (4)**

Advanced treatment of soils interaction with structures, including shallow and deep foundations, bridge abutments, retaining walls, and buried structures subjected to static and dynamic loading. Elastic approximation. Linear and nonlinear Winkler models p-y and t-z curves.

#### **SE 245. Constitutive Modeling and Numerical Implementation (4)**

Development and numerical implementation of procedures to model the nonlinear behavior of engineering materials, including soil and concrete. Inelastic hyperbolic and elasto-plastic modeling of hysteretic response to cyclic loading. Behavior of soil-structure systems under transient loading, such as seismic earthquake excitation, will be discussed.

#### **SE 246. Engineering Geology (4)**

Influence of geology on design of engineering works. Mineral and rock identification and their engineering behavior. Geologic mapping. Rock mechanics, rock slope stability, and tunnel engineering. Local field trips. (Graduate students are required to submit a term project based on two extended weekend field trips and self-guided research.)

#### **SE 251. Processing Science of Composites (4)**

Introduction to processing, fabrication methods; process models; materials-process-microstructure interaction; materials selection; form and quality control. Wet layup/sprayup, autoclave cure, SMC, injection molding, RTM; resin infusion; winding and fiber placement; pultrusion. Process induced defects, environmental considerations.

#### **SE 252. Experimental Mechanics and NDE (4)**

Theory of electrical resistance strain gages, full-field coherent optical methods including photoelasticity, moiré and speckle interferometry, ultrasonics, thermography and fiberoptic sensing. Applications to materials characterization, defect detection and health monitoring of structures with emphasis on fiber-reinforced composites. *Prerequisites: SE 101A, SE 110A, and MAE 131B, or consent of the instructor.*

#### **SE 253. Mechanics of Laminated Composite Structures (4)**

Macro- and micro-material modeling. Classical and shear deformable laminate beam and plate theories developed via energy principles. Ritz, Galerkin, and

finite element-based solutions to static, vibration, and stability problems. Assignments include computer program development and use of existing commercial programs. *Prerequisites: SE 101C, SE 110B, and SE 162 or equivalent, or permission of the instructor.*

**SE 265. Structural Health Monitoring (4)**

A modern paradigm of structural health monitoring as it applies to structural and mechanical systems is presented. Concepts in data acquisition, feature extraction, data normalization, and statistical modeling will be introduced in an integrated context. MATLAB-based exercises. Term project. *Prerequisites: graduate student, undergraduate vibrations or structural dynamics course.*

**SE 271. Solid Mechanics for Structural and Aerospace Engineering (4)**

Application of principles of solid mechanics to structural components and systems, description of stresses, strains, and deformation. Use of conservation equations and principle of minimum potential energy. Development of constitutive equations for metallic cementitious and polymeric materials. *Prerequisite: SE 110A, or consent of instructor.*

**SE 272. Theory of Elasticity (4)**

Development, formulation, and application of field equations of elasticity and variational principles for structural applications in civil and aerospace area. Use of plane stress and plane strain formulation, solution of typical boundary value problems. *Prerequisite: SE 271, or consent of instructor.*

**SE 273. Theory of Plasticity and Viscoelasticity (4)**

Mechanical models of viscoelastic, plastic, and viscoplastic behavior in simple shear or uniaxial stress. Constitutive relations for three-dimensional states of stress and strain. Application to selected technological problems for civil and aerospace structural applications. *Prerequisite: SE 272, or consent of instructor.*

**SE 274. Nonlinear Finite Element Methods for Solid Mechanics (4)**

Modeling of mechanical deformation processes in solids and structures by the finite element method. PDE models of deformations in solids and structures. Weak form. Weighted residual method. Material models for 3D solids and rods, beams, shells: elasticity, plasticity, viscoplasticity. *Prerequisite: graduate standing.*

**SE 290. Seminar in Earthquake Engineering (2)**

Weekly seminar and discussion by faculty, visitors, postdoctoral research fellows and graduate students concerning research topics in earthquake engineering and related subjects. May be repeated for credit. *Prerequisite: consent of instructor. (S/U grades only.)*

**SE 291. Seminar in Advanced Composite Structures (2)**

Weekly seminar and discussion by faculty, visitors, postdoctoral research fellows and graduate students concerning research topics in advanced composite structures and related subjects. May be repeated for credit. *Prerequisite: consent of instructor. (S/U grades only.)*

**SE 296. Independent Study (4)**

*Prerequisite: consent of instructor.*

**SE 298. Directed Group Study (1-4)**

Directed group study on a topic or in a field not included in regular department curriculum, by special arrangement with a faculty member. *Prerequisite: consent of instructor.*

**SE 299. Graduate Research (1-12)**

(S/U grades permitted.)

**SE 501. Teaching Experience (2)**

Teaching experience in an appropriate SE undergraduate course under direction of the faculty member in charge of the course. Lecturing one hour per week in either a problem-solving section or regular lecture. *Prerequisite: consent of instructor and the department. (S/U grades permitted.)*

needs of the worldwide complex of preindustrial, industrial, and postindustrial societies.

Some of the courses related to the minor, particularly those in Group A, have significant prerequisites; students planning an Environmental Studies minor should check catalog course descriptions carefully. Some credit toward the minor may be gained through independent study, field research, study abroad, the Academic Internship Program, and others (prior approval strongly recommended). Petitions for petitionable courses, transfer courses, and individual additions to the courses listed below must be approved by the chair of the Environmental Studies Steering Committee. For updates, individual advising, and quarterly lists, please come to the Environmental Studies Office: Muir Interdisciplinary Studies, 2073 HSS, mail code 0106, phone (858) 534-3589.

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### Applicable and Petitionable Courses

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Environmentally-based courses offered by UCSD departments fall into two categories: applicable and petitionable. Applicable courses are those which have been approved as always applying to the ENVR minor. Petitionable courses are either new and therefore not yet approved as applicable or are "topics" courses which focus on environmental matters only in particular quarters. Petitionable courses may be approved by petition to the minor during the quarters in which they appear in the ENVR quarterly lists.

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### Quarterly Lists

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Each quarter, when the upcoming quarter's *Schedule of Classes* is published, the Environmental Studies quarterly list is available in 2073 HSS and at the Web site. It is an important, comprehensive source of information about ENVR course offerings as well as those from departments throughout the campus. It identifies applicable as well as petitionable courses for a given quarter. For reference, the office and the Web site maintain archives of quarterly lists.

The minor is structured as follows:

Required:

Environmental Studies 30, usually offered in the fall quarter.

Environmental Studies 130, usually offered

in the spring quarter (need not be taken consecutively).

Required:

Five additional courses, at least four in the upper-division, from the following two groups. At least one course must be taken from Group A and one from Group B.

#### Group A—Natural Sciences

Biology LD 3. Organismic and Evolutionary Biology  
BIEB 120. General Ecology  
BIEB 121. General Ecology Laboratory  
BIEB 130. Introductory Marine Ecology  
BIEB 131. Marine Invertebrate Ecology Laboratory  
BIEB 132. Introduction to Marine Biology  
BIEB 134. Introduction to Biological Oceanography  
BIEB 140. Biodiversity  
BIEB 165. Behavioral Ecology Laboratory  
BIEB 166. Animal Behavior and Communication  
BIEB 176. Conservation and the Human Predicament (cross-listed with ANBI 132)  
BIEB 178. Principles of Conservation Biology  
Biology EB 179. Conservation Biology Laboratory  
Chemistry 15. Chemistry of the Universe  
Chemistry 149A. Environmental Chemistry  
Chemistry 149B. Environmental Chemistry  
Chemistry 173. Atmospheric Chemistry  
Earth Sciences 10. The Earth  
Earth Sciences 12. History of Earth and Evolution  
Earth Sciences 15. Natural Disasters  
Earth Sciences 16. Geology of National Parks  
Earth Sciences 20. The Atmosphere  
Earth Sciences 30. The Oceans  
Earth Sciences 35. Water  
Earth Sciences 110. Introduction to GIS for Earth and Environmental Scientists  
Earth Sciences 150. Environmental Perils  
Environmental Studies 102. Selected Topics in Environmental Studies (when taught from a natural sciences perspective)  
Environmental Systems 101. The Living Earth  
Environmental Systems 103. The Human Earth  
Environmental Systems 120. Science and Environmental Writing  
Environmental Systems 150. Environmental Perils  
MAE 118A. Energy: Non-Nuclear Energy Technologies  
Physics 12. Energy and the Environment  
Science, Technology, Public Affairs 35. Society and the Sea

#### Group B—Social Sciences/Humanities

ANGN 108. Archaeology of the UCSD Campus  
ANGN 160. Nature, Culture and Environmentalism  
ANGN 182. Origins of Agriculture and Sedentism (was ANGN 100)  
ANBI 132. Conservation and the Human Predicament (cross-listed with BIEB 176)  
Communication CUL 148. Communication and the Environment  
Economics 131. Economics of the Environment  
Economics 132. Energy Economics  
Economics 145. Economics of Ocean Resources  
Environmental Studies 102. Selected Topics in Environmental Studies (when taught from a humanities/social sciences perspective)  
Environmental Studies 110. Environmental Law  
Ethnic Studies 103. Environmental Racism  
History SC 105A. History of Environmentalism  
History US 137. The Built Environment in the Twentieth Century  
History US 154. Western Environmental History (cross-listed with USP 160)  
IRPS GN 458. International Environmental Policy  
IRPS GN 459. Conflict Resolution of Environmental Issues  
Philosophy 148. Philosophy and the Environment  
Philosophy 164. Technology and Human Values  
Political Science 162. Environmental Policy  
Soc/C 149. Sociology of the Environment  
Urban Studies & Planning 2. Urban World System  
Urban Studies & Planning 124. Land Use Planning  
Urban Studies & Planning 144. Environmental and Preventive Health Issues  
Urban Studies & Planning 171. Sustainable Development

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### COURSES

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*For course descriptions not found in the 2006–2007 General Catalog, please contact the department for more information.*

#### 30. Environmental Issues: Natural Sciences (4)

Examines global and regional environmental issues. The approach is to consider the scientific basis for policy options. Simple principles of chemistry and biology are introduced. The scope of problems include: air and water pollution, climate modification, solid-waste disposal, hazardous-waste treatment, and environmental impact assessment. *Prerequisite: none.*

#### 87. Environmental Studies Freshman Seminar (1)

The Freshman Seminar Program is designed to provide new students with the opportunity to explore an intellectual topic with a faculty member in a small seminar setting. Freshman seminars are offered in all

campus departments and undergraduate colleges, and topics vary from quarter to quarter. Enrollment is limited to fifteen to twenty students, with preference given to entering freshmen.

#### 90. Undergraduate Seminar (1)

Provides an introduction to environmental studies. Faculty members from departments in natural sciences, social sciences, and humanities offer perspectives on human interaction with the environment and the ways in which the interplay between nature and culture can be analyzed. May be repeated for credit as topics vary.

#### 102. Selected Topics in Environmental Studies (4)

An interdisciplinary course focusing on one of a variety of topics related to environmental studies such as environmental policy and politics, foreign study in environmental problems, environmental history, nature writers, ethics and the environment. May be repeated for credit as topics vary. *Prerequisite: upper-division standing or consent of instructor.*

#### 110. Environmental Law (4)

Explores environmental policy in the United States and the ways in which it is reflected in law. The social and political issues addressed include environmental justice and environmental racism, as well as the role of government in implementing environmental law. *Prerequisite: upper-division standing or consent of instructor.*

#### 130. Environmental Issues: Social Sciences (4)

Explores contemporary environmental issues from the perspective of the social sciences. It includes the cultural framing of environmental issues and appropriate social action, the analysis of economic incentives and constraints, and a comparison of policy approaches. *Prerequisite: upper-division standing or consent of instructor.*

#### 195. Apprentice Teaching (0-4)

Instructor will define assistant's responsibilities in preparing class presentations, leading students' discussions, and evaluating students' work.

#### 198. Directed Group Study (4)

Directed group research and study, normally with a focus on areas not otherwise covered in the curriculum. *Prerequisite: upper-division standing or consent of instructor. Department stamp required.*

#### 199. Independent Study (4)

Independent study in a topic not generally covered in the regular curriculum.

#### 500. Apprentice Teaching in Environmental Studies (4)

A course in which teaching assistants are aided in learning proper teaching methods by means of supervision of their work by the faculty: handling of discussions, preparation and grading of examinations and other written exercises, and student relations. *Prerequisite: graduate standing.*

# Environmental Systems

Office: 188 Galbraith Hall, Revelle College

#### Program Faculty

Mark H. Thiemens, *Professor, Chemistry and Biochemistry, Program Director*

Jane Teranes, *Associate Director*

Donna Blackman, *Associate Researcher, SIO*

Ronald S. Burton, *Professor, Marine Biology, SIO*

Richard T. Carson, *Professor, Economics*

Christopher D. Charles, *Associate Professor, Oceanography, SIO*

Clark Gibson, *Associate Professor, Political Science*

Sarah T. Gille, *Associate Professor, MAE, SIO*

Philip Hastings, *Associate Professor, Marine Biology, SIO*

Mryl C. Hendershott, *Professor, Oceanography, SIO*

William S. Hodgkiss, *Professor, Electrical Engineering, SIO*

Miriam Kastner, *Professor, Geosciences, SIO*

Joshua R. Kohn, *Associate Professor, Biology*

Paul Linden, *Professor, MAE*

T. Guy Masters, *Professor, Geophysics, SIO*

Kim McDonald, *Lecturer, Director of Science Communication*

Joel Norris, *Assistant Professor, Climate Sciences, SIO*

Brian Palenik, *Professor, Marine Biology, SIO*

Keith Pezzoli, *Lecturer, Urban Studies and Planning*

Frank L. Powell, *Professor, Medicine/Director, White Mountain Research Station*

Jeffrey B. Remmel, *Professor, Mathematics*

Lisa Shaffer, *Director of Policy Programs and International Relations, SIO*

Richard C. J. Somerville, *Professor, Climate Sciences, SIO*

Hubert Staudigel, *Research Geophysicist, SIO*

Lynne Talley, *Professor, Physical Oceanography, SIO*

Lisa Tauxe, *Professor, Geosciences, SIO*

Jeffrey R. Vincent, *Professor, Environmental Economics, IR/PS*

David Woodruff, *Professor, Biology*

There can be little doubt that in the twenty-first century the global human community is facing a substantial growth in the environmental consequences in providing food, energy, materials, and basic services to a population of almost 6.5 billion inhabitants. The Environmental Systems Program recognizes the growing

demand for environmental specialists and is designed to prepare undergraduates to enter a broad spectrum of environmental careers and graduate programs in, for example, the natural sciences, the social sciences, public policy, law, and business.

This interdisciplinary program recognizes that local, national, regional, international, and global environmental problems do not fit neatly into traditional academic departments. A measurable part of society's inability to effectively manage complex environmental problems stems from the lack of specialists who can apply analytical tools that cross disciplinary boundaries. Many environmental specialists possess little training in the natural sciences including both the fundamental ideas and methodologies of the earth and environmental sciences. The environmental systems major was created to address both of these shortcomings.

To encourage and foster an interdisciplinary focus in the major, the Environmental Systems Program is supported by a wide range of UCSD faculty representing the natural sciences, the social sciences, the humanities, engineering, and medicine. The program includes a required lower-division core, an upper-division "integrating course sequence," two other upper-division courses and statistics, an advanced track, and a senior integrative project and seminar. There is a strong emphasis on a rigorous natural science foundation as well as an introduction to the policy sciences for all students enrolled in the major.

The Environmental Systems program places a significant value on interdisciplinary problem solving and all majors are expected to complete an integrative Senior Project in their final year. The Senior Project is designed by the student to focus on an interdisciplinary environmental problem or research topic. Appropriate topics for the Senior Project could conceivably include biodiversity conservation, coastal zone management, environmental health, climate change, environmental justice, and/or urban air quality. An important component of the Senior Project is an off-campus or laboratory internship where students might work on, for example, the development of a comprehensive management plan for a threatened ecosystem. The Senior Seminar provides a venue for the presentation and group evaluation of the ESYS Senior Projects.

### The Environmental Systems Major

The requirements for completion of the environmental systems major include a lower-division core, two upper-division courses, a three course upper-division integrating sequence (ESYS 101, ESYS 102, ESYS 103), an upper-division statistics course, advanced courses in one of four tracks, and the senior project (ESYS 190A) and senior seminar (ESYS 190B). Any questions concerning the requirements should be directed to the associate director or the program adviser.

Students completing the advanced tracks in "Earth Sciences," "Ecology, Behavior, and Evolution," and "Environmental Chemistry" will be awarded a B.S. in environmental systems. The B.A. in environmental systems will be granted to students completing the "Environmental Policy" track within the major.

A grade-point average of 2.0 or higher in the upper-division major program is required for graduation. Students must receive a grade of C– or better in any course to be counted toward fulfillment of the major requirements. In exceptional cases, students with a grade-point average in the major of 2.5 or greater may petition to have one grade of D accepted.

#### LOWER-DIVISION CORE REQUIREMENTS

(Should be completed early in student's degree program.)

Biology 3—BILD 3

Chemistry 6A-B, 6BL, 6C

Physics 1A, 1AL, 1B, 1BL, 1C, 1CL (Physics 2A-B-C recommended for Earth Sciences track.)

Mathematics 10A-B-C (Math. 20A-B-C recommended for Earth Sciences track.)

Economics 1

ERTH 50—for Earth Sciences track only

#### UPPER-DIVISION CORE REQUIREMENTS

Economics 131. Economics of the Environment

Political Science 160AA. Introduction to Policy Analysis

#### "Integrating Course Sequence"

Environmental Systems 101. The Living Earth

Environmental Systems 102. The Solid and Fluid Earth

Environmental Systems 103. The Human Earth

Environmental Systems 190A. Senior Project (two quarters)

Environmental Systems 190B. Senior Seminar

### Environmental Systems Major Tracks

There are four advanced tracks in which students must complete a minimum of seven upper-division courses. Students will select courses following the requirements below in consultation with a faculty adviser.

Earth Sciences

Ecology, Behavior, and Evolution

Environmental Chemistry

Environmental Policy

It is possible to complete the requirements for any of the Environmental Systems tracks with five upper-division electives and a specialization that consists of two additional upper-division electives from any other track. For example, a student interested in the policy and scientific dimensions of habitat conservation planning for endangered species might plan a course of study to include five advanced courses from the Ecology, Behavior, and Evolution track and two advanced courses from the Environmental Policy track.

#### Earth Sciences Track

Required lower-division course:

ERTH 50. Introduction to Earth and Environmental Sciences

Required upper-division courses:

ERTH 102. Introduction to Geochemistry

MATH 183. Statistical Methods

Upper-division electives: Students complete a minimum of seven courses selected from the following list.

ERTH 100. Introduction to Field Methods

ERTH 104. Geobiology

ERTH 105. Sedimentology and Stratigraphy

ERTH 110. Introduction to GIS for Earth and

Environmental Scientists

ERTH 112. Urban Landscapes

ERTH 120. Introduction to Mineralogy

ESYS 199. Independent Study

ERTH 142. Atmospheric Chemistry and Biochemical Cycles

ERTH 144. Isotope Geochemistry

ERTH 160. Introduction to Tectonics

ERTH 162. Structural Geology

ERTH 185. Applied Complexity

ERTH 199. Independent Study

ESYS 120. Science and Environmental Writing

ESYS 199. Independent Study

SIO 210. Physical Oceanography

SIO 240. Marine Geology

SIO 260. Marine Chemistry

SIO 263. Aqueous Chemistry

SIO 280. Biological Oceanography

BIEB 132. Introduction to Marine Biology

BIEB 134. Introduction to Biological Oceanography

Chemistry 149A. Environmental Chemistry

Chemistry 173. Atmospheric Chemistry

Other courses may be substituted by petition.

#### CURRICULUM GUIDE PLANNING

FALL	WINTER	SPRING
<b>FRESHMAN</b>		
Chem. 6A	Chem. 6B	Chem. 6C
Math. 20A	Math. 20B	Math. 20C
or Math. 10A	or Math. 10B	or Math. 10C
ERTH 50	BILD 3	Chem. 6BL
<b>SOPHOMORE</b>		
Phys. 2A or 1A, 1AL	Phys. 2B or 1B, 1BL	Phys. 2C or 1C, 1CL
Poli. 160AA	Econ. 1	UD ESYS elective Econ. 131
<b>JUNIOR</b>		
ESYS 101	ERTH 102	UD ESYS elective
Math. 183	ESYS 102	ESYS 103
	UD ESYS elective	UD ESYS elective
<b>SENIOR</b>		
ESYS 190A	ESYS 190A	ESYS 190B
UD ESYS elective	UD ESYS elective	UD ESYS elective

#### Ecology, Behavior, and Evolution Track

Required upper-division courses:

BICD 100. Genetics

BIEB 100. Biometry (satisfies upper-division statistics requirement)

Upper-division electives [a total of seven courses required, one of which must be a lab course, selected from the courses below.]

BIBC 100. Structural Biochemistry

BIBC 102. Metabolic Biochemistry

BIBC 103. Biochemical Techniques

BIBC 115. Computer Programming in Biology

BIBC 120. Nutrition

BIBC 130. Marine Biochemistry

BICD 110. Cell Biology

BICD 120. Fundamental of Plant Biology

BICD 130. Embryos, Genes, and Development

- BICD 134. Human Reproduction and Development  
 BIEB 102. Introductory Ecology—Organisms and Habitats  
 BIEB 120. General Ecology  
 BIEB 121. Ecology Laboratory  
 BIEB 126. Plant Ecology  
 BIEB 131. Marine Invertebrate Ecology Lab  
 BIEB 132. Introduction to Marine Biology  
 BIEB 134. Introduction to Biological Oceanography  
 BIEB 140. Biodiversity  
 BIEB 144. Quantitative Ecology  
 BIEB 150. Evolution  
 BIEB 156. Population Genetics  
 BIEB 164. Behavioral Ecology  
 BIEB 165. Behavioral Ecology Laboratory  
 BIEB 166. Animal Communication  
 BIEB 167. Animal Communication Lab  
 BIEB 176. Conservation and the Human Predicament  
 BIEB 180. Principles of Conservation Genetics  
 BIMM 100. Molecular Biology  
 BIMM 110. Molecular Basis of Disease  
 BIMM 114. Virology  
 BIMM 120. Bacteriology  
 BIMM 121. Laboratory in Microbiology  
 BIMM 124. Medical Microbiology  
 BIMM 126. Marine Microbiology  
 (BIMM120/BIBC 102 prerequisites **WAIVED**.)  
 BIMM 127. Marine Microbiology Laboratory  
 BIPN 100. Mammalian Physiology I  
 BIPN 102. Mammalian Physiology II  
 BIPN 105. Animal Physiology Lab (6)  
 BIPN 106. Comparative Physiology (4)  
 ESYS 120. Science and Environmental Writing  
 ESYS 150. Environmental Perils

Other courses may be substituted by petition.

### CURRICULUM GUIDE PLANNING

FALL	WINTER	SPRING
<b>FRESHMAN</b>		
Chem. 6A Math. 10A	Chem. 6B Chem. 6BL Math. 10B	Chem. 6C Math. 10C BILD 3
<b>SOPHOMORE</b>		
Phys. 1A, 1AL Econ. 1 Poli. 160AA	Phys. 1B, 1BL UD ESYS Elective BIEB 100 (statistics)	Phys. 1C, 1CL Econ. 131 BICD 100
<b>JUNIOR</b>		
ESYS 101 UD ESYS elective lab	ESYS 102 UD ESYS elective	ESYS 103 UD ESYS elective
<b>SENIOR</b>		
ESYS 190A UD ESYS elective	ESYS 190A UD ESYS elective	ESYS 190B UD ESYS Elective

### Environmental Chemistry Track

Students must complete two of the following courses:

- Chemistry 149A. Environmental Chemistry  
 Chemistry 149B. Environmental Chemistry  
 Chemistry 173. Atmospheric Chemistry  
 SIO 263. Aqueous Chemistry

Students must complete:

- Math. 183. Statistical Methods OR  
 Math. 186. Probability Statistics for Bioinformatics  
 Chemistry 100A. Analytical Chemistry Laboratory  
 Chemistry 140A and B. Organic Chemistry

One upper-division lab from either:

- Chemistry 100B. Instrumental Analysis Laboratory  
 Chemistry 143A. Organic Chemistry Laboratory

- Two upper-division restricted electives from:  
 Chemistry 124. Bioinorganic Chemistry  
 Chemistry 126. Physical Chemistry or Chem. 133  
 (Note: Chem. 126 and Chem. 133 both require  
 Physics 2D and Math. 20D as prerequisites.)  
 Chemistry 127. Physical Chemistry or Chem. 131,  
 Chem. 132

- Chemistry 140C. Organic Chemistry  
 ESYS 199. Independent Study

Other courses may be substituted by petition.

### CURRICULUM GUIDE PLANNING

FALL	WINTER	SPRING
<b>FRESHMAN</b>		
Chem. 6A Math. 10A BILD 3	Chem. 6B Math. 10B	Chem. 6BL Chem. 6C Math. 10C
<b>SOPHOMORE</b>		
Phys. 1A, 1AL Econ. 1 Chem. 100A	Phys. 1B, BL Chem. 140A Math. 183 or 186	Phys. 1C, CL Chem. 140B Econ. 131
<b>JUNIOR</b>		
*Chem. 149A ESYS 101 Poli. 160AA	*Chem. 149B Chem. 100B OR ESYS 102	*Chem. 173 Chem. 143A ESYS 103
<b>SENIOR</b>		
ESYS 190A UD ESYS elective	ESYS 190A UD ESYS elective	ESYS 190B SIO 263

\* Choose (2) out of 4

### Environmental Policy Track

Required upper-division course

- One upper-division Statistics course—Math 183.  
 Statistical Methods or Economics 120A.  
 Econometrics

Upper-division electives

Students complete a minimum of seven courses selected from the following:

- Earth Sciences 110. Introduction to GIS for Earth and Environmental Scientists  
 Earth Sciences 112. Urban Landscapes  
 Economics 116. Economic Development  
 Economics 125. Economics of Population Growth  
 Economics 130. Public Policy  
 Economics 132. Energy Economics  
 Environmental Systems 120. Science and Environmental Writing  
 Environmental Systems 150. Environmental Perils  
 Environmental Systems 199. Independent Study  
 Political Science 102L. The Politics of Regulation  
 Political Science 125. The Politics of Conservation in Developing Countries  
 Political Science 125A. Communities and the Environment  
 Political Science 150A. Politics of Immigration  
 Political Science 160AB. Introduction to Policy Analysis  
 IR-GN 457\*. Cost Benefit Analyses  
 IR-GN 459\*. Conflict Resolution of Environmental Issues  
 IR-GN 487\*. Applied Environmental Issues  
 IR-GN 488\*. Corporate Strategy and the Environment  
 IR-GN 490\*. Political Economy of Energy in Asia  
 IR-GN 490\*. Political Economy of Energy in Latin America  
 IR-GN 490\*. Special Topics in Pacific International Affairs (Petition only.)  
 IR-PS 453\*. Sustainable Development  
 IR-PS 458\*. International Environmental Policy  
 HISC 105. History of Environmentalism  
 HIUS 154. Western Environmental History  
 ANBI 132. Conservation and the Human Predicament  
 Com/Cul 148. Communication and the Environment  
 Env. Studies 102. Selected Topics in Environmental Studies  
 Env. Studies 110. Environmental Law  
 Env. Studies 130. Environmental Issues  
 Philosophy 148. Philosophy of the Environment  
 Philosophy 164. Technology and Human Values  
 USP 124. Land Use Planning  
 USP 144. Environmental and Preventive Health Issues  
 USP 170. Planning Theory and Practice  
 USP 171. Sustainable Development
- Other courses may be substituted by petition.

\* These graduate courses are offered through the Graduate School of International Relations and Pacific Studies. Enrollment in these courses requires the permission of the instructor.

**CURRICULUM GUIDE PLANNING**

FALL	WINTER	SPRING
<b>FRESHMAN</b>		
Chem. 6A Math. 10A	Chem. 6B Math. 10B BILD 3	Chem. 6C Math. 10C Chem. 6BL
<b>SOPHOMORE</b>		
Phys. 1A, 1AL Econ. 1 Poli. 160AA	Phys. 1B, 1BL Math. 183 or Econ. 120A UD ESYS elective	Phys. 1C, 1CL Econ. 131
<b>JUNIOR</b>		
ESYS 101 UD ESYS elective	ESYS 102 UD ESYS elective	ESYS 103 UD ESYS elective
<b>SENIOR</b>		
ESYS 190A UD ESYS elective	ESYS 190A UD ESYS elective	ESYS 190B UD ESYS elective UD ESYS elective

**Environmental Systems Minor**

A minor in Environmental Systems will expose students to the interdisciplinary approach necessary to address environmental problems. The program places a strong emphasis on a rigorous natural science foundation. Thus, most of the courses related to the minor have significant prerequisites; students planning an Environmental Systems minor should check catalog course description carefully.

The minor consists of twenty-eight units, at least twenty of which must be upper-division. Any upper-division course used to satisfy major requirements may not be applied toward a minor. Up to two courses for the minor may be taken on a Pass/Not Pass basis, (upper or lower division). Students must earn at least a letter grade of C- in the remaining five or more courses used for the minor. Students considering the Environmental Systems minor are strongly advised to meet with the associate director or the program adviser.

The minor is structured as followed:

**Lower-Division Courses:**

Any two of the following lower-division courses, if they are NOT lower-division requirements for the student's major, may be applied to satisfy eight of the total units necessary for the minor:

- Biology 3
- Math. 10A-B-C

- Chemistry 6A-B-C
- Physics 1A-AL, 1B-BL, 1C-CL
- Economics 1
- Earth Science: any lower-division course
- Environmental Systems 10
- Environmental Studies 30

**Required core courses:**

- Environmental Systems 101, offered every fall quarter
- Environmental Systems 102, offered every winter quarter
- Environmental Systems 103, offered every spring quarter

NOTE: ESYS 102 and ESYS 103 all have significant prerequisites; students planning an Environmental Systems minor should check course descriptions and prerequisites carefully.

**Upper-Division Electives:**

At least two additional upper-division courses from the advanced tracks in the Environmental Systems major. The lists of upper-division electives are reviewed and updated each quarter. They are available in the Environmental Systems office and on the Program Web site (<http://esys.ucsd.edu>). Students are advised to consult with the Environmental Systems program advisers or associate director.

**SPECIAL STUDIES COURSES**

Special Studies in the environmental systems is offered as ESYS 199. This course is subject to consent of the instructor and approval by the Environmental Systems faculty adviser. This course is open to students who have accrued at least ninety quarter-units and have a GPA of least 3.0. No more than two quarters of environmental systems special studies may be counted toward the environmental systems major.

Study abroad through the Education Abroad Program or Opportunities Abroad Program can enhance a student's major, particularly as an opportunity for diverse field experiences. However, careful planning is important to meet all major requirements. Please contact the Environmental Systems Office as early as possible if you are planning to study abroad.

**COURSES**

*For course descriptions not found in the 2006-2007 General Catalog, please contact the department for more information.*

Many of the courses that are used to fulfill the requirements of the environmental systems major are offered by other departments and programs. Most of these courses are offered on a regular basis. Students should consult the Schedule of Classes or contact the Environmental Systems Office in order to obtain current information. The courses below are offered directly through the Environmental Systems Program.

**LOWER-DIVISION**

**ESYS 10. Introduction to Environmental Systems (4)**  
This course explores the interdisciplinary character of environmental issues through an examination of a particular topic [climate change, for example] from numerous disciplinary perspectives [e.g., biology, chemistry, physics, political science, and economics].  
*Prerequisite: none. (W)*

**ESYS 90. Perspectives on Environmental Issues (1)**  
Provides an introduction to environmental systems. Faculty members from departments in the natural sciences, geosciences, and social sciences will offer perspectives in these areas. (F)

**UPPER-DIVISION**

**ESYS 101. The Living Earth (4)**  
This course will survey the basic biochemical and physiological processes governing the relationship between organisms and their environments. Fundamentals of molecular biology, enzyme reactions, photosynthesis, and central metabolic processes, mechanisms underlying homeostasis at cellular and organismal levels will be discussed with a view toward understanding the adaptations and sensitivity of biological systems to environmental perturbations. *Prerequisite: none. (F)*

**ESYS 102. The Solid and Fluid Earth (4)**  
The physical Earth system can be divided into three components: the solid earth, the liquid earth, and the atmosphere. These components are all dynamic and interact in complex ways with profound impacts on our environment. We will examine the controls of natural phenomena such as earthquakes, volcanoes, landslides, soil formation (and destruction), and changes in sea-level and climate. *Prerequisites: Math. 10A, 10B, 10C, BILD 3, CHEM 6A-B-C, Physics 1A-B-C plus either Chem/Physics lab. (W)*

**ESYS 103. The Human Earth (4)**  
This course explores the impacts of human, social, economic, and industrial activity on the environment. It highlights the central roles in ensuring sustainable development played by market forces, technological innovation, and governmental regulation on local, national, and global scales. *Prerequisites: grade of C- or better in Math. 20B or Math. 10A-C; Physics 2B or Physics A-C; Chemistry 6B or by consent of instructor. In addition, ESYS majors, must take ESYS 101 and 102 or permission of instructor. (S)*

**ESYS 120. Science and Environmental Writing (4)**  
Course designed to improve the written communication of science majors through frequent writing assignments that develop the practical skills needed to communicate science to lay audiences. Topics include news writing, news releases, grant writing, broadcast script writing, and editorial writing.



*Prerequisites: upper-division standing in science or mathematics major and completion of college composition requirement (or consent of instructor). (W)*

#### **ESYS 150. Environmental Perils (4)**

An advanced field-oriented course for engineering and science students stressing the geologic basis for environmental perils such as earthquakes, erosion, flooding, and waste disposal. Two one-hour lectures, and a two-hour lab/field trip each week. *Prerequisites: Math. 10 A-B-C sequence and Physics 1A,AL; 1B,BL; 1C,1CL sequence or equivalent. (S)*

#### **ESYS 190A. Senior Project (8)**

All majors are required to complete an integrative Senior Project in their senior year. The Senior Project is designed by the student to focus on an interdisciplinary environmental problem or research topic and is developed either individually or as part of a team over two quarters. Appropriate topics could include biodiversity conservation, environmental health, and/or global change. An important component of the Senior Project is an off-campus or laboratory internship. *Prerequisites: ESYS 103 and upper-division standing, departmental approval, majors only. (F,W)*

#### **ESYS 190A(W). ESYS/UCDC Senior Project (4)**

ESYS majors may opt to complete the internship portion of their Senior Project through the UCDC Program. Students are expected to apply to the fall or winter quarter of UCDC Program and obtain an internship in a governmental agency, NGO, and/or research laboratory. *Prerequisites: ESYS 103 and upper-division standing, departmental approval, majors only. (F,W)*

#### **ESYS 190B. Senior Seminar (2)**

The Senior Seminar provides a venue for the presentation and group evaluation of the ESYS Senior Projects. *Prerequisite: ESYS 190A or 190A(W) (NOTE: After completing (1) quarter of ESYS 190A, ESYS 190B may be taken concurrently), senior standing. (S)*

#### **ESYS 199. Independent Study (2-4)**

Individually guided readings or projects in the area of environmental systems.

## Ethnic Studies

OFFICE: Social Science Building, Rm. 201  
<http://www.ethnicstudies.ucsd.edu>

### Faculty

Robert R. Alvarez, Ph.D., *Professor*  
 Shalanda D. Dexter-Rodgers, Ph.D.,  
*Assistant Professor*

Yen Le Espiritu, Ph.D., *Professor*

Ross H. Frank, Ph.D., *Associate Professor*

Ramón A. Gutiérrez, Ph.D., *Chancellor's  
 Associates Endowed Chair and Professor and  
 Director, Center for the Study of Race and  
 Ethnicity*

Natalia M. Molina, Ph.D., *Associate Professor*

Lisa Sun-Hee Park, Ph.D., *Associate Professor*  
 David Pellow, Ph.D., *Associate Professor and  
 Director, California Cultures in Comparative  
 Perspective*

Lisa E. Sanchez, Ph.D., *Assistant Professor*  
 Denise Ferreira da Silva, Ph.D., *Assistant Professor*  
 Ana Celia Zentella, Ph.D., *Professor*

### Associated Faculty

John D. Blanco, *Assistant Professor, Literature*  
 David Borgo, *Assistant Professor, Music*  
 Robert Cancel, *Associate Professor, Literature*  
 James Cheatham, *Senior Lecturer with Security  
 of Employment, Emeritus, Music*  
 Matthew Chen, *Professor Emeritus, Linguistics*  
 Wayne Cornelius, *Director, Center for Comparative  
 Immigration Studies and Professor, Political  
 Science*

Anthony Davis, *Professor, Music*  
 Gerald Doppelt, *Professor, Philosophy*  
 Steven Epstein, *Associate Professor, Sociology*  
 Steve Erie, *Director, Urban Studies and Planning  
 Program and Professor, Political Science*

Ivan Evans, *Associate Professor, Sociology*  
 Claudio Fenner-Lopez, *Lecturer with Security  
 of Employment Emeritus, Communication/  
 Visual Arts*

Camille Forbes, *Assistant Professor, Literature*  
 Takashi Fujitani, *Associate Professor, History*  
 Floyd Gaffney, *Professor Emeritus, Theatre  
 and Dance*

Rosemary George, *Associate Professor, Critical  
 Gender Studies Program and Literature*  
 Nora Gordon, *Assistant Professor, Economics*  
 David Gutiérrez, *Associate Professor, History*  
 Michael Hardimon, *Associate Professor, Philosophy*  
 Louis Hock, *Professor, Visual Arts*  
 James Holston, *Associate Professor, Anthropology*  
 Jorge Huerta, *Professor, Theatre and Dance*  
 Tomás R. Jiménez, *Assistant Professor, Sociology*  
 Sara Johnson, *Assistant Professor, Literature*  
 Bennetta Jules-Rosette, *Professor, Sociology*  
 Martha Lampland, *Associate Professor, Critical  
 Gender Studies and Sociology*  
 Arend Lijphardt, *Professor Emeritus, Political Science*  
 James Lin, *Professor, Mathematics*  
 Lisa Lowe, *Professor, Literature*  
 Cecil Lytle, *Professor, Music*  
 George Mariscal, *Associate Professor, Literature*  
 Michael Meeker, *Professor Emeritus, Anthropology*  
 Masao Miyoshi, *Professor, Literature*  
 John C. Moore, *Professor, Linguistics*  
 Elizabeth Newsome, *Associate Professor,  
 Visual Arts*

David Pederson, *Assistant Professor, Anthropology*  
 Edward Reynolds, *Professor Emeritus, History*  
 Emily Roxworthy, *Assistant Professor, Theatre  
 and Dance*

Ramón Eduardo Ruíz, *Professor Emeritus, History*  
 Rosaura Sánchez, *Professor, Literature*  
 Gershon Shafir, *Professor, Sociology*  
 Nayan Shah, *Associate Professor, History*  
 Stephanie Smallwood, *Assistant Professor, History*  
 Faustina Solís, *Professor Emeritus, Urban Studies/  
 Family and Preventive Medicine*  
 Roberto Tejada, *Assistant Professor, Visual Arts*  
 Olga Vásquez, *Associate Professor, Communication*  
 Daniel Widener, *Assistant Professor, History*  
 Mina Yang, *Assistant Professor, Music*  
 Lisa Yoneyama, *Associate Professor, Literature*  
 Elana Zilberg, *Assistant Professor, Communication*

Ethnic studies is the study of the social, cultural, and historical forces that have shaped the development of America's diverse ethnic peoples over the last 500 years and which continue to shape our future. Focusing on immigration, slavery, and confinement, those three social processes that combined to create in the United States a nation of nations, ethnic studies intensively examines the histories, languages, and cultures of America's racial and ethnic minority groups, of themselves, in their relationships to each other and, particularly, in structural contexts of power.

The curriculum of the Department of Ethnic Studies is designed to 1) study intensively the particular histories of different ethnic and racial groups in the United States, especially intra-group stratification; 2) to draw larger theoretical lessons from comparisons among these groups; 3) to articulate general principles that shape racial and ethnic relations both currently and historically; and 4) to explore how ethnic identity is constructed and reconstructed over time both internally and externally.

A degree in ethnic studies offers training of special interest to those considering admission to graduate or professional schools and careers in education, law, medicine, public health, social work, journalism, business, city planning, politics, psychology, international relations, or creative writing. A major in ethnic studies is designed to impart fundamental skills in critical thinking, comparative analysis, social theory and research analysis, and written expression. These skills will give students the opportunity to satisfy the increasingly rigorous expectations of graduate admissions committees and prospective employers for a broad liberal arts perspective.

An ethnic studies major offers excellent preparation for teaching in the elementary schools. If you are interested in earning a California teaching credential from UCSD, contact the Teacher Education Program for information about the prerequisite and professional preparation requirements. It is recommended that you contact TEP as early as possible in your academic career.

## The Major

To receive a B.A. degree with a major in ethnic studies, students must meet the following requirements:

1. A three-quarter course lower-division sequence (Ethnic Studies 1A-B-C). Ideally this sequence should be taken during the sophomore year as an intensive introduction to the history and theoretical dimensions of ethnic diversity in the United States. Ethnic Studies 1A-B-C, Introduction to Ethnic Studies, will consist of the following three courses: Population Histories of the United States, Immigration and Assimilation in American Life, Race and Ethnic Relations in the United States.
2. A minimum of twelve four-unit upper-division courses in the Department of Ethnic Studies must be completed from the following five categories:
  - A. One four-unit upper-division course that intensively explores the theory and comparative methods of ethnic studies (Ethnic Studies 100: Theories and Methods of Ethnic Studies). All ethnic studies majors should complete this course before proceeding with the other requirements listed below.
  - B. Four upper-division ethnic studies history and social science courses from those listed below:
    - ETHN 103: Environmental Racism
    - ETHN 104: Race, Space, and Segregation
    - ETHN 105: Ethnic Diversity and the City
    - ETHN 107: Field Work in Racial and Ethnic Communities
    - ETHN 108: Race, Culture, and Social Change
    - ETHN 109: Race and Social Movements
    - ETHN 112A: History of Native Americans in the United States I
    - ETHN 112B: History of Native Americans in the United States II

- ETHN 116: The United States-Mexico Border in Comparative Perspective
- ETHN 117: Organic Social Movements
- ETHN 118: Contemporary Immigration Issues
- ETHN 120: Comparative Asian-American History, 1850–1965
- ETHN 121: Contemporary Asian-American History
- ETHN 123: Asian-American Politics
- ETHN 125: Asian-American History
- ETHN 126: Comparative Filipino and Vietnamese-American Identities and Communities
- ETHN 129: Asian and Latina Immigrant Workers in the Global Economy
- ETHN 130: Social and Economic History of the Southwest I
- ETHN 131: Social and Economic History of the Southwest II
- ETHN 134: Immigration and Ethnicity in Modern American Society
- ETHN 149: African American History in the Twentieth Century
- ETHN 150: Politics of Cultural Pluralism and National Integration
- ETHN 151: Ethnic Politics in America
- ETHN 152: Law and Civil Rights
- ETHN 159: Topics in African American History
- ETHN 160: Black Politics and Protest in the Early 20th Century (1885–1941)
- ETHN 161: Black Politics and Protest Since 1941
- ETHN 163: Leisure in Urban America
- ETHN 165: Sex and Gender in African American Communities
- ETHN 167: African-American History in War and Peace: 1917 to the Present
- ETHN 170A: Origins of the Atlantic World, c. 1450–1650
- ETHN 170B: Slavery and the Atlantic World
- ETHN 183: Gender, Race, Ethnicity, and Class
- ETHN 188: African Americans, Religion, and the City
- ETHN 197: Field Work in Racial and Ethnic Communities\*

- ETHN 198: Directed Group Studies\*
- ETHN 199: Supervised Independent Study and Research\*

\*Only two will be counted in fulfillment of this requirement.

## Colloquia

- ETHN 180: Topics in Mexican-American History
- ETHN 181: Topics in the Comparative History of Modern Slavery
- ETHN 182: Segregation, Freedom Movements, and the Crisis of the Twentieth Century
- ETHN 184: Black Intellectuals in the Twentieth Century
- ETHN 187: Black Nationalism
- ETHN 189: Special Topics in Ethnic Studies
- C. At least three upper-division courses that focus on language, ethnicity, and institutional discourses:
  - ETHN 140: Language and American Ethnicity
  - ETHN 141: Language, Culture, and Inequality
  - ETHN 142: Medicine, Race, and the Global Politics of Inequality
  - ETHN 144: Bilingual Communities in the U.S.A.
  - ETHN 145: Spanish Language in the United States
  - ETHN 164: African Americans and the Mass Media
  - ETHN 166: The Black Press and Social Change
  - ETHN 185: Discourse, Power, and Inequality
  - ETHN 186: The Ethnic Press in the United States

Students may petition to count one course on language, ethnicity, and institutional discourses offered by other departments. In addition, one course in foreign language at the upper-division level may be counted in partial fulfillment of this requirement, with the consent of the department. Students must seek faculty advice on which courses would best satisfy the requirement and yield the most rigorous training.

- D. At least three upper-division ethnic studies courses on the literature and cultural

expressions of American racial and ethnic minorities:

- ETHN 101: Ethnic Images in Film
- ETHN 110: Cultural World Views of Native Americans
- ETHN 111: Native American Literature
- ETHN 122: Asian-American Culture and Identity
- ETHN 124: Asian-American Literature
- ETHN 128: Hip Hop: The Politics of Culture
- ETHN 132: Chicano Dramatic Literature
- ETHN 133: Hispanic-American Dramatic Literature
- ETHN 135A: Early Latino/a-Chicano/a Cultural Production: 1848 to 1960
- ETHN 135B: Contemporary Latino/a-Chicano/a Cultural Production: 1960 to Present
- ETHN 136: Topics in Chicano/a-Latino/a Cultures
- ETHN 138: Chicano/a-Latino/a Poetry
- ETHN 139: Chicano Literature in English
- ETHN 146A: Theatrical Ensemble
- ETHN 148: Latino/a and Chicano/a Literature
- ETHN 168: Comparative Ethnic Literature
- ETHN 172: Afro-American Prose
- ETHN 173: Afro-American Poetry
- ETHN 174: Themes in Afro-American Literature
- ETHN 175: Literature of the Harlem Renaissance
- ETHN 176: Black Music/Black Texts: Communication and Cultural Expression
- ETHN 178: Blues: An Oral Tradition
- ETHN 179A: Jazz Roots and Early Development (1900–1943)
- ETHN 179B: Jazz Since 1946: Freedom and Form
- E. One four-unit field methods course (Ethnic Studies 190: Research Methods: Studying Ethnic and Racial Communities).
3. Since the goal of the Department of Ethnic Studies is to intensively study both the particular histories of various ethnic and racial groups in the United States and to draw larger

theoretical lessons from comparisons among and between groups, students may not fulfill requirements 2B and 2D by focusing all of the seven required courses on only one ethnic or racial group.

4. Ethnic studies majors, including students who are double majors, may petition up to four upper-division courses to fulfill major requirements as long as each of the following three conditions are met for each course: 1) the course is taken from another UCSD department, taken from a UCSD approved study abroad program, or taken at another UC campus; 2) the coursework is appropriate to the ethnic studies major; and 3) the student completes at least one course offered by the UCSD ethnic studies department in each of the five upper-division categories.
5. To satisfy the requirements for the major, lower- and upper-division courses must be completed with a P, C-, or better grade.
6. Except for independent study course electives (ETHN 197, 198, or 199) which are always taken with a Pass/No Pass grade option, students majoring in ethnic studies may take up to two courses, either lower- or upper-division, with a Pass/No Pass option.

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## The Honors Program

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Consistent with other research opportunities offered to undergraduates on the UCSD campus, the department offers the Honors Program to ethnic studies majors in their senior or junior year the opportunity to conduct original research using interdisciplinary methodologies in the comparative study of race and ethnicity. To enroll in the Honors Program, an undergraduate must have a minimum grade-point average of 3.5 in ethnic studies classes counted towards the major. Students with a GPA lower than 3.5 in the major may be admitted by exception if they show promise of success in research.

The Honors Program will be an extension of current departmental offerings using existing faculty resources. Ethnic studies and affiliated faculty will choose to advise students who successfully complete ETHN 191A and continue in the Honors Program based on related research interests. The student will enroll in ETHN 191B and ETHN 191C and work with the appropriate faculty adviser. Students will present their research projects at the annual Ethnic Studies Honors

Symposium in June. Students who complete the sequence ETHN 191A, ETHN 191B, and ETHN 191C will receive one credit towards the "B" (Social Studies/Humanities) requirements for the ethnic studies major. Students who complete their research project with a grade of "B" or better and maintain a minimum 3.25 GPA in the ethnic studies major will receive "Distinction" in the major upon graduation from UCSD. Ethnic Studies 191A, 191B, and 191C must be taken for letter grade only.

### 191A. Undergraduate Research in Ethnic Studies (4)

This course is designed to help students conduct their own research rather than merely read the research of others. The course will introduce students to research paradigms in ethnic studies, familiarize them with finding aids and other library resources, and involve them in the design of research plans.

### 191B. Honors Research in Ethnic Studies (4)

This course is a continuation of Ethnic Studies 191A—Undergraduate Research in Ethnic Studies. Students who have completed ETHN 191A and selected a faculty research adviser may enroll in this course. During the quarter the research for the honors project will be completed under the faculty adviser's supervision. Faculty advisers will meet weekly with their honors students to oversee the progress made in carrying out the plan of research. Formerly ETHN 192. *Prerequisites: upper-division standing, consent of instructor, and completion of 191A.*

### 191C. Honors Research in Ethnic Studies (4)

This course is a continuation of Ethnic Studies 191B—Honors Research in Ethnic Studies. Students who have completed ETHN 191B and are continuing work with a faculty research adviser may enroll in this course. During the quarter the written drafts and final honors paper will be completed under the faculty adviser's supervision. The student will meet weekly with the faculty adviser in order to prepare drafts and the final version of the honors paper. Formerly ETHN 193. *Prerequisites: ETHN 191A and ETHN 191B.*

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## Education Abroad Program

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Students are able to participate in the UC Education Abroad Program (EAP) or UCSD's Opportunities Abroad Program (OAP) while still making progress toward completing their major. Students considering this option should discuss their plans with the undergraduate adviser prior to going abroad, and courses taken abroad must be approved by the department. Interested students should contact the Programs Abroad Office in the International Center.

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## The Minor

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Students may minor in ethnic studies. Consistent with the provision for a minor curriculum

for students entering after January 1, 1998, students wishing to minor in ethnic studies must satisfy the following requirements:

1) Students must take two four-unit courses in the history and theoretical dimensions of ethnic diversity in the United States from the lower division sequence (Ethnic Studies 1A-B-C); or students must take two four-unit upper-division courses in analytic and comparative study of ethnicity: Theories and Methods of Ethnic Studies (ETHN 100), and Research Methods: Studying Ethnic and Racial Communities (ETHN 190).

2) Students must take five four-unit upper-division ethnic studies elective courses; at least two, but no more than three of the five elective courses must be selected from either the ethnic studies history and social studies courses (listed above in section 2B) or the ethnic studies literature and cultural expressions courses (listed above in section 2D). While language and ethnicity courses offered by the department (listed above in section 2C) may also be used to satisfy this requirement, foreign language and area studies courses from other departments may not. No more than two independent study courses (ETHN 197, 198, or 199) may be used to satisfy this requirement.

3) To satisfy the requirements for the minor, lower- and upper-division courses must be completed with a P, C-, or better grade.

4) Except for independent study course electives (ETHN 197, 198, or 199) which are always taken with a Pass/No Pass grade option, students minoring in ethnic studies may take one course, either lower- or upper-division, with a Pass/No Pass grade option.

Students interested in the African-American experience should consider the following courses:

- ETHN 149: African American History in the Twentieth Century
- ETHN 159: Topics in African American History
- ETHN 160: Black Politics and Protest in the Early 20th Century (1885–1941)
- ETHN 161: Black Politics and Protest Since 1941
- ETHN 164: African Americans and the Mass Media
- ETHN 165: Sex and Gender in African American Communities
- ETHN 167: African-American History in War and Peace: 1917 to the Present

- ETHN 170A: Origins of the Atlantic World, c. 1450–1650
- ETHN 170B: Slavery and the Atlantic World
- ETHN 172: Afro-American Prose
- ETHN 173: Afro-American Poetry
- ETHN 174: Themes in Afro-American Literature
- ETHN 175: Literature of the Harlem Renaissance
- ETHN 176: Black Music/Black Texts: Communication and Cultural Expression
- ETHN 178: Blues: An Oral Tradition
- ETHN 179A: Jazz Roots and Early Development (1900–1943)
- ETHN 179B: Jazz Since 1946: Freedom and Form
- ETHN 181: Topics in the Comparative History of Modern Slavery
- ETHN 182: Segregation, Freedom Movements, and the Crisis of the Twentieth Century
- ETHN 184: Black Intellectuals in the Twentieth Century
- ETHN 187: Black Nationalism
- ETHN 188: African Americans, Religion, and the City

Students interested in the Chicano experience should consider the following courses:

- ETHN 116: The United States-Mexico Border in Comparative Perspective
- ETHN 130: Social and Economic History of the Southwest I
- ETHN 131: Social and Economic History of the Southwest II
- ETHN 132: Chicano Dramatic Literature
- ETHN 133: Hispanic-American Dramatic Literature
- ETHN 135A: Early Latino/a-Chicano/a Cultural Production: 1848 to 1960
- ETHN 135B: Contemporary Latino/a-Chicano/a Cultural Production: 1960 to Present
- ETHN 136: Topics in Chicano/a-Latino/a Cultures
- ETHN 138: Chicano/a-Latino/a Poetry
- ETHN 139: Chicano Literature in English

- ETHN 145: Spanish Language in the United States
- ETHN 148: Latino/a and Chicano/a Literature
- ETHN 180: Topics in Mexican American History

Students interested in the Asian-American experience should consider the following courses:

- ETHN 20: Introduction to Asian American History
- ETHN 121: Contemporary Asian-American History
- ETHN 122: Asian-American Culture and Identity
- ETHN 123: Asian-American Politics
- ETHN 124: Asian-American Literature
- ETHN 125: Asian-American History
- ETHN 126: Comparative Filipino and Vietnamese-American Identities and Communities

Students interested in the Native American experience should consider the following courses:

- ETHN 110: Cultural World Views of Native Americans
- ETHN 111: Native American Literature
- ETHN 112A: History of Native Americans in the United States I
- ETHN 112B: History of Native Americans in the United States II

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## The Graduate Program

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The UCSD Department of Ethnic Studies emphasizes comparative, analytic, and relational study of ethnicity and race in the United States. Our fields of emphasis include intercultural communication and conflict, population histories of the Americas, ethnicity and identity, immigration and assimilation, ethnic politics and social movements, race and racism, urban ethnicity, gender and ethnicity, sexuality, intellectual and cultural histories of ethnic groups, cultural pluralism, national integration, language and ethnic life, and mass media representations of ethnic identity.

### Admission

New students are admitted in the fall quarter of each academic year. Prospective applicants should submit the official application for

admission and awards (same form), one set of official transcripts from each institution attended after high school, official scores from the Graduate Record Examination, application fee, at least three letters of recommendation, and one or more samples of the applicant's own writing, such as term papers. Additionally, foreign applicants must submit official scores from the Test of English as a Foreign Language (TOEFL). Applicants are encouraged to visit the department to talk with faculty and graduate students. The application deadline is January 15.

### Program of Study

Students are required to enroll as full-time graduate students, to carry a minimum enrollment of twelve units of graduate-level courses each quarter, and to maintain a grade-point average of 3.2 or better. To obtain an M.A. degree students must take fifty-four units of course work and write a master's thesis.

### Core Curriculum Sequence Requirements

#### 1. Ethnic Studies 200A-B-C, Core Seminar

All graduate students will be required to take the introductory three-quarter core seminar (four units each, twelve units total) during their first year in the program. This course covers ethnic studies theory, the history of ethnic studies, and controversies in ethnic studies.

#### 2. Ethnic Studies 210, Research Seminar

During the first year of graduate study, all students will be required to take (1) one-quarter of the research seminar (4 units). This course introduces students to the practice of original discovery research in the field of racial and ethnic studies, including articulating a research problem, placing it within theoretical discussions, selecting appropriate methods, and analyzing data.

#### 3. Ethnic Studies 230, Department Colloquium

During the first two years of graduate study, all students will be required to enroll in six one-quarter colloquia required by the department. In Ethnic Studies 230, department faculty and visiting lecturers will make presentations about research in progress in our field. This colloquium is a one-unit course and must be taken for a total of six quarters.

#### 4. Ethnic Studies 240, Multidisciplinary Research Methods in Ethnic Studies

During the first two years of graduate study, students must enroll in two (2) four-unit

disciplinary methods courses. The first course must be Ethnic Studies 240; Multidisciplinary Research Methods in Ethnic Studies. Depending upon the student's research interests, the second course will be selected (in consultation with the student's graduate adviser) from those graduate methods courses offered by UCSD Humanities and Social Science Departments.

#### 5. Ethnic Studies 290A-B, Master's Thesis Preparation

Students are required to write a master's thesis as part of the requirements for the master of arts in ethnic studies. Students should enroll in thesis preparation courses in the fall and spring quarters of the second year of graduate studies.

### Foreign Language Requirement

Competence in one or more foreign languages is encouraged but not required at the M.A. level. All doctoral candidates must satisfy the department's graduate committee that they have adequate linguistic competence in one foreign language relevant to their area of research by translating three pages of scholarly text written in the designated foreign language. The graduate committee may waive the language requirement and test the candidate on other specialized skills in instances where knowledge of a foreign language is not relevant to the candidate's areas of research.

### Instruction in Quantification

The department encourages graduate students to employ quantitative methods where appropriate. Instruction in quantitative methods can fulfill elective requirements; recommended courses include Sociology 205 and 206—Survey and Demographic Methods, Political Science 270—Quantitative Methods in Political Science. In cases where a reading knowledge of evidence assembled through quantitative methods would be useful, students who obtain the permission of the director of Graduate Studies may fulfill elective requirements by taking no more than two selected undergraduate courses including Sociology 103—Computer Applications to Data Management in Sociology, Sociology 107—Demographic Methods, Sociology 108—Quantitative Analysis of Survey Data, Sociology 109—Quantitative Analysis of Sociological Data, Political Science 170—Quantitative Political Science, among others.

### The Master's Degree

Students entering the ethnic studies doctoral program must first complete a master's degree before continuing toward the doctorate. University regulations prohibit entering students who already have a master's degree in ethnic studies from receiving a second master's degree. Nonetheless, students who are admitted to the ethnic studies doctoral program with a master's degree must complete all the requirements for the ethnic studies master of arts degree. The M.A. will also be a terminal degree for those students denied admission to candidacy.

To obtain the M.A. degree, students must complete the department's course requirements satisfactorily. At the end of the second year in the graduate program, students must submit a written thesis to their Master's Thesis Committee (MTC). The committee will assess the quality of the work and determine whether it demonstrates the likelihood of success in conducting doctoral research.

The final decision regarding the M.A. degree is based on grades, the master's thesis, and yearly faculty evaluations. The Graduate Program Committee awards three possible grades: Pass, M.A. Only, and No Pass. All passing students (with the exception of those who already have a master's degree in ethnic studies from another institution) receive the master of arts degree and proceed in their course of studies for the doctorate. Students who receive M.A. Only evaluations gain the master's degree but may not continue in the department's Ph.D. program. Students who receive a No Pass evaluation must withdraw from the program without a graduate degree. The master's degree is earned as one of the requirements for the Ph.D. and is based on the quality of the student's work during the first two years in the graduate program. At the end of the second year, students are evaluated by the Graduate Program Committee for the master's degree. At that time, the committee (GPC) ascertains the student's suitability for doctoral work and recommends either advancement to Ph.D. work or termination.

### Requirements for the Qualifying Examinations

When students complete all the core curriculum requirements and have taken five four-unit elective courses in appropriate areas or disciplines, they are eligible to take the qualifying examination for the Ph.D. degree. Students will be encouraged to take the exam by the end of their

third year in the program, but this examination must be completed by the end of the student's fourth year in the program. The qualifying exam is both written and oral; it consists of two parts. Part one tests the student's basic competence and knowledge of ethnic studies scholarship as spelled out in the Department of Ethnic Studies required graduate reading list. The reading list will be distributed to every student entering the graduate program. Over the next three years, students are required to read all of these books and articles, and to have their mastery of these readings tested during the qualifying examination. Part two of the examination requires the submission of a dissertation prospectus. The dissertation prospectus is a written document that 1) specifies the dissertation research topic; 2) places the dissertation research in the context of the relevant literature in the field; 3) identifies the significance of the project as original discovery scholarship; 4) explains and justifies the research methods to be employed; 5) establishes the feasibility of the research and identifies the primary sources or data bases to be used; 6) indicates the anticipated steps leading to completion of the project; and 7) provides a timetable for the research and writing phases of the project.

The Doctoral Committee consists of five persons proposed by the student and accepted by the department chair and the office of Graduate Studies and Research according to graduate council regulations. A sixth member of the committee may be added with the approval of the department chair. Students are expected to select the chair of their examination committee by the winter quarter of the third year of study. The chair of the Ph.D. Examination Committee serves as the student's adviser for the remainder of the student's graduate program. Three of the Examination Committee members must be Department of Ethnic Studies faculty; the other two must be from other departments.

Fourteen days before the scheduled qualifying examination, the student must submit the written dissertation prospectus to the examination committee. On this same day, the student will receive from the chair of the examination committee a three-question written exam testing knowledge of the required graduate reading list. Seven days before the scheduled qualifying examination, the student must submit written answers to the questions that have been posed, distributing copies of these essays to all examination

committee members. A two-hour oral examination will occur on the appointed date. At the two-hour oral exam, the student will answer questions posed by the committee about the student's dissertation prospectus, mastery of the required graduate reading list, answers to the written part of the exam, and comprehensive knowledge of ethnic studies scholarship. Based on written papers and on oral performance, three possible grades will be selected by the examination committee: No Pass, Pass, and High Pass. Students who receive a No Pass must retake the qualifying examination within one year and obtain a Pass grade to remain in the doctoral program.

### **The Doctoral Dissertation**

Once students pass the qualifying exam, they may begin dissertation research. Students are expected to consult with their committee members on a regular basis during the research process.

All doctoral students will be evaluated annually by the doctoral committee and given a written report signed by the thesis adviser according to campus policy.

When the dissertation has been substantially completed and once committee members have had the opportunity to review drafts of the written work, the committee meets (with or without the student present at the discretion of the committee chair) to consider the progress made and to identify concerns, changes to be made, or further research to be done. Once the committee members are substantially satisfied with the written work, the student, in consultation with the committee, schedules the oral defense of the dissertation. By university regulation, the defense is open to the public.

The final version of the dissertation must be approved by each member of the doctoral committee. Having successfully defended the dissertation in oral examination, the student is eligible to receive the Ph.D. degree. The final version of the dissertation is then filed with the university librarian via the office of Graduate Studies and Research. Acceptance of the dissertation by the university librarian is the final step in completing all requirements for the Ph.D.

### **Departmental Ph.D. Time Limits Policy**

Pre-candidacy status, that is, the registered time before a student passes the qualifying examination and thereby advances to Ph.D. candidacy, may not exceed four years. Normative

time for a Ph.D. in ethnic studies is six years. Normative time is defined as that period of time in which students under normal circumstances are expected to complete their doctoral program. To provide an incentive for students to complete the Ph.D. within normative time, students will only be eligible for departmental financial support for six years (eighteen quarters). By university policies, the doctoral dissertation must be submitted and defended within eight years. To meet this normative time limit, and to meet departmental requirements, students must complete the Qualifying Examination by the end of the fourth year.

In the spring quarter each year, the Graduate Program Committee will assess the progress of each pre-candidacy student on the basis of evaluations submitted by three faculty members chosen by the student. The committee will establish that the student is in good standing, recommend additional course work, or recommend dismissal. The committee may wish to meet with some students in person to discuss the student's evaluation and progress toward the degree.

## **COURSES**

*For course descriptions not found in the 2006–2007 General Catalog, please contact the department for more information.*

### **LOWER-DIVISION**

#### **1A. Introduction to Ethnic Studies: Population Histories of the United States (4)**

This course examines the comparative historical demography of what is today the United States, focusing on the arrival, growth, distribution, and redistribution of immigrants from Asia, Europe, Africa, and Latin America.

#### **1B. Introduction to Ethnic Studies: Immigration and Assimilation in American Life (4)**

A history of immigration to the United States from colonial times to the present, with emphasis on the roles of ethnic and racial groups in economics, power relations between dominant and subordinate groups, and contemporary ethnic and racial consciousness.

#### **1C. Introduction to Ethnic Studies: Race and Ethnic Relations in the United States (4)**

This course examines the theoretical literature on race and ethnicity, focusing on issues of domination and subordination, and the historical emergence of racism and ethnic conflict. Attention is given to class and gender differences within racial and ethnic groups.

#### **20. Introduction to Asian-American History (4)**

This course introduces students to key issues in Asian-American lives, with emphasis on the global historical context of migration; changing ethnic and racial

consciousness; economic, social, and political status; cultural production; and family and gender relations.

#### 87. Freshman Seminar (1)

The Freshman Seminar Program is designed to provide new students with the opportunity to explore an intellectual topic with a faculty member in a small seminar setting. Freshman seminars are offered in all campus departments and undergraduate colleges, and topics vary from quarter to quarter. Enrollment is limited to fifteen to twenty students, with preference given to entering freshmen.

#### 90. Undergraduate Seminar (1)

A seminar intended for exposing undergraduate students, especially freshmen and sophomores, to exciting research programs conducted by department faculty. Enrollment is limited.

#### 97. Field Studies in Racial and Ethnic Communities (1 to 4)

Supervised community field work on topics of importance to racial and ethnic communities in the San Diego County region. Regular individual meetings with faculty sponsor and final project and/or written report are required. *Prerequisites:* lower-division standing, completion of at least thirty units of undergraduate study at UCSD, minimum 3.0 GPA at UCSD, consent of instructor, and completed and approved Special Studies Form.

#### 98. Directed Group Studies (1 to 4)

Directed group study on a topic or in a field not included in the regular department curriculum by special arrangement with a faculty member. *Prerequisites:* lower-division standing, completion of at least thirty units of undergraduate study at UCSD, minimum 3.0 GPA at UCSD, consent of instructor, and completed and approved Special Studies Form.

#### 99. Independent Study (1 to 4)

Directed study on a topic or in a field not included in the regular department curriculum by special arrangement with a faculty member. *Prerequisites:* lower-division standing, completion of at least thirty units of undergraduate study at UCSD, minimum 3.0 GPA at UCSD, consent of instructor, and completed and approved Special Studies Form.

### UPPER-DIVISION

*Prerequisite:* upper-division standing or consent of instructor.

#### 100. Theories and Methods in Ethnic Studies (4)

An introduction to research in ethnic studies with special emphasis on theories, concepts, and methods. Students will explore how racial and ethnic categories are shaped by gender, class, and regional experiences and will study ethnicity and race in comparative perspective.

#### 101. Ethnic Images in Film (4)

An upper-division lecture course studying representations of ethnicity in the American cinema. Topics include ethnic images as narrative devices, the social implications of ethnic images, and the role of film in shaping and reflecting societal power relations.

#### 103. Environmental Racism (4)

This course will examine the concept of environmental racism, the empirical evidence of its widespread existence, and the efforts by government, residents, workers, and activists to combat it. We will examine those forces that create environmental injustices in

order to understand its causes as well as its consequences. Students are expected to learn and apply several concepts and social scientific theories to the course material.

#### 104. Race, Space, and Segregation (4)

Through in-depth studies of housing segregation, urban renewal and displacement, neighborhood race effects, and the location of hazards and amenities, this course examines how space becomes racialized and how race becomes spatialized in the contemporary U.S.

#### 105. Ethnic Diversity and the City (4)

This course will examine the city as a crucible of ethnic identity exploring both the racial and ethnic dimensions of urban life in the U.S. from the Civil War to the present. (Cross-listed with USP 104.)

#### 107. Field Work in Racial and Ethnic Communities (4)

This is a research course examining social, economic, and political issues in ethnic and racial communities through a variety of research methods which may include interviews, and archival, library, and historical research. (Cross-listed with USP 130.)

#### 108. Race, Culture, and Social Change (4)

Aggrieved groups often generate cultural expressions by turning negative ascription into positive affirmation and by transforming segregation into congregation. This course examines the role of cultural expressions in struggles for social change by these communities inside and outside the U.S. (Cross-listed with MUS 151.)

#### 109. Race and Social Movements (4)

This course explores collective mobilizations for resources, recognition, and power by members of aggrieved racialized groups, past and present. Emphasis will be placed on the conditions that generate collective movements, the strategies and ideologies that these movements have developed, and on the prospect for collective mobilization for change within aggrieved communities in the present and future.

#### 110. Cultural World Views of Native Americans (4)

Using interdisciplinary methods, this course examines the cultural world views of various Native American societies in the United States through an exploration of written literary texts and other expressive cultural forms such as dance, art, song, religious and medicinal rituals.

#### 111. Native American Literature (4)

This course analyzes Native American written and oral traditions. Students will read chronicles and commentaries on published texts, historic speeches, trickster narratives, oratorical and prophetic tribal epics, and will delve into the methodological problems posed by tribal literature in translation.

#### 112A. History of Native Americans in the United States I (4)

This course examines the history of Native Americans in the United States, with emphasis on the lifeways, mores, warfare, cultural adaptation and relations with the European colonial powers and the emerging United States until 1870. (Cross-listed with HIUS 108A.)

#### 112B. History of Native Americans in the United States II (4)

This course examines the history of Native Americans in the United States, with emphasis on the lifeways, mores, warfare, cultural adaptation and relations with the United States from 1870 to the present. (Cross-listed with HIUS 108B.)

#### 116. The United States-Mexico Border in Comparative Perspective (4)

This course critically explores the U.S.-Mexico frontier and the social-cultural issues on both sides of the international demarcation. Social-historical and political-economic patterns illuminate border life, ethnic identity, social diversity, and cultural expression. Border ethnography is complemented by film and music.

#### 117. Organic Social Movements (4)

Examination of local responses to global change and social disruption through the examination of organic movements in indigenous societies. In-depth analysis of the Kuna Indians of San Blas, Panama; Maya-Zapatistas of Chiapas, Mexico; and Micronesians of the western Pacific.

#### 118. Contemporary Immigration Issues (4)

This course examines the diversity of today's immigrants—their social origins and contexts of exit and their adaptation experiences and contexts of incorporation.

#### 121. Contemporary Asian-American History (4)

The course will study changes in Asian-American communities as a result of renewed immigration since 1965; the influx of refugees from Vietnam, Kampuchea, and Laos; the impact of contemporary social movements on Asian-Americans' current economic, social, and political status.

#### 122. Asian-American Culture and Identity (4)

A survey of Asian-American cultural expressions in literature, art, and music to understand the social experiences that helped forge Asian-American identity. Topics: culture conflict, media portrayals, assimilation pressures, the model minority myth, and interethnic and class relations.

#### 124. Asian-American Literature (4)

Selected topics in the literature by men and women of Asian descent who live and write in the United States. May be repeated for credit when topics vary. (Cross-listed with LTEN 181.)

#### 125. Asian-American History (4)

Explore how Asian Americans were involved in the political, economic and cultural formation of United States society. Topics include migration; labor systems; gender, sexuality and social organization; racial ideologies and anti-Asian movements; and nationalism and debates over citizenship. (Cross-listed with HIUS 124.)

#### 126. Comparative Filipino and Vietnamese-American Identities and Communities (4)

This course compares the historical and contemporary social, political, and economic experiences of Filipino and Vietnamese-Americans, paying particular attention to the impact of U.S. wars in the Philippines and in Vietnam on their respective lives. *Prerequisite:* upper-division standing.

#### 127. Sexuality and Nation (4)

This course explores the nexus of sex, race, ethnicity, gender, and nation and considers their influence on identity, sexuality, migration, movement and borders, and other social, cultural, and political issues which these constructs affect. (Cross-listed with CGS 112.)

#### 128. Hip Hop: The Politics of Culture (4)

Examination of hip hop's technology, lyrics, and dance and its influences in graffiti, film, music video, fiction, advertising, gender, corporate investment, government, and censorship with a critical focus on race,

gender, and popular culture and the politics of creative expression. (Cross-listed with MUS 152.)

**129. Asian and Latina Immigrant Workers in the Global Economy (4)**

This course will explore the social, political, and economic implications of global economic restructuring, immigration policies, and welfare reform on Asian and Latina immigrant women in the United States. We will critically examine these larger social forces from the perspectives of Latina and Asian immigrant women workers, incorporating theories of race, class, and gender to provide a careful reading of the experiences of immigrant women on the global assembly line. (Cross-listed with USP 135.)

**130. Social and Economic History of the Southwest I (4)**

This course examines the history of the Spanish and Mexican Borderlands (what became the U.S. Southwest) from roughly 1400 to the end of the U.S.-Mexican war in 1848, focusing specifically on the area's social, cultural, and political development. (Cross-listed with HIUS 158.)

**131. Social and Economic History of the Southwest II (4)**

This course examines the history of the American Southwest from the U.S.-Mexican War in 1846-48 to the present, focusing on immigration, racial and ethnic conflict, and the growth of Chicano national identity. (Cross-listed with HIUS 159.)

**132. Chicano Dramatic Literature (4)**

Focusing on the contemporary evolution of Chicano dramatic literature, the course will analyze playwrights and theatre groups that express the Chicano experience in the United States, examining relevant actors, plays, and documentaries for their contributions to the developing Chicano theatre movement. (Cross-listed with THHS 110.)

**133. Hispanic-American Dramatic Literature (4)**

This course examines the plays of leading Cuban-American, Puerto Rican, and Chicano playwrights in an effort to understand the experiences of these Hispanic-American groups in the United States. (Cross-listed with THHS 111.)

**134. Immigration and Ethnicity in Modern American Society (4)**

Comparative study of immigration and ethnic-group formation in the United States from 1880 to the present. Topics include immigrant adaptation, competing theories about the experiences of different ethnic groups, and the persistence of ethnic attachments in modern American society. Requirements will vary for undergraduate, M.A., and Ph.D. students. Graduate students may be required to submit a more substantial piece of work. (Cross-listed with HIUS 180 and conjoined with HIUS 280.) *Prerequisites: upper-division standing and department stamp.*

**135A. Early Latino/a-Chicano/a Cultural Production: 1848 to 1960 (4)**

Cross-disciplinary study of nineteenth and early twentieth century Latino/a-Chicano/a literature, folklore, music, testimonio, or other cultural practices. Specific periods covered will fall between the immediate aftermath of the Treaty of Guadalupe Hidalgo to the Cuban revolution. Repeatable for credit when topics vary. (Cross-listed with LTSP 150A.) *Prerequisites: LTSP 50B or consent of instructor.*

**135B. Contemporary Latino/a-Chicano/a Cultural**

**Production: 1960 to Present (4)**

Cross-disciplinary study of late twentieth century Latino/a-Chicano/a literature, the visual and performing arts, film, or other cultural practices. Specific periods covered will fall between the Kennedy years to the era of neoliberalism and the creation of "Hispanic" or Latino/a identities. Repeatable for credit when topics vary. (Cross-listed with LTSP 150B.) *Prerequisites: LTSP 50B or consent of instructor.*

**136. Topics in Chicano/a-Latino/a Cultures (4)**

Cross-disciplinary study of late twentieth century Latino/a-Chicano/a literature, the visual and performing arts, film, or other cultural practices. Representative areas of study are social movements, revolution, immigration, globalization, gender and sexuality, cultures of the U.S.-Mexican border, and Chicano/a-Mexicano/a literary relations. Repeatable for a credit when topics vary. (Cross-listed with LTSP 151.) *Prerequisites: LTSP 50B or consent of instructor.*

**138. Chicano/a and Latino/a Poetry (4)**

A study of themes and issues in the poetic production of Latino communities in the United States. Every effort will be made to select text in Spanish but some will be bilingual. Repeatable for credits when topics vary. (Cross-listed with LTSP 153.) *Prerequisites: LTSP 50B or consent of instructor.*

**139. Chicano Literature in English (4)**

Introduction to the literature in English by the Chicano population, the men and women of Mexican descent who live and write in the United States. The primary focus is the contemporary period. (Cross-listed with LTEN 180.)

**140. Language and American Ethnicity (4)**

This course examines the intersection of language and ethnicity in the United States, focusing on the social and political impact of bilingualism, ethnically based English dialects, and standard and nonstandard English.

**141. Language, Culture, and Inequality (4)**

A critical review of conceptions of language and how they have been deployed in constructing images of culture, race, ethnicity, gender, sexuality, and class. Topics include cultural and linguistic relativism, structuralism, symbolic and cognitive approaches, ethnomethodology, sociolinguistics, ethnography of speaking, performance, and ethno-poetics.

**142. Medicine, Race, and the Global Politics of Inequality (4)**

Globalization fosters both the transmission of AIDS, cholera, tuberculosis, and other infectious diseases and gross inequalities in the resources available to prevent and cure them. This course focuses on how race, ethnicity, gender, sexuality, class, and nation both shape and are shaped by the social construction of health and disease worldwide.

**144. Bilingual Communities in the U.S.A. (4)**

This course compares the many ways of "doing being bilingual" that exist among communities of speakers of varied national origins, generations, networks, localities, races, classes, and genders. Of particular interest are the varied types of bilingual individuals and linguistic repertoires that exist in communities of Native American, Chicano/Latino, and Asian origin, and the implications of shifting and hybrid linguistic identities for the drawing of community boundaries and the shaping of national language policy. Specific topics include factors that promote language loss or maintenance in families, the linguistic and cultural repercussions

of code switching and word borrowing, bilingual education, linguistic profiling, and language ideologies.

**145. Spanish Language in the United States (4)**

A sociolinguistic study of the popular dialects in the United States and their relation to other Latin American dialects. The course will cover phonological and syntactic differences between the dialects as well as the influence of English on the Southwest dialects. (Cross-listed with LTSP 162.)

**146A. Theatrical Ensemble (4-4)**

An intensive theatre practicum designed to generate theatre created by an ensemble, with particular emphasis upon the analysis of text. Students will explore and analyze scripts and authors. Ensemble segments include: black theatre, Chicano theatre, feminist theatre, commedia dell'arte theatre. (Cross-listed with TDAC 120.)

**148. Latino/a and Chicano/a Literature (4)**

This course will study the representation of a variety of social issues (immigration, racism, class differences, violence, inter/intra-ethnic relations, etc.) in works written in Spanish by Latino/a and Chicano/a writers. May be repeated for credit as topics, texts, and historical periods vary. (Cross-listed with LTSP 154.) *Prerequisites: LTSP 50B or consent of instructor.*

**149. African American History in the Twentieth Century (4)**

This course examines the transformation of African America across the expanse of the long twentieth century: imperialism, migration, urbanization, desegregation, and deindustrialization. Special emphasis will be placed on issues of culture, international relations, and urban politics. (Cross-listed with HIUS 139.)

**150. Politics of Cultural Pluralism and National Integration (4)**

This course comparatively analyzes the problems posed by subnational loyalties founded on ethnic, linguistic, racial, religious, and caste identities in Asia, Africa, Europe, and the Western Hemisphere. Particular attention will be given to the processes of national integration in multicultural politics.

**151. Ethnic Politics in America (4)**

This course will survey the political effects of immigration, ethnic mobilization, and community building in America, and the contemporary role of ethnicity in politics and intergroup relations.

**152. Law and Civil Rights (4)**

In this course students explore the relationship between race, class, and law as it applies to civil rights both in an historical and a contemporary context. Topics include racism and the law, history of the 14th Amendment, equal protection, school desegregation, and affirmative action.

**159. Topics in African American History (4)**

A colloquium dealing with special topics in the history of people of African descent in the United States. Themes will vary from quarter to quarter. Requirements will vary for undergraduate, M.A., and Ph.D. students. Graduate students will be required to submit a more substantial piece of work. (Cross-listed with HIUS 183 and conjoined with HIUS 283.)

**160. Black Politics and Protest 1885-1941 (4)**

An examination of the evolution of black thought and activism from Booker T. Washington's Atlanta Exposition Address to A. Philip Randolph's March on Washington Movement. Particular attention paid to



black institutions and their relationship to the federal government.

**161. Black Politics and Protest Since 1941 (4)**

Discussion of black social, political, and intellectual experiences since the publication of Richard Wright's *Native Son*. Close examination of blacks' involvement in and relationships to Second World War, Cold War, Civil Rights Movement, Black Power Movement, Reagan Revolution, and Underclass Debate.

**163. Leisure in Urban America (4)**

Historical examination of how leisure has shaped the American urban landscape. Course will explore connections between spectator sports and the rise of "urban mentalities"; sports franchises, urban redevelopment schemes, and racial and ethnic communities; and sports mythology and civil pride.

**164. African Americans and the Mass Media (4)**

Examination of the media representations of African Americans from slavery to the present focusing on emergence and transmission of enduring stereotypes, their relationship to changing social, political, and economic frameworks, and African Americans' responses to and interpretations of these mediated images. (Cross-listed with MUS 153.)

**165. Sex and Gender in African American Communities (4)**

This course will investigate the changing constructions of sex, gender, and sexuality in African American communities defined by historical period, region, and class. Topics will include the sexual division of labor, myths of black sexuality, the rise of black feminism, black masculinity, and queer politics.

**167. African-American History in War and Peace: 1917 to the Present (4)**

The social, political, economic, and ideological pressures generated during the international conflicts of the twentieth century have had an enormous impact on American life. This course examines how the pressures of "total war" and "cold war" shaped the African-American experience in both war and peacetime. (Cross-listed with HIUS 138)

**168. Comparative Ethnic Literature (4)**

A lecture-discussion course that juxtaposes the experience of two or more U.S. ethnic groups and examines their relationship with the dominant culture. Students will analyze a variety of texts representing the history of ethnicity in this country. Topics will vary. (Cross-listed with LTEN 178.)

**170A. Origins of the Atlantic World, c. 1450–1650 (4)**

An examination of interactions among the peoples of western Europe, Africa, and the Americas that transformed the Atlantic basin into an interconnected "Atlantic World." Topics will include maritime technology and the European Age of Discovery, colonization in the Americas, the beginnings of the transatlantic slave trade, and early development of plantation slavery in the New World. (Cross-listed with HIUS 135A.)

**170B. Slavery and the Atlantic World (4)**

The development of the Atlantic slave trade and the spread of racial slavery in the Americas before 1800. Explores the diversity of slave labor in the Americas and the different slave cultures African Americans produced under the constraints of slavery. (Cross-listed with HIUS 135B.)

**172. Afro-American Prose (4)**

Students will analyze and discuss the novel, the personal narrative, and other prose genres, with particular emphasis on the developing characters of Afro-American narrative and the cultural and social circumstances

that influence their development. (Cross-listed with LTEN 183.)

**173. Afro-American Poetry (4)**

A close reading and analysis of selected works of Afro-American poetry as they reflect styles and themes that recur in the literature. (Cross-listed with LTEN 184.)

**174. Themes in Afro-American Literature (4)**

This course focuses on the influence of slavery upon African American writers. Our concern is not upon what slavery was but upon what it is within the works and what these texts reveal about themselves, their authors, and their audiences. (Cross-listed with LTEN 185.)

**175. Literature of the Harlem Renaissance (4)**

The Harlem Renaissance (1917–39) focuses on the emergence of the "New Negro" and the impact of this concept on black literature, art, and music. Writers studied include Claude McKay, Zora N. Hurston, and Langston Hughes. Special emphasis on new themes and forms. (Cross-listed with LTEN 186.)

**176. Black Music/Black Texts: Communication and Cultural Expression (4)**

Explores role of music as a traditional form of communication among Africans, Afro-Americans, and West Indians. Special attention given to poetry of black music, including blues and other forms of vocal music expressive of contestatory political attitudes. (Cross-listed with LTEN 187 and MUS 154.)

**178. Blues: An Oral Tradition (4)**

This course will examine the development of the Blues from its roots in work-songs and the minstrel show to its flowering in the Mississippi Delta to the development of Urban blues and the close relationship of the Blues with Jazz, Rhythm and Blues, and Rock and Roll. (Cross-listed with MUS 126.)

**179A. Jazz Roots and Early Development (1900–1943) (4)**

This course will trace the early development of Jazz and the diverse traditions which helped create this uniquely American art form. We will witness the emergence of Louis Armstrong in New Orleans and examine the composer's role in Jazz with Jelly Roll Morton and Duke Ellington. (Cross-listed with MUS 127A.)

**179B. Jazz Since 1946: Freedom and Form (4)**

This course will examine the evolution of Jazz from 1943 to the present. The course will survey the contrasting and competing styles in Jazz from BEBOP to COOL to the avant garde and fusion. (Cross-listed with MUS 127B.)

**Colloquia**

**180. Topics in Mexican-American History (4)**

This colloquium studies the racial representation of Mexican-Americans in the United States from the nineteenth century to the present, examining critically the theories and methods of the humanities and social sciences. (Cross-listed with HIUS 167.)

**181. Topics in the Comparative History of Modern Slavery (4)**

Slavery was both a thread of continuity in the history of the Americas and distinctive institution in the specific social settings. The purpose of this course is to examine and discuss readings that explore topics in the Caribbean and the U.S. Because topics will vary, the seminar may be taken more than once for credit, with permission of the instructor. Requirements vary for undergraduates, M.A., and Ph.D. students. Graduate students are required to submit a more substantial piece of work. (Cross-listed with HIUS 164 and conjoined with HIUS 264.)

**182. Segregation, Freedom Movements, and the Crisis of the Twentieth Century (4)**

A reading and discussion seminar that views the origins of segregation and the social movements that challenged it between 1890 and 1970 in a comparative framework. (Cross-listed with HIUS 165.)

**183. Gender, Race, Ethnicity, and Class (4)**

Gender is often neglected in studies of ethnic/racial politics. This seminar explores the relationship of race, ethnicity, class, and gender by examining the participation of working class women of color in community politics and how they challenge mainstream political theory.

**184. Black Intellectuals in the Twentieth Century (4)**

An analysis of black cultural and intellectual production since 1895. Course will explore how race and race-consciousness have influenced the dialogue between ideas and social experience; and how other factors—i.e., age, gender, and class—affected scholars' insights.

**185. Discourse, Power, and Inequality (4)**

While discourse analysis has transformed numerous disciplines, a gap separates perspectives that envision discourse as practices that construct inequality from approaches which treat discourse as everyday language. This course engages both perspectives critically in analyzing law, medicine, and popular culture.

**186. The Ethnic Press in the United States (4)**

Readings and research on news media institutions established in ethnic communities since the nineteenth century. The course will trace the emergence, development, and longevity of ethnic presses, their role in cultivating and maintaining ethnic identity, and their attempts to respond to and resist images in mainstream media.

**187. Black Nationalism (4)**

This course will investigate the ideologies and practices of black nationalist movements in the United States and/or across the black Diaspora, focusing on their political philosophy, political culture, and gender and class structure.

**188. African Americans, Religion, and the City (4)**

This course details the history of African American migration to urban areas after World War I and World War II and explores the role of religion in their lives as well as the impact that their religious experiences had upon the cities in which they lived. (Cross-listed with USP 132.)

**189. Special Topics in Ethnic Studies (4)**

A reading and discussion course that explores special topics in ethnic studies. Themes will vary from quarter to quarter; therefore, course may be repeated for credit.

**Seminars and Independent Studies**

**190. Research Methods: Studying Racial and Ethnic Communities (4)**

The course offers students the basic research methods with which to study ethnic and racial communities. The various topics to be explored include human and physical geography, transportation, employment, economic structure, cultural values, housing, health, education, and intergroup relations.

**191A. Undergraduate Research in Ethnic Studies (4)**

This course is designed to help students conduct their own research rather than merely read the research of others. The course will introduce students to research paradigms in ethnic studies, familiarize them with finding aids and other library resources, and involve

them in the design of research plans. *Prerequisite: instructor approval.*

**191B. Honors Research in Ethnic Studies (4)**

This course is a continuation of Ethnic Studies 191 Undergraduate Research in Ethnic Studies. Students who have completed ETHN 191 and selected a faculty research adviser may enroll in this course. During the quarter the research for the honors project will be completed under the faculty adviser's supervision. Faculty advisers will meet weekly with their honors students to oversee the progress made in carrying out the plan of research. *Prerequisite: completion of 191.*

**191C. Honors Research in Ethnic Studies (4)**

This course is a continuation of Ethnic Studies 192 Honors Research in Ethnic Studies. Students who have completed ETHN 192 and are continuing to work with a faculty research adviser may enroll in this course. During the quarter the written drafts and final honors paper will be completed under the faculty adviser's supervision. The student will meet weekly with the faculty adviser in order to prepare drafts and the final version of the honors paper. *Prerequisite: instructor approval.*

**197. Fieldwork in Racial and Ethnic Communities (4)**

This course comprises supervised community fieldwork on topics of importance to racial and ethnic communities in the greater San Diego area. Regular individual meetings with faculty sponsor and written reports are required. (May be repeated for credit.)

**198. Directed Group Studies (4)**

Directed group study on a topic or in a field not included in the regular department curriculum by special arrangement with a faculty member. (May be repeated for credit.)

**199. Supervised Independent Study and Research (4)**

Individual research on a topic that leads to the writing of a major paper. (May be repeated for credit.)

**GRADUATE**

**200A. History of Ethnic Studies (4)**

This course charts the origins of ethnic studies research, the emergence of dominant paradigms, and the history of race and ethnic issues across and within disciplines.

**200B. Theories of Ethnic Studies (4)**

A critical exploration of the ways in which theories of ethnic studies have constituted as well as analyzed knowledge and ethnic identity.

**200C. Controversies in Ethnic Studies (4)**

This course is structured around contemporary events and debates over theories, methods, and objects of inquiry in ethnic studies.

**210. Research Seminar in Ethnic Studies (4)**

This course introduces students to the practice of original discovery research in the field of racial and ethnic studies, including articulating a research problem, placing it within theoretical discussions, selecting appropriate methods, and analyzing data.

**230. Departmental Colloquium (1)**

This course is a forum for the presentation of recent research by guests, faculty, and students. This course may be taken for credit six times.

**240. Multidisciplinary Research Methods in Ethnic Studies (4)**

A critical introduction to the broad range of methods used in ethnic studies research and how they have shaped social constructions of race, ethnicity, gender, class, and sexuality.

**241A. Community Ethnography I: Method and Theory (4)**

This course reviews the major tenets of ethnography using case studies of ethnographic work and critical theory pertaining to epistemological concerns in the social sciences. Critical here are the major ethical parameters of conducting ethnography in ethnic communities, the role of researchers, and the practical implications of such research.

**241B. Community Ethnography II: Practicum (4)**

This course focuses on the practical application of ethnographic concepts and methods in actual field research in a local San Diego community. The purpose here is to provide experience in conducting ethnography through participant observation, interviews, and contributing to communities. This will include a brief overview of ethnographic method, but will focus on hands-on research, analysis, and ethnographic writing.

**253. Mass Media and Ethnic Identity (4)**

This course examines the ways that ethnic identity influences the practices of mass media, and the ways in which mass media shape and reflect ethnic identity.

**254. Race and Racism (4)**

This course examines inequality based on race with a focus on the institutions, symbols, and social practices which structure and maintain racism. Particular attention is given to laws and social policy which reinforce racial inequality.

**256. Gender, Sexuality, and Race (4)**

This course studies the body cross-culturally as a site for the construction of gender, sex, ethnic, and racial identities.

**257A-B. Social Theory (4-4)**

An intensive survey of social and cultural theory, focusing on how constructions of science, language, politics, and social inequality shaped early modernity, Romantic Nationalism, Marxism, cultural relativity, psychoanalysis, and *fin de siècle* social thought. The second quarter surveys poststructuralist, postmodern, feminist, Subaltern Studies, globalization, and other critiques. ETHN 257A is not a prerequisite for ETHN 257B.

**259. Comparative Conquests, Colonization, and Resistance in the Americas (4)**

This course will offer a comparative survey of the impact of European interactions with Native nations and populations in the New World, from Peru to Canada. Readings will emphasize modes of initial interaction, patterns of European colonization, and Native adaptation and resistance, and broader changes in Native culture and cosmology as a result of conquest and colonization.

**260. Transnationalism and Borderlands: The Local and Global (4)**

This course critically reviews the analytical frameworks of transnationalism and borderlands. The goals are to assess traditional and current social science practice on immigration, identity, and community studies, and to understand how diverse peoples engage and participate in global processes.

**261. Race and Law (4)**

This seminar advances a critique of law's innocence—of its claims for universality. The reading of legal and scientific texts will indicate how by incorporation existing constructions of the meanings of race, the law produces racialized modern subjects.

**262. Race, Inequality, and Health (4)**

New critical and multidisciplinary perspectives provide tools for examining entrenched and newly emerging diseases and inequalities. This course examines medicine and public health in relationship to race, gender, sexuality, class, and nation and explores how these connections affect the distribution of health and health services locally, nationally, and internationally.

**263. Language and Socialization across Cultures (4)**

This course will focus on the ways in which children in different ethnic and racial groups are socialized to language and *through* language. We will explore racial and class and gender ideologies that underpin the ways parents expect children to learn to speak; examine effective and appropriate methods for studying cultural patterns and understanding ideologies; and consider impacts of bilingualism, stigmatized dialects, immigration, religious training, and home-school conflicts in ways of speaking and using language(s). *Prerequisite: graduate standing or consent of instructor.*

**264. War, Race, and Violence (4)**

This course critically examines theories and research on war, race, and violence, including everyday forms of state violence, war and the making of empire, the politics of war memory, and war refugees. *Prerequisite: graduate standing or consent of instructor.*

**265. Critical Immigration and Refugee Studies (4)**

This course surveys the field of immigration and refugee studies and introduces students to recent theories and cutting-edge research in the field. Key topics: gender and migration; diaspora and transnationalism; immigration, race, and citizenship; and globalization and immigrant labor. *Prerequisite: graduate standing or consent of instructor.*

**289. Topics in Ethnic Studies Research (4)**

This course is a research seminar on themes of contemporary and historic importance in ethnic studies. Themes will be determined by instructor. Course may be repeated three times for credit.

**290A-B. Master's Thesis Preparation (4-4)**

All graduate students are required to write a master's thesis as part of the requirements for the master of arts in ethnic studies. Students should enroll in the thesis preparation courses in the fall and spring quarters of the second year of graduate studies.

**298. Directed Reading (1-12)**

This is an independent research or individual guided tutorial in an area not covered by present course offerings. This course may be repeated for an indefinite number of times due to the independent nature of the content of the course.

**299. Thesis Research (1-12)**

Open to graduate students conducting doctoral thesis research. This course may be repeated for an indefinite number of times due to the independent nature of thesis research and writing.

**500. Apprentice Teaching in Ethnic Studies (4)**

A course in which teaching assistants are aided in learning proper teaching methods by means of supervision of their work by the faculty: handling of discussions, preparation and grading of examinations and other written exercises, and student relations.

## Film Studies

OFFICE: 2073 Humanities and Social Sciences Building, Muir College  
(858) 534-3589  
<http://muir.ucsd.edu/instructional/film-studies/>

### Director

Susan Smith, Ph.D., *Visual Arts*

### Professors

Steven Adler, M.F.A., *Theatre*  
Alain J.-J. Cohen, Ph.D., *Literature*  
Stephen D. Cox, Ph.D., *Literature*  
R. Michael Davidson, Ph.D., *Literature*  
Allan Havis, M.F.A., *Theatre*  
Walton Jones, M.F.A., *Theatre*  
Bennetta Jules-Rosette, Ph.D., *Sociology*  
Marianne McDonald, Ph.D., *Theatre*  
Paul Pickowicz, Ph.D., *History*  
Lesley Stern, Ph.D., *Visual Arts*  
Yingjin Zhang, Ph.D. *Literature*

### Associate Professors

Robert Cancel, Ph.D., *Literature*  
James Carmody, Ph.D., *Theatre*  
Elizabeth Cartwright, Ph.D., *Communication*  
Brian Goldfarb, Ph.D., *Communication*  
Cynthia Walk, Ph.D., *Literature*  
Winifred Woodhull, Ph.D., *Literature*

### Assistant Professor

Giovanna Chesler, M.F.A., *Communication*

### Senior Lecturer with Security of Employment

Ursula Meyer, M.F.A., *Theatre*

### The Minor

In the course of the twentieth century film in all its applications—as storytelling, as documentary, as propaganda, as popular entertainment—became a powerful social and cultural force on an international scale. The importance of film is reflected in the number of faculty at UCSD whose scholarship and teaching involves film and in the number of courses regularly offered which focus on some aspect of film studies and which use film as an essential component of the course material. The Film Studies minor is designed to give students a flexible introduction to the full range of courses on film available here. As noted below, the only

constraints are that five of the seven courses must be in the upper division and that the seven courses must come from at least two different departments. This latter requirement is designed to insure some level of breath in the minor. The minor should be of interest to students with a wide range of interests from those who plan graduate study in film to those who simply wish to understand better this powerful and influential medium.

### REQUIREMENTS

Seven courses, at least five of which must be upper-division, from the following list. The seven courses must be drawn from at least two different departments.

### COURSES

COCU 110. *Cinema in Latin America* (4)  
COCU 125. *How to Read a Film* (4)  
COCU 132. *Gender and Media* (4)  
COHI 143. *The Psychology of the Filmic Text* (4)  
COSF 186. *Film Industry* (4)  
ETHN 101. *Ethnic Images in Film* (4)  
HIEA 133. *Twentieth-Century China: Cultural History* (4)  
HIUS 122. *History and Hollywood: America and the Movies since the Great Depression* (4)  
LTWL 4A-B-C-D-E-M. *Fiction and Film in Twentieth-Century Societies (4-4-4-4-4)*  
LTAF 120. *Literature and Film of Modern Africa* (4)  
LTEA 120A. *Chinese Films* (4)  
LTEA 120B. *Taiwan Films* (4)  
LTEA 120C. *Hong Kong Films* (4)  
LTEA 120D. *Filming Chinese Literature* (4)  
LTEU 159. *Russian and Soviet Film* (4)  
LTWL 180. *Film Studies and Literature: Film History* (4)  
LTWL 181. *Film Studies and Literature: Film Movement* (4)  
LTWL 182. *Film Studies and Literature: Film Genre* (4)  
LTWL 183. *Film Studies and Literature: Director's Work* (4)  
LTWL 184. *Film Studies and Literature: Close Analysis of Filmic Text* (4)  
LTWL 185. *Film Studies and Literature: Interdisciplinary Issues* (4)  
LTWL 186. *The Psychology of the Filmic Text* (4)  
PHIL 176. *Film Aesthetics* (4)  
SOCA 105. *Ethnographic Film: Media Methods* (4)  
SOCB 172. *Films and Society* (4)  
SOCD 187. *African Societies through Film* (4)  
TDGE 10. *Theatre and Film* (4)  
TDGE 11. *Great Performances on Film* (4)  
TDGE 27. *User-Friendly Shakespeare* (4)  
TDGE 122. *The Films of Woody Allen* (4)  
TDGE 124. *Cult Films: Weirdly Dramatic* (4)  
TDHT 116. *Old Myths in New Films* (4)

TDPW 104. *Screenwriting* (4)  
VIS 84. *History of Film* (4)  
VIS 150. *History and Art of the Silent Cinema* (4)  
VIS 151. *History of the Experimental Film* (4)  
VIS 152. *Film in Social Context* (4)  
VIS 153. *The Genre Series* (4)  
VIS 154. *Hard Look at the Movies* (4)  
VIS 155. *The Director Series* (4)  
VIS 156N. *Special Problems in Film History and Theory* (4)  
VIS 194. *Fantasy in Film* (4)

## Freshman Seminars

Office of the Senior Vice Chancellor—  
Academic Affairs  
Mark Appelbaum, Associate Vice Chancellor—  
Undergraduate Education  
OFFICE: University Center, Room 104  
(858) 822-5855  
<http://academicaffairs.ucsd.edu/freshmanseminars.html>

Freshman Seminars are designed to provide new students with the opportunity to explore an intellectual topic with a faculty member in a small seminar setting. Freshman seminars are offered in all campus departments, in many undergraduate colleges and academic programs, the Scripps Institution of Oceanography, and The Graduate School of International Relations and Pacific Studies. Topics vary from quarter to quarter. Enrollment is limited to twenty students, with preference given to entering freshmen. Freshman Seminars are specially designated by courses that are numbered 87, e.g., Phys. 87.

The Freshman Seminar Web site at <http://academicaffairs.ucsd.edu/freshmanseminars.html> can be visited for a description of seminars currently offered. This site also contains important information such as enrollment procedures for freshmen with advanced standing, limitations on the number of seminars that may be taken, etc.

Questions about a specific Freshman Seminar should be directed to the department offering the seminar.

# German Studies

OFFICE: 3024 Humanities and Social Sciences Building, Muir College (CAESAR Office)  
(858) 534-3598  
<http://germanstudies.ucsd.edu>  
[germanstudies@ucsd.edu](mailto:germanstudies@ucsd.edu)

## Program Director

Cynthia Walk, *Associate Professor, Literature*

## Faculty

Frank Biess, *Assistant Professor, History*  
Elizabeth Bredeck, *Lecturer, Literature*  
William M. Chandler, *Professor, Political Science*  
Fatima El-Tayeb, *Assistant Professor, Literature*  
Harvey S. Goldman, *Professor, Sociology*  
Michael O. Hardimon, *Associate Professor, Philosophy*  
Deborah Hertz, *Professor, History*  
Todd C. Kontje, *Professor, Literature*  
Lisa Lampert, *Associate Professor, Literature*  
David S. Luft, *Professor, History*  
William A. O'Brien, *Associate Professor, Literature*  
Carol Plantamura, *Professor, Music*  
John Rouse, *Associate Professor, Theatre and Dance*  
Jane Stevens, *Associate Professor, Music*  
Tracy B. Strong, *Professor, Political Science*  
Eric Watkins, *Associate Professor, Philosophy*

## Program Description

German Studies is an interdisciplinary program that offers both a major and a minor for students with broad academic interests in the German-speaking world.

In consultation with a faculty adviser in the program, students design individual plans of study from the many core courses offered in the Departments of History, Literature, Music, Philosophy, Political Science, Sociology, and Theatre and Dance. Further courses, including some offered by other departments, may be incorporated into the student's program, if they bear directly on German studies. Students considering a major or minor should consult a member of the German Studies faculty as early as possible.

Students need to attain competence in German (two years of university-level language courses or the equivalent) *before* they can take certain required upper-division courses. It is

recommended that students attain this level of competence early in the program.

## Study Abroad

All German Studies students are strongly encouraged to make overseas study an integral part of their program. The UC Education Abroad Program (EAP) conducts formal programs of study in Berlin, Göttingen, and Bayreuth ranging from one-quarter, intensive beginning language programs to a full year of study at a German university. Students may petition to use up to five courses completed while studying abroad in their major, and three in their minor.

## Senior Honors Thesis

At the beginning of his or her senior year, a student major in German Studies may elect to write a Senior Honors Thesis. To be eligible, the student must have a GPA of 3.5 in the German Studies major at the beginning of the senior year.

To begin work, the student forms a committee of three appropriate faculty members, including a committee chair, who is chosen from among the German Studies Core Faculty. The chair supervises the student in a two-quarter program of independent study to research and write an Honors Thesis of approximately thirty to fifty pages (GMST 196A/B; the two courses count among the required twelve for the major). The student defends the thesis in a one-hour oral exam with the full committee, which is charged with recommending the degree of honors that will appear on the student's transcript and diploma.

## The Major

The major in German Studies requires twelve upper-division courses chosen from the core course list, and includes:

German Studies I and II  
(LTGM 100 and 101)

three courses in German Literature

two courses in History

five additional core courses, taken in at least two different departments. At least two of these courses must be taken outside the literature department.

Students plan their major in consultation with their German Studies faculty adviser, and submit it to the program director for approval.

## The Minor

The minor in German Studies consists of seven courses, at least five of which must be upper-division, including:

German Studies I or II  
(LTGM 100 or 101)

At least six additional core courses, taken in at least two departments.

Students plan their minor in consultation with their German Studies faculty adviser, and submit it to the program director for approval.

## Core Courses

Courses marked with an asterisk (\*) frequently cover topics bearing on German Studies. Students should check the departments' quarterly course descriptions and yearly course spreads or their applicability to the program, and discuss them in advance with their German Studies adviser.

## GERMAN STUDIES

GMST 196A/B. Honors Thesis

## HISTORY

HIEU 125. Reformation Europe

HIEU 132. German Politics and Culture:  
1648–1848

HIEU 142. European Intellectual History:  
1780–1870

HIEU 143. European Intellectual History:  
1870–1945

HIEU 146. Fascism, Communism, and  
the Crisis of Liberal Democracy

HIEU 154. Modern German History

HIEU 155. Modern Austria

HIEU 177. Special Topics in Modern  
German Thought

## LITERATURE

LTGM 2A. Readings and Interpretations

LTGM 2B. Advanced Readings and  
Interpretations

LTGM 2C. Composition and Conversation

LTGM 100. German Studies I: Aesthetic  
Cultures

LTGM 101. German Studies II: National  
Identities

- LTGM 123. Eighteenth-Century German Literature
- LTGM 125. Nineteenth-Century German Literature
- LTGM 126. Twentieth-Century German Literature
- LTGM 130. German Literary Prose
- LTGM 131. German Dramatic Literature
- LTGM 132. German Poetry
- LTGM 190. Seminars in German Culture
- LTEU 110. European Romanticism\*
- LTEU 130. German Literature in Translation
- LTEU 139. Marx, Nietzsche, Freud
- LTWL 4B. Fiction and Film in Twentieth-Century Societies\*
- LTWL 160. Women and Literature\*
- LTWL 170. Specialized Genres in Literature\*
- LTWL 172. Special Topics in Literature\*
- LTWL 176. Literature and Ideas\*
- LTWL 180. Film Studies and Literature: Film History\*
- LTWL 183. Film Studies and Literature: Director's Work\*
- LTWL 185. Film Studies and Literature: Interdisciplinary Issues\*

#### MUSIC

- MUS 113. Topics in Classic, Romantic, and Modern Music\*

#### PHILOSOPHY

- PHIL 106. Kant
- PHIL 107. Hegel
- PHIL 108. 19th-Century Philosophy\*
- PHIL 110. Wittgenstein
- PHIL 180. Phenomenology
- PHIL 181. Existentialism
- PHIL 182. Marx and Marxism
- PHIL 183. Topics in Continental Philosophy\*

#### POLITICAL SCIENCE

- POLI 110C. Revolution and Reaction: Political Thought from Kant to Nietzsche
- POLI 114B. Marxist Political Thought
- POLI 120B. The German Political System
- POLI 120D. Germany: Before, During, and After Division
- POLI 120H. European Integration\*

#### SOCIOLOGY

- SOCA 101M. Marxism, Culture, and Politics
- SOC D 178. The Holocaust

#### THEATRE AND DANCE

- THHS 101. Topics in Dramatic Literature and Theatre History\*
- THHS 102. Masters of Theatre\*

## Greek Literature

See Literature.

## Health Care— Leadership of Healthcare Organizations

OFFICE: La Jolla Village Professional Center  
8950 Villa La Jolla Drive, Suite A124  
(858) 964-1017  
oaped@ucsd.edu  
<http://lhco.ucsd.edu>

#### Program Directors

Richard Kronick, Ph.D., *Associate Professor and Chief, Division of Healthcare Sciences, Family and Preventive Medicine*

Charles Mittman, M.D., *Professor of Clinical Medicine and Special Assistant for Clinical Affairs*

#### Associated Faculty

Gloria E. Bader, Ed.D., *The Bader Group*

Theodore Ganiats, M.D., *Professor, Chair, Family and Preventive Medicine*

Robert H. Kaplan, Ph.D., *Torrey Pines Health Group*

David Kraus, J.D., MPH, *UCSD Healthcare*

Robert Resnik, M.D., *Professor, Reproductive Medicine*

David Sakai, C.P.A., MBA, *Chief Financial Officer, UCSD Health Sciences*

Maria Savoia, M.D., *Professor, Clinical Medicine*

Douglas Werner, M.A., *Torrey Pines Health Group*

Michael Willoughby, Ph.D., *Lecturer, Economics*

#### Program Description

The **Master of Advanced Studies (MAS) in the Leadership of Healthcare Organizations** provides depth and focus on management for health care professionals with an emphasis on clinical process improvement. The goal of the program is to prepare health care professionals to participate more effectively in the business decisions that affect the quality of patient care by teaching participants to deal with error prevention, process quality, and systems of care. Students gain the advanced knowledge and skills that are essential to manage escalating challenges in the competitive business environment of health care. The MAS program crosses many fields and clinical and administrative professions in the health industry, including medicine, nursing, mental health, dentistry, insurance, pharmacy, and other related areas. The program is appropriate for nurses, managers, physicians, allied health professionals, health care executives, and medical students as they assume more active roles in health care leadership and on management teams.

The MAS in the Leadership of Healthcare Organizations is a part-time, self-supporting degree program with a flexible course schedule designed for working professionals. It is the first graduate degree of its kind within the University of California system. The UCSD graduate division confers the MAS degree and the Department of Family and Preventive Medicine in the UCSD School of Medicine is responsible for the academic management of the curriculum. UCSD Extension administers the program and provides student advising and career counseling services.

#### Admission

New students are admitted in the fall, winter, and spring quarter of each academic year. Prospective candidates should submit and complete the official UCSD online graduate application for admission, the application fee, one set of official transcripts from each institution attended after high school, three letters of professional recommendation, and a current résumé or c.v. The GRE/GMAT is not required; however, it is strongly recommended that candidates have a minimum of five years of professional experience in health care. International applicants must submit official scores from the Test of English as a Foreign Language (TOEFL). The application deadlines are June 15 (fall), October 15 (winter), and January 15 (spring).

## Program of Study

The part-time degree program is designed to be completed in one, two, or three years, depending upon a participant's time to devote to the program. Classes are typically scheduled in the late afternoons, evenings, or weekends to meet the demands of working professionals. Students are required to complete forty units of courses.

## COURSES

For course descriptions not found in the 2006–2007 General Catalog, please contact the department for more information.

### CURRICULUM

#### LHCO 201A-B. Topics in Healthcare Management and Innovation (2 each)

Weekly discussions with healthcare entrepreneurs and managers will expose students to real-life experiences. How are solutions to healthcare delivery identified and implemented? How are solutions brought to the marketplace?

#### LHCO 202. Organizational Dynamics and Change Management (4)

This course examines principles and applications of management and organization theory as applied to healthcare organizations. It covers methods for assessing key features of organizational environments and internal structures and identifying, developing, and implementing strategies for improved performance.

#### LHCO 203. Using and Managing Information and Information Technologies (4)

Designed to familiarize health administrators and professionals with the principles of information systems design and management for healthcare. Provides an understanding of current trends in information technologies for healthcare and management issues unique to it. Includes hands-on computer lab.

#### LHCO 204. Managing People and Teams (2)

This course studies key management concepts and roles of management and how they apply in successful, dynamic organizations. It also examines competencies of effective managers in developing customer focus, planning, selecting and developing individuals and teams, communicating, managing resources, using technology and being adaptable.

#### LHCO 205. Modern Healthcare Organizations (4)

Describes and analyzes the dynamics responsible for the change in healthcare delivery and effects on development of modern healthcare organizations. Describes actions taken by employers, insurers, consumers, and government, analyzing the effects on physicians and provider organizations. **Note:** It is recommended that students take this course in their first winter quarter in the program.

#### LHCO 206. Topics in Financial Management and Decision Making (2)

This course presents real-life applications in healthcare provider organizations of financial management and decision-making. Topics include budgeting, uses

of financial reports, development of long-range financial forecasts, benchmarking, business plan development, and actuarial analysis in projecting healthcare delivery costs.

#### LHCO 207. Health Law and Medical Liability (4)

This course provides an introduction to the relationship of law to healthcare, including liability, government regulation, financial and ethical issues, contracting and negotiation and dispute resolution.

#### LHCO 208. Financial Management and Decision Making (4)

This course analyzes the impact of time and risk on investment decisions. Financial accounting will be reviewed to understand financial information within an organization including uses and limitation of such information for management purposes. Discussion of procedural aspects of accounting to explicate basic concepts.

#### LHCO 209. Patient Outcomes and Quality of Care (4)

This course provides a critical overview of the tools used to measure outcomes and quality of care, development and use of practical guidelines, advantages and disadvantages of various methods, and the use of such analysis in administrative decision-making.

#### LHCO 210. Assessment of Medical Technology (2)

This course covers assessment methodologies, balancing concerns for economics and impact on care, investment strategy, and relationships with developers, vendors, and suppliers.

#### LHCO 211. Healthcare Leadership and Political Advocacy (2)

Within the context of healthcare advocacy, the course examines the organizational and individual issues that impact success in promoting and advocating for a healthcare agenda. The course aims to provide clarity to that process and assist students with understanding how to navigate the political landscape. Students learn about the legislative process, lobbying, the impact of political campaigns, the involvement of the media, and how healthcare economics impact politics.

#### LHCO 296. Independent Study Project (6)

The Independent Study Project (ISP) is the cornerstone of the MAS Program. Students will be involved in a high-level applied research project that integrates what they have learned in their formal course work. The ISP will be an independent and creative scholarly activity in an area related to one or more of the topics covered in the formal curriculum. Students' work will be evaluated by a committee consisting of faculty and, when appropriate, industry advisers.

## Health Care–Social Issues

OFFICE: Interdisciplinary Programs, EBU 3B, Computer Science and Engineering Building, Room 1108, Warren College  
<http://warren.ucsd.edu/health>

Health care–social issues is an interdisciplinary minor designed to enhance students' competence in analyzing complex social and ethical implications and ramifications of health care issues, policies, and delivery systems. Students gain an understanding of how the economy, culture, technology, sociological and psychological processes influence modern health care. Although it is administered by Warren College, it is available to all UCSD students with a general interest in health care as well as to students considering health care careers. This minor offers UCSD students the opportunity to examine health care-related issues from the perspectives of a wide range of disciplines that include anthropology, contemporary issues, economics, ethnic studies, philosophy, psychology, sociology, urban studies, science and technology. By bringing together course work from these academic departments, this interdisciplinary curriculum offers a breadth of intellectual experience that enhances students' undergraduate education and their preparation for professional and postgraduate education in health care professions.

Students should consult an academic adviser in their college provost's office to determine how the health care–social issues minor can best meet their college's graduation requirements. Declarations must first be reviewed and approved by the coordinator of Health Care–Social Issues Interdisciplinary Programs and then by the student's college academic advising office.

Students are strongly urged to supplement the health care–social issues minor with a health-related internship. The Academic Internship Program offers internship placements in clinical settings and with medical research teams that provide valuable experience, career clarification, and an opportunity to apply theories learned in course work. Juniors and seniors with at least a 2.5 overall grade-point average (some placements require a 3.0 GPA) are eligible and can earn from four to sixteen units of academic credit for the internship experience.

Further information on related programs and activities is available at the Warren College Interdisciplinary Programs Office.

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## Health Care–Social Issues Minor Requirements

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The minor consists of seven courses (three required and four electives). At least five courses must be taken at the upper-division level. Upper-division courses must not overlap with courses in the student's major. No more than three elective courses may be taken in any one discipline. For full descriptions of the following courses, please see departmental listings.

The health care–social issues minor is applicable as a Warren College program of concentration in the social sciences.

### Required Courses

- Sociology/L 40—Sociology of Health Care Issues
- Philosophy 163—Bio-Medical Ethics

One course in Urban Studies and Planning chosen from the following:

- 143—The U.S. Health Care System
- 144—Environmental and Preventive Health Issues
- 145—Aging: Social and Health Policy Issues
- 147—Case Studies in Health Care Programs: The Poor and Underserved

(Additional urban studies and planning courses may be taken to fulfill elective requirements in the minor.)

### Elective Course Options

#### Anthropology

- ANLD 2—Human Origins
- ANBI 101—Topics in Biomedical Anthropology
- ANBI 141—The Evolution of Human Diet
- ANGN 100—Topics in Sociocultural Anthropology (approval required)
- ANGN 128—The Anthropology of Medicine

#### Contemporary Issues

- 22—Human Sexuality
- 40—The AIDS Epidemic
- 136—The Anthropology of Medicine

#### Economics

- 138A-B—Economics of Health

#### Ethnic Studies

- 142—Medicine, Race, and the Global Politics of Inequality

#### Philosophy

- 147—Philosophy of Biology
- 148—Philosophy and the Environment
- 151—Philosophy of Neuroscience
- 162—Contemporary Moral Issues
- 164—Technology and Human Values

#### Psychology

- 2—General Psychology: Biological Foundations
- 60—Introduction to Statistics
- 104—Introduction to Social Psychology
- 124—Introduction to Clinical Psychology
- 132—Hormones and Behavior
- 134—Eating Disorders
- 153—Clinical Psychology
- 154—Behavior Modification
- 155—Social Psychology and Medicine
- 163—Abnormal Psychology
- 168—Psychological Disorders of Childhood
- 169—Brain Damage and Mental Function
- 172—Psychology of Human Sexuality
- 179—Drugs, Addiction, and Mental Disorders
- 181—Drugs and Behavior
- 188—Impulse Control Disorders

#### Science, Technology, and Public Affairs

- 181—Elements of International Medicine

#### Sociology

- Soc/L 60—The Practice of Social Research

#### Cluster B

- Soc/B 120S—Special Topics in Culture, Language, and Social Interaction (prior approval of topic required)
- Soc/B 143—Suicide

#### Cluster C

- Soc/C 134A—The Making of Modern Medicine
- Soc/C 134B—Medicine in the Twentieth Century
- Soc/C 135—Medical Sociology
- Soc/C 136A—Sociology of Mental Illness: Historical Approach
- Soc/C 136B—Sociology of Mental Illness in Contemporary Society
- Soc/C 137—Knowledge and Practice in Biomedicine
- Soc/C 138—Genetics and Society

- Soc/C 159—Special Topics in Social Organizations and Institutions (prior approval of topic required)

#### Urban Studies and Planning

- 143—The U.S. Health Care System
- 144—Environmental and Preventive Health Issues
- 145—Aging: Social and Health Policy Issues
- 147—Case Studies in Health Care Programs: The Poor and Underserved

Students may petition to substitute courses in the minor that have substantial content related to health and society. Petitions should be submitted to the Warren College Interdisciplinary Programs Office.

### Recommended Internship Experience

A health care-related internship (AIP 197) is recommended and should be arranged at least one quarter in advance through the Academic Internship Program, Literature Building, Second Floor. Clinical and research placements are available. For each four units of credit, ten hours per week for one quarter plus a ten-page research paper are required.

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## Hebrew Literature

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See Literature.

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## History

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OFFICE: Room 5016, Humanities and Social Sciences Bldg., Muir College  
(858) 534-1996  
history@ucsd.edu  
<http://historyweb.ucsd.edu>

#### Professors

Michael A. Bernstein, Ph.D., *Dean, Arts and Humanities, Academic Senate Distinguished Teaching Award*

Robert S. Edelman, Ph.D.  
Joseph W. Esherick, Ph.D., *Hsiu Professor of Chinese Studies, Hwei-Chih and Julia Hsiu Endowed Chair in Chinese Studies*  
David Noel Freedman, Ph.D., *Endowed Chair, Hebrew Biblical Studies*  
David M. Goodblatt, Ph.D., *Endowed Chair, Judaic Studies*  
David G. Gutiérrez, Ph.D., *Academic Senate Distinguished Teaching Award*  
Deborah Hertz, Ph.D., *Herman Wouk Endowed Chair in Modern Jewish Studies*  
Judith M. Hughes, Ph.D.  
Christine F. Hünefeldt, Ph.D.  
David S. Luft, Ph.D., *Academic Senate Distinguished Teaching Award*  
Michael P. Monteón, Ph.D.  
Naomi Oreskes, Ph.D.  
Michael E. Parrish, Ph.D.  
Paul G. Pickowicz, Ph.D.  
William H. Propp, Ph.D.  
Stefan A. Tanaka, Ph.D.  
Eric Van Young, Ph.D.  
Robert S. Westman, Ph.D.

### Associate Professors

Frank Biess, Ph.D.  
Nancy Caciola, Ph.D.  
Takashi Fujitani, Ph.D.  
Tal Golan, Ph.D.  
Hasan Kayali, Ph.D.  
Rachel Klein, Ph.D.  
John A. Marino, Ph.D., *Interim Chair in Chinese Studies*  
Michael J. O'Connell, Ph.D.  
Patrick J. O'Donnell, Ph.D., *Academic Senate Distinguished Teaching Award*  
Nayan B. Shah, Ph.D.  
Emily Thompson, Ph.D.  
Cynthia M. Truant, Ph.D.

### Assistant Professors

Luis Alvarez, Ph.D.  
Weijing Lu, Ph.D.  
Everard Meade, A.B.D.  
Rebecca Jo Plant, Ph.D.  
Jeremy Prestholdt, Ph.D.  
Sarah Schneewind, Ph.D.  
Stephanie E. Smallwood, Ph.D.  
Daniel L. Widener, Ph.D.

### Adjunct Faculty

Michal Belknap, Ph.D., *Professor, California Western School of Law*  
Amy Bridges, Ph.D., *Professor, Political Science*

Suzanne Cahill, Ph.D., *Associate Adjunct Professor*  
Paul Drake, Ph.D., *Professor, Political Science and Institute of the Americas Chair for Inter-American Affairs*  
Steve Erie, Ph.D., *Professor, Political Science*  
Ramón Gutiérrez, Ph.D., *Professor, Ethnic Studies and Chancellor's Associates Endowed Chair*  
Peter H. Smith, Ph.D., *Professor, Political Science and Simón Bolívar Chair in Latin American Studies*

### Emeritus Professors

Guillermo Cespedes, Ph.D.  
Stanley A. Chodorow, Ph.D.  
Gabriel Jackson, Ph.D.  
Thomas A. Metzger, Ph.D.  
Allan Mitchell, Ph.D.  
Alden A. Moshammer, Ph.D.  
Earl Pomeroy, Ph.D.  
Edward Reynolds, Ph.D.  
David R. Ringrose, Ph.D.  
Martin J. S. Rudwick, Ph.D.  
Ramón Eduardo Ruiz, Ph.D.

## The Undergraduate Program

"Whereas other subjects may make us smarter for next time," said the great historian of the Renaissance, Jakob Burckhardt, "the study of history makes us wiser forever." This major is, moreover, an excellent preparation for a number of rewarding careers in university and college teaching and research, law, government, diplomacy, international business, education, and even medicine. At the crossroads of the humanities, the arts, and the social sciences, history is the study of human experience as it has unfolded over the ages. As an academic discipline it presents a unique gateway both to the richness of our cultural heritage and to the immense variety of world civilizations.

Students wishing to declare a major in history should first consult with the Director of Undergraduate Studies. After determining the student's likely field of emphasis, the student should then select an appropriate faculty adviser. All undergraduate majors are strongly encouraged to consult with the faculty adviser at least once each quarter. Any difficulties in the advising procedure or in registration formalities should be reported to the director of Undergraduate Studies.

Department fields of emphasis are as follows: Africa (HIAF), East Asia (HIEA), Europe (HIEU), Near East (HINE), Latin America (HILA), History of Science (HISC), United States (HIUS); as well as the following three thematic fields: Gender and Sexuality; Race, Ethnicity, and Migration; and War, Revolution, and Social Change. A list of courses approved for the thematic fields is available in the department office or on its Web site, <http://historyweb.ucsd.edu>.

The department also administers the following special research and instructional units; Chinese Studies; Judaic Studies; and the Committee on Area and Ethnic Studies and Research (CAESAR), which includes African Studies, Classical Studies, German Studies, Italian Studies, Japanese Studies, Middle East Studies, Russian and Soviet Studies.

The department is fortunate in having the research and professional activities of its faculty supported by the Laura and John Galbraith Faculty Development Fund.

Basic requirements for the major are as follows:

1. A three-quarter lower-division sequence.
2. Twelve four-unit upper-division courses, which must include the following distribution of courses:
  - a) Seven courses in a field of emphasis. (In certain cases, with approval of the academic adviser, two of these courses may be in a neighboring discipline.)
  - b) Five courses in other fields within the department.
  - c) Three of the twelve courses must focus on the period before 1800. These courses are indicated by the symbol (+).
  - d) At least one of the twelve courses must be a colloquium in which students would be required to write a substantial term paper. Colloquia are those courses with numbers between 160 and 190, or others approved by the undergraduate adviser. **Note:** The colloquium does not have to be in the major field of emphasis.

\*Requirement 2d applies only to students entering UCSD after September 1, 1998.

Students majoring in history will normally take at least eight of their twelve upper-division history courses at UCSD. Exceptions to this rule may be made for transfer students and for students participating in the EAP/OAP program.