

# UC DAVIS

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## Policies and Requirements Addendum—Version History

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### Version P1.0; release date 9/22/08 (08-09 Academic year)

This version contains the following entries:

- Examinations
- Topical Breadth Assigned Subject Areas for Majors and Minors
- Biotechnology
- Computer Science
- Community and Regional Development
- Engineering: Civil and Environmental
- Engineering: Electrical and Computer Engineering
- Evolution and Ecology
- History
- Latin American and Hemispheric Studies
- Law
- Physics
- Plant Biology
- Quantitative Biology and Bioinformatics
- Sociology

### 2009 General Catalog Update; release date 6/17/09

This version contains the following entries:

- Minor Programs Offered by UC Davis
- Anthropology
- Chemistry
- Clinical Nutrition
- Contemporary Leadership
- Engineering
- Engineering: Applied Science
- Engineering: Biological and Agricultural
- Engineering: Biomedical
- Engineering: Chemical Engineering and Materials Science
- Engineering: Computer Science
- Engineering: Mechanical and Aerospace Engineering
- Environmental and Resource Sciences
- Food Science
- History
- Human Development
- International Agricultural Development
- International Relations
- International Science Studies
- Luso-Brazilian Studies
- Music
- Nature and Culture
- Nutrition Science
- Political Science
- Psychology
- Russian
- Sociology
- University Writing Program
- UC Davis Academic Calendar

### Version P1.1 (final); release date 9/21/09 (09-10 Academic year)

This version contains the following entries:

- Engineering

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The 2008–2010 UC Davis General Catalog Supplement contains updated information regarding requirements and courses for the 2008–2010 academic years. Use this document in conjunction with the *2008–2010 UC Davis General Catalog*. If a department is not listed in this document, there are no changes to that department's programs.

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## Introduction

The 2008-2010 General Catalog Course Supplement and Policies & Requirements Addendum addresses important changes to the *UC Davis 2008-2010 General Catalog*. Changes are contained in two sections; the [Course Supplement](#) and [Policies & Requirements Addendum](#).

Additionally, the *2009 General Catalog Update* combines all the changes from the [Course Supplement](#) and [Policies & Requirements Addendum](#). up to Summer 2009; release date 06.17.2009.

### Course Supplement

Changes, cancellations, or the addition of new courses, are contained in the [Course Supplement](#), below.

The changes listed in the [Course Supplement](#) section are released using the following schedule:

- Version C1.0; release date 6/18/08
- Version C1.1; release date 9/22/08
- Version C1.2; release date 10/20/08
- Version C1.3; release date 2/2/09
- Version C1.4; release date 5/4/09
- 2009 General Catalog Update; release date 6/17/09
- Version C1.5; release date 9/21/09
- Version C1.6; release date 10/19/09
- Version C1.7; release date 2/1/10
- Version C1.8 (final); release date 4/16/10

### Policies and Requirements Addendum

Revised or the addition of new undergraduate/graduate/professional degree programs and requirements, and revised or the addition of new *General Catalog* policies or procedures are contained in the [Policies & Requirements Addendum](#), on page 70.

The changes listed in the [Policies & Requirements Addendum](#) section are released using the following schedule:

- Version P1.0; release date 9/22/08 (08-09 Academic year)
- 2009 General Catalog Update; release date 6/17/09
- Version P1.1 (final); release date 9/21/09 (09-10 Academic year)

## Course Supplement

### African American and African Studies

#### New and changed courses in African American and African (AAS)

##### Lower Division Courses

##### 18. Introduction to Caribbean Studies (4)

Lecture—3 hours; discussion—1 hour. Introduction to the contemporary culture, peoples, politics, and societies of the Caribbean. Topics include movements of people, goods and ideas across the Atlantic world and creative productions within the Caribbean. Offered in alternate years. GE Credit: Div, SocSci.—II. Ng'weno

*(new course—eff. fall 08)*

##### 54. University Gospel Choir (2)

*(cancelled course—eff. fall 08)*

##### Upper Division Courses

##### 133. The Black Family in America (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: upper division standing or consent of instructor. Analysis of social science research to examine relationship between black (African-descent) family structures, patterns of functioning, and political, economic, and social conditions in the U.S. Offered in alternate years. GE credit: SocSci, Div.—III, IV. (III, IV.) Harrison

*(change in existing course—eff. fall 09)*

##### 176. The Politics of Resources (4)

Lecture/discussion—4 hours. Prerequisite: course 12 or 110. Restricted to 50 students. Examination of the ways in which the processes of the extraction, purifi-

cation and use of natural resources and the complex regimes of valuation and commodification they (re)produce lead to cooperation and conflict in contemporary Africa and beyond.—III. (III.) Adebaniwi  
*(new course—eff. fall 09)*

##### 180. Race and Ethnicity in Latin America (4)

Lecture—4 hours. The social and political effects of racial and ethnic categorization in Latin America, including issues of economic production, citizenship, national belonging, and access to resources. Emphasis is on peoples of African, Indigenous, and Asian descent. GE credit: ArtHum or SocSci, Div.—II. (II.) Ng'weno

*(change in existing course—eff. winter 05)*

##### Graduate Courses

##### 298A. Directed Group Study in African American and African Diaspora Studies (1-5)

Prerequisite: graduate standing. May be repeated for credit up to three times. (S/U grading only.)

*(change in existing course—eff. winter 07)*

##### 299. Directed Group Study in African Studies (1-12)

(S/U grading only.)

*(change in existing course—eff. winter 07)*

### Agricultural and Environmental Education

#### New and changed courses in Agricultural and Environmental Education (AED)

##### Professional Course

##### 300. Directed Field Experience in Teaching (2)

Discussion—1 hour; field experience—3 hours. Prerequisite: course 100. Experience as teaching assistant in agriculture or home economics programs in public schools. May be repeated one time for credit. (S/U grading only.)—I, II, III. (I, II, III.)

*(change in existing course—eff. fall 09)*

### Agricultural and Resource Economics

#### New and changed courses in (ARE)

##### Lower Division Course

##### 98. Directed Group Study (1-5)

Prerequisite: consent of instructor. Restricted to lower division students. (P/NP grading only.)

*(change in existing course—eff. winter 97)*

## Upper Division Course

### 121. Economics of Agricultural Sustainability (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: Plant Sciences 15; Community and Regional Development 20; Economics 1A; Mathematics 12 or equivalent. Application of economic concepts to agro-environmental issues relevant to agricultural sustainability. Topics include market efficiency, production externalities, government policies, agricultural trade, product differentiation, all linked to sustainability issues. Case studies include biofuels, genetically modified foods and geographically differentiated products.—III. (III.) Mérel  
(new course—eff. spring 09)

## American Studies

### New and changed courses in American Studies (AMS)

#### Lower Division Courses

##### 21. Objects and Everyday Life (4)

Lecture—3 hours; discussion—1 hour; term paper. Prerequisite: completion of subject A requirement. Material culture (objects and artifacts such as toys, furnishings, the built environment) as text for understanding everyday lives (gender, social class, ethnicity, region, age); collecting and displaying material culture; commodity capitalism of individuals and communities in the United States. Offered in alternate years. GE credit: ArtHum, Div, Wrt.—III. de la Peña  
(change in existing course—eff. winter 09)

##### 25. United States as a Business Culture (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: completed Subject A requirement. Business as a cultural system and its relation to religion, politics, arts, science, technology, and material culture; business themes of success, creativity, invention, and competition in American autobiographies, fiction, advice literature, film, and television; cultures of the workplace; multinational business. GE credit: ArtHum or SocSci, Div, Wrt.—I. (I.) de la Peña, Mechling  
(change in existing course—eff. fall 07)

##### 55. Food in American Culture (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: complete Subject A requirement. Food as a cultural system in the United States; food in the performance of individual and group identity, including gender and ethnicity; food in literature, art, popular culture (film, television, advertising), and folk culture; the food industry and business. GE Credit: ArtHum or SocSci, Div, Wrt.—II. (II.) Biltekoff  
(change in existing course—eff. winter 07)

##### 59. Music and American Culture (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: completed Subject A requirement. An examination of music and American culture. Studies will explore music in its cultural contexts, which may include examinations of recording and broadcasting, of race, class, and gender, and the role of technology, and relationships between musical production, consumption and listening. GE Credit: ArtHum or SocSci, Div, Wrt.—I. (I.) Kelman, Wang  
(change in existing course—eff. summer 08)

##### 95. Careers and Identity in American Culture (2)

Lecture—1 hour; discussion—1 hour. Defining one's identity through the career. The life course, preparation, and choices. Personality and career. Ethics. Gender, ethnicity, sexuality, and social class in the workplace. The transnational workplace. Conflicts between the career and other social roles.—I, II, III, IV. (I, II, III, IV.)  
(new course—eff. summer 07)

## Upper Division Courses

### 100. Methods in American Studies (4)

Lecture/discussion—3 hours; term paper. Design and implementation of interdisciplinary research, analysis and writing for American Studies and other cultural studies fields. Library and Internet research skills, project/problem definition, methods for study of texts, individuals, communities. Hand-on, skill-building, focused reading, discussion.  
(change in existing course—eff. fall 08)

### 111. Theories and Practices of Everyday Life in the United States (4)

(cancelled course—eff. fall 08)

### 115. Living in Bodies: Body Politics in the United States (4)

(cancelled course—eff. fall 08)

### 132. Critical Approaches to Media Culture (4)

(cancelled course—eff. fall 08)

### 133. Rhetoric of Media on Social Issues (4)

(cancelled course—eff. fall 08)

## Animal Biology (A Graduate Group)

### New and changed courses in Animal Biology (ABG)

#### Graduate Courses

##### 202. Grant Procurement and Administration (2)

Lecture—1 hour; discussion/laboratory—1 hour. Prerequisite: course 200B. Pass I restricted to Animal Biology Graduate Group students. Topics include: structure of grants, attention to specifications, concise persuasive writing, and grant budgeting. Identify grant opportunities, write a persuasive research grant proposal, and administer grants. Limited enrollment.—I. (I.) Miiloechner  
(change in existing course—eff. fall 09)

##### 255. Physiology of the Stress Response (2)

Lecture/discussion—2 hours. Prerequisite: graduate student. Definition of Stress; Physiological mechanisms of adaptation to stress; Hormonal control of the systemic stress response; Mechanisms of the cellular stress response; Discussion of current trends in stress physiology and current methods for studying the stress response. (Same course as Molecular, Cellular, and Integrative Physiology 255.)—III. (III.) Kuehlitz  
(new course—eff. summer 06)

#### Professional Course

##### 300. Methods in Teaching Animal Biology (2)

Lecture/discussion—2 hours. Prerequisite: graduate standing and consent of instructor. Practical experience in the methods and problems of teaching animal biology. Includes analysis of laboratory exercises, discussion of teaching techniques, grading scientific essays, preparing for and conducting discussion or laboratory sections, formulating quiz and exam questions under instructor supervision. May be repeated up to three times for credit. (S/U grading only.)—I, II. (I, II.) Famula, Oberbauer  
(change in existing course—eff. winter 07)

## Animal Genetics

### New and changed courses in Animal Genetics (ANG)

#### Upper Division Course

##### 120. Introduction to Statistical Genomics (3)

(cancelled course—eff. fall 10)

#### Graduate Courses

##### 212. Sequence Analysis in Molecular Genetics (2)

Lecture/laboratory—2 hours. Prerequisite: Biological Sciences 101 or the equivalent; graduate standing or consent of instructor. Use of computer algorithms and online databases to analyze nucleic acid and protein sequences in molecular genetics research. Offered in alternate years.—II. Medrano  
(change in existing course—eff. winter 07)

##### 299. Research in Animal Genetics (1-12)

Prerequisite: consent of instructor. (S/U grading only.)  
(change in existing course—eff. winter 07)

## Animal Science

### New and changed courses in Animal Science (ANS)

#### Upper Division Courses

##### 136. Techniques and Practices of Fish Culture (2)

(cancelled course—eff. winter 11)

##### 136A. Techniques and Practices of Fish Culture (2)

Lecture—1 hour; laboratory—3 hours. Prerequisite: course 2. Daily care and maintenance of fish in residential aquariums, research and commercial facilities. Biological and environmental factors important to sound management of fish. Laboratories focus on fish culture and include growth trials. Not open for credit to students who have completed course 136.—I. (I.) Hung  
(new course—eff. spring 10)

##### 136B. Techniques and Practices of Avian Culture (2)

Lecture—1 hour; laboratory—3 hours. Prerequisite: course 2. Daily care and maintenance of birds for research, commercial production, and companion or hobby uses. Biological and environmental factors important to sound management of birds. Laboratories focus on bird husbandry, management and care, and include growth trials.—III. (III.) Hung  
(new course—eff. spring 10)

##### 138. Advanced Animal Biochemical Techniques (3)

(cancelled course—eff. winter 10)

##### 170. Ethics of Animal Use (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: any basic course in composition or speech. Ethical issues relating to animal use in contemporary society. Integration of philosophical theories with scientific evidence relating to animal behavior, mentality, and welfare. Uses of animals in agriculture, research, and as companions. Ethical responsibilities regarding wildlife and the environment. GE credit: SocSci, Wrt.—III. (III.) Mench  
(change in existing course—eff. fall 09)

## Anthropology

### New and changed courses in Anthropology (ANT)

#### Lower Division Courses

**15V. Behavioral and Evolutionary Biology of the Human Life Cycle-Web Taught (5)**  
(cancelled course—eff. fall 10)

#### 32. Drugs, Science and Culture (4)

Lecture—3 hours; discussion—1 hour. Drugs, politics, science, society in a cultural perspective: emphasis on roles of science, government and the media in shifting attitudes toward alcohol, marijuana, Prozac and other pharmaceuticals; drug laws, war on drugs and global trade in sugar, opium, cocaine. (Same course as Science and Technology Studies 32.) GE Credit: Div, SocSci, Wri.—I, II.) Dumit

(change in existing course—eff. fall 08)

#### Upper Division Courses

#### 119. World Writing Systems (5)

(cancelled course—eff. winter 10)

#### 123BN. Multiculturalism and Minority Identity (4)

(cancelled course—eff. winter 10)

#### 129. Health and Medicine in a Global Context (4)

Lecture/discussion—4 hours; term paper. Prerequisite: course 2 or Science and Technology Studies 1. Recent works in medical anthropology and the science studies of medicine dealing with global health issues such as AIDS, pandemics, clinical trials, cultural differences in illnesses, diabetes, organ trafficking, medical technology and delivery, illness narratives, and others. (Same course as Science and Technology Studies 129.) GE credit: Div, SocSci, Wrt.—II, III.) Dumit

(new course—eff. fall 09)

#### 130C. Latino Migration to the United States (4)

(cancelled course—eff. winter 10)

#### 135. Peasant Society and Culture (4)

(cancelled course—eff. winter 10)

#### 141A. Indians of North America (4)

(cancelled course—eff. winter 10)

#### 141C. People of the Arctic: Contemporary and Historic Cultures of the Circumpolar Region (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 2 or 3. Social, economic, political, and religious lives of Russian, American, Canadian, and Greenlandic Arctic people (Yup'ik, Iñupiat, Inuit). Topics include Arctic ecosystems, archaeological record of human occupation, ethnohistorical and ethnographic accounts, arctic people in popular culture, and contemporary issues. Offered in alternate years.—I, Darwent

(new course—eff. fall 11)

#### 143B. Philippine Societies and Culture (4)

(cancelled course—eff. winter 10)

#### 146. Peoples and Politics of Mexico and Central America (4)

(cancelled course—eff. winter 10)

#### 148B. Family, Gender, and Population in Contemporary China (4)

(cancelled course—eff. winter 10)

#### 148C. Ethnic Diversity of China (4)

(cancelled course—eff. winter 10)

#### 148AS. Culture and Political Economy in Contemporary China (4)

(cancelled course—eff. fall 08)

#### 155. Comparative Primate Anatomy (4)

(cancelled course—eff. winter 10)

#### 156A. Human Osteology (4)

Lecture—2 hours; laboratory—4 hours. Prerequisite: course 1 or equivalent. Human skeleton from archaeological, forensic, and paleontological perspectives, including anatomical nomenclature, variation with sex and age, function, evolution, growth, and development of bones and teeth. Hands-on study and identification of human skeletal remains. Cannot be taken by students who have previously completed course 156.—II, III.) Weaver

(change in existing course—eff. winter 09)

#### 156B. Advanced Human Osteology (4)

Lecture—2 hours; laboratory—4 hours. Prerequisite: course 156A or equivalent. Human skeletons from archaeological, forensic, and paleontological contexts. Bone and tooth structure, growth, and development; measurement, statistics, and biomechanics; assessment of age, sex, weight, height, and ancestry; and indicators of illness, injuries, diet, and activities. Offered in alternate years.—III, Weaver

(new course—eff. spring 09)

#### 160. Neandertals and Modern Human Origins (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 1 or equivalent. Origins, evolution, and disappearance of Neandertals. Emergence of humans like us in both anatomy and behavior. Interpretation of the fossil and archaeological records of Europe and Africa. Genetics of living and fossil humans. Offered in alternate years.—III.) Weaver

(new course—eff. spring 10)

#### 171. Geoarcheology (4)

(cancelled course—eff. winter 10)

#### 174. European Prehistory (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 3 or consent of instructor. Survey of the prehistory of Europe from its earliest human inhabitants, to the Neandertals and first modern humans, and through early agricultural and complex societies. Analysis and interpretation of the European archaeological record for understanding human dispersals into Europe. Offered in alternate years.—Steele

(new course—eff. fall 10)

#### 177. African Prehistory (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 3 or consent of instructor. Survey of prehistory of Africa from early human ancestors, through modern human origins, and into early agricultural and complex societies and the Bantu expansion. Analysis and interpretation of the African archaeological record, incorporating human paleontology and genetics. Offered in alternate years.—Steele

(new course—eff. fall 08)

## Applied Biological Systems Technology

### New and changed courses Applied Biological Systems Technology (ABT)

#### Upper Division Course

#### 175. Introduction to Global Positioning System (3)

Lecture—2 hours; laboratory—3 hours. Prerequisite: Science and Society 18 or course 180. Principles of position measurement. Differential and RTK GPS. Sources of Error, Datum, projection and mapping.

Application of GPS - surveying, navigation, recreation, guidance, and precision agriculture. Offered in alternate years.—III, Upadhyaya

(change in existing course—eff. summer 08)

## Arabic

### New and changed courses in Arabic (ARB)

#### Upper Division Courses

#### 122. Advanced Arabic (4)

Lecture/discussion—3 hours. Prerequisite: course 121 or permission of instructor. Continuation of course 121. Further development of advanced skills in reading, listening, writing, and speaking standard Arabic through work with texts, video, and audio on cultural and social issues. Limited use of one colloquial dialect.—II, III.) Sharlet

(new course—eff. winter 09)

#### 123. Advanced Arabic (4)

Lecture/discussion—3 hours. Prerequisite: course 122 or permission of instructor. Continuation of course 122. Further development of advanced skills in reading, listening, writing, and speaking standard Arabic through work with texts, video, and audio on cultural and social issues. Limited use of one colloquial dialect.—III, III.) Sharlet

(new course—eff. spring 09)

#### 198. Directed Group Study (1-5)

Prerequisite: consent of instructor. Development of reading, writing, speaking, and listening skills in advanced Arabic. Materials may include al-Kitaab Part Two or Three, news articles and broadcasts, short stories, poetry, novels, essays, scripture, prophetic traditions, audio recordings, and television and film. May be repeated four times for credit if content differs. (P/NP grading only.)—I, II, III, III.) Sharlet

(new course—eff. fall 08)

## Art History

### New and changed courses in Art History (AHI)

#### Lower Division Course

#### 10. Twenty Monuments (4)

Lecture—3 hours; lecture/discussion—1 hour. Demonstration of the breadth and depth of art-historical interpretation through the consideration of the meaning and significance of world-historical monuments from pre-history to the present. GE credit: ArtHum.—II, III.)

(change in existing course—eff. spring 08)

#### Upper Division Courses

#### 100. Proseminar: Research and Writing Methods in Art History (4)

Extensive writing or discussion—3 hours; term paper. Prerequisite: two upper-division Art History courses; intended primarily for junior and senior students in Art History. Methods of art historical research and analysis, and general issues in critical thought. Writing skills appropriate to art history non-fiction writing. Offered irregularly. GE credit: ArtHum, Wrt.—III.) Ruda

(new course—eff. spring 09)

#### 156. Arts of the Islamic Book (4)

Lecture—3 hours; term paper. Prerequisite: course 1E recommended. Critical study of the arts of the luxury book in the pre-modern Islamic world. Representation in Islam, the relationship of word and image,

the discipline of calligraphy, aesthetics and representation in Persianate painting. GE Credit: ArtHum, Div. Wri.—I, II, III. (I, II, III.) Watenpugh  
(new course—eff. fall 07)

### 187. Contemporary Architecture (4)

Lecture—3 hours; term paper. Prerequisite: course 25 and/or course 184 recommended. Introduction to world architecture and urban design since circa 1966. Relation of influential styles, buildings, and architects to postmodern debates and to cultural, economic, technological and environmental change. Offered in alternate years. GE Credit: ArtHum, Div. Wri.—I, II, III. Sadler  
(new course—eff. fall 08)

## Graduate Courses

### 200C. Thesis Writing Colloquium (1)

Discussion—1.5 hour; autotutorial. Prerequisite: course 200B, taken by all Art History M.A. students in their first year. Restricted to graduate students in Art History. Meeting concurrently with AHL 200B, the colloquium provides a structured, supportive environment for second-year art-history graduate students drafting masters' theses. It offers a forum for technical discussions, discussion of writing/editing procedures, and peer review of writing in progress. (S/U grading only.)—II. (II.) Burnett, Strazdes  
(change in existing course—eff. summer 08)

## Professional Course

### 396. Teaching Assistant Training Practicum (4)

Seminar—2 hours; Practice—10 hours. Prerequisite: graduate standing. Principles and techniques of the effective teaching of undergraduate courses in the history of art. May be repeated for credit as often as the student is awarded a TA-ship. (S/U grading only.)—I, II, III. (I, II, III.)  
(change in existing course—eff. summer 08)

## Art Studio

### New and changed courses in Art Studio (ART)

#### Upper Division Course

### 111A. Advanced Photography: Special Topics (4)

Studio—6 hours. Prerequisite: courses 9 and 110A. Restricted to Art Studio majors in pass 1. Special topics related to photography and contemporary art practice. Multiple projects in a variety of approaches. May be repeated two times for credit.—Geiger, Suh  
(change in existing course—eff. spring 08)

### 151. Intermediate Sculpture (4)

Studio—6 hours. Prerequisite: course 5. Individualized explorations through multiple projects in a variety of sculpture media and techniques. Builds upon technical skills and concepts covered in course 5. May be repeated one time for credit when topic differs.—I, II, III. (I, II, III.) Bills, Hill, Puls  
(change in existing course—eff. winter 10)

## Asian American Studies

### New and changed courses in Asian American Studies (ASA)

#### Upper Division Courses

### 110. Theoretical Perspectives in Asian American Studies (4)

(cancelled course—eff. winter 09)

### 111. Ethnicity, Culture, and the Self (4)

(cancelled course—eff. winter 09)

### 120. Multiracial Asian Pacific American Issues (4)

(cancelled course—eff. winter 09)

### 131. Ethnicity, Culture, and the Self (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 1, 2, or 3. Cultural and social psychological influences on Asian Americans focusing on the individual. GE credit: SocSci, Div.—II, III. (II, III.) Sue, Zane  
(new course—eff. fall 10)

### 132. Health Issues Confronting Asian Americans and Pacific Islanders (4)

Lecture/discussion—4 hours. Health issues confronting Asian Americans and Pacific Islanders. (Same course as Public Health Sciences 132.)—II. (II.) Chen  
(new course—eff. winter 09)

### 136. Asian American Performance (4)

(cancelled course—eff. winter 09)

### 140. Asian Americans and Media (4)

(cancelled course—eff. spring 09)

### 141. Asian Americans and the Political Culture of Fashion in the U.S. and Asia (4)

Lecture/discussion—4 hours; term paper; project. Prerequisite: course 1; course 2, 3, or 4 or consent of instructor. Historical, cultural and sociopolitical development of fashion in Asia and the U.S. as it relates to the Asian Diasporas. Specific aspects of material culture: textiles, clothing and fashion. Offered in alternate years. GE credit: ArtHum or SocSci, Div.—(III.) Kieu Linh Valverde  
(new course—eff. spring 08)

### 171. Health Issues Confronting Asian Americans and Pacific Islanders (4)

(cancelled course—eff. fall 08)

## Astronomy

### New and changed courses in Astronomy (AST)

#### Lower Division Course

### 2. Introduction to Modern Astronomy and Astrophysics (4)

(cancelled course—eff. fall 08)

## Atmospheric Science

### New and changed courses in Atmospheric Science (ATM)

#### Graduate Course

### 215. Advanced Hydroclimatology (3)

Lecture—3 hours. Prerequisite: course 115. Theoretical and applied aspects of energy and mass fluxes linking the earth's surface, atmosphere, and hydrologic system. Emphasis on regional scale analysis and modeling, spatial data representation, and climate change influences on precipitation and its hydroclimatic expression. Offered in alternate years.—(III.)  
(change in existing course—eff. spring 98)

## Avian Sciences

### New and changed courses in Avian Sciences (AVS)

#### Lower Division Courses

### 11. Introduction to Poultry Science (3)

Lecture—3 hours. The mosaic of events that have tied poultry science to other scientific disciplines and poultry to humans. Poultry science techniques and production methods from the time of domestication to the present. One field trip required. GE credit: SciEng, Wrt.—II. (II.) Bradley  
(change in existing course—eff. fall 08)

### 13. Birds, Humans and the Environment (3)

Lecture—2 hours; discussion—1 hour. Interrelationships of the worlds of birds and humans. Lectures, discussions, field trips and projects focus on ecology, avian evolution, physiology, reproduction, flight, behavior, folklore, identification, ecotoxicology and conservation. Current environmental issues are emphasized. Half-day field trip. GE credit: SciEng, Wrt.—I. (I.) King  
(change in existing course—eff. fall 08)

#### Upper Division Courses

### 115. Raptor Biology (3)

Lecture—3 hours. Prerequisite: Biological Sciences 1A or the equivalent. Study of birds of prey: classification, distribution, habits and habitats, migration, unique anatomical and physiological adaptations, natural and captive breeding, health and diseases, environmental concerns, conservation, legal considerations, rehabilitation, and falconry. Includes two Saturday field trips.—II. (II.)  
(change in existing course—eff. fall 08)

### 149. Egg Production Management (2)

Lecture—2 hours. Prerequisite: course 11 or the equivalent, or consent of instructor. Management of commercial table egg flocks as related to environment, nutrition, disease control, economics, housing, equipment, egg processing and raising replacement pullets. One Saturday field trip required. Offered in alternate years.—(III.)  
(change in existing course—eff. fall 08)

### 195. Topics in Current Research (1-3)

Lecture/discussion—1-3 hours. Prerequisite: consent of instructor. Discussion of topics of current interest in avian sciences. May be repeated three times for credit.—I, II, III. (I, II, III.)  
(change in existing course—eff. fall 08)

## Biological Chemistry

### New and changed courses in Biological Chemistry (BCM)

#### Professional Course

### 410B. Cell Biology and Metabolism (3)

(cancelled course—eff. fall 10)

## Biological Sciences

### New and changed courses in Biological Sciences (BIS)

#### Upper Division Courses

### 1A. Introductory Biology (5)

(cancelled course—eff. fall 10)

### 1B. Introductory Biology (5)

(cancelled course—eff. fall 10)

**1C. Introductory Biology (5)***(cancelled course—eff. fall 10)***10V. General Biology (4)**

Web virtual lecture—3 hours; web electronic discussion—1 hour. Concepts and issues in biology. Emphasis on composition and structure of organisms; regulation and signaling; heredity, evolution and the interaction and interdependence among life forms and their environments. Significant writing is required. Designed for students not specializing in biology. Not open for credit to students who have completed course Biological Sciences 1A, 1B, 1C, 2A, 2B, 2C, or 10. (Same course as Nematology 10V.) GE credit: SciEng, Wrt.—III. (III.) Westerdahl  
*(change in existing course—eff. spring 09)*

**Upper Division Courses****102. Structure and Function of Biomolecules (3)**

Lecture—3 hours. Prerequisite: course 1A or 2A; Chemistry 8B or 118B or 128B. Structure and function of macromolecules with emphasis on proteins, catalysis, enzyme kinetics, lipids, membranes, and proteins as machines. Only one unit of credit for students who have completed Biological Sciences 105 or Animal Biology 102.—I, II, III. (I, II, III.) Cheng, Fairclough, Gasser, Hilt, Leary, Theg, Toney  
*(change in existing course—eff. spring 08)*

**102Q. Quantitative Biomolecule Concepts (1)**

Project—1 hour; autotutorial. Prerequisite: course 102 (may be taken concurrently). Study of the quantitative concepts and mathematical models fundamental to biochemistry. Offered irregularly.—Hilt, Theg

*(new course—eff. spring 08)***103. Bioenergetics and Metabolism (3)**

Lecture—3 hours. Prerequisite: course 102. Fundamentals of the carbon, nitrogen, and sulfur cycles in nature, including key reactions of biomolecules such as carbohydrates, amino acids, lipids, and nucleotides, and of energy production and use in different types of organisms. Principles of metabolic regulation. One unit of credit for students who have completed Biological Sciences 105 or Animal Biology 103.—I, II, III. (I, II, III.) Abel, Callis, Fiehn, Hilt, I. Segel

*(change in existing course—eff. spring 08)***104. Regulation of Cell Function (3)**

Lecture—3 hours. Prerequisite: course 101; 102 or 105. Membrane receptors and signal transduction; cell trafficking; cell cycle; cell growth and division; extracellular matrix and cell-cell junctions; cell development; immune system.—I, II, III. (I, II, III.) Edwards, Etzler, Kaplan, S. Lin, Myles, Privalsky, Shiozaki, Starr

*(change in existing course—eff. spring 08)***105. Biomolecules and Metabolism (3)**

Lecture—3 hours. Prerequisite: courses 1A, 1B, and 1C, or 2A, 2B, and 2C; course 101; Chemistry 8B or 118B or 128B. Fundamentals of biochemical processes, with emphasis on protein structure and activity; energy metabolism; catabolism of sugars, amino acids, and lipids; and gluconeogenesis. No credit for students who have completed both courses 102 and 103. One unit of credit for students who have completed course 102 or 103. No credit for students who have completed both course 102 and 103. One unit of credit for students who have completed Animal Biology 102 or 103. No credit for students who have completed both Animal Biology 102 and 103.—I, II, III. (I, II, III.)

*(change in existing course—eff. fall 08)***120. Developmental Biology of Marine Invertebrates (4)***(cancelled course—eff. spring 09)***120P. Developmental Biology of Marine Invertebrates/Advanced Laboratory Topics (6)***(cancelled course—eff. spring 09)*

## Biomedical Engineering

**New and changed courses in Biomedical Engineering (BIM)****Lower Division Courses****1. Introduction to Biomedical Engineering (2)**

Lecture—2 hours. Introduction to the field of biomedical engineering with examples taken from the various areas of specialization within the discipline. Areas include: (1) biomedical imaging, (2) cellular engineering, (3) tissue engineering, (4) nano-technology, and (5) computational systems biology. (P/NP grading only.)—I. (I.) Savageau  
*(change in existing course—eff. fall 10)*

**20. Fundamentals of Bioengineering (4)**

Lecture—4 hours. Prerequisite: Physics 9B; Mathematics 21D. Basic principles of mass, energy and momentum conservation equations applied to solve problems in the biological and medical sciences. Only two units of credit to students who have previously taken Chemical Engineering 51, Engineering 105, and course 106.—III. (III.) Yamada  
*(change in existing course—eff. fall 10)*

**Upper Division Courses****102. Quantitative Cell Biology (4)**

Lecture/discussion—4 hours. Prerequisite: Biological Sciences 2A, Physics 9B, Mathematics 22B, Chemistry 8B. Use of engineering principles to understand fundamental cell biology. Emphasis on physical concepts underlying cellular processes including protein trafficking, cell motility, cell division and cell adhesion. Current topics including cell biology of cancer and stem cells will be discussed. Only two units of credit for students who have previously taken Biological Sciences 104 or Molecular and Cellular Biology 143. Offered in alternate years.—(I.) Yamada  
*(new course—eff. fall 07)*

**106. Biotransport Phenomena (4)**

Lecture—4 hours. Prerequisite: course 20, Neurobiology, Physiology, and Behavior 101 or equivalent, Physics 9B, Mathematics 22B. Open to Biomedical Engineering majors only. Principles of momentum and mass transfer with applications to biomedical systems; emphasis on basic fluid transport related to blood flow, mass transfer across cell membranes, and the design and analysis of artificial human organs.—II. (II.) Leach

*(change in existing course—eff. winter 10)***107. Mathematical Methods for Biological Systems (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: course 20; Mathematics 22B; restricted to Biomedical Engineering majors only. Essential mathematical and numerical techniques for engineering problems in medicine and biology. Contents include matrix algebra, linear transforms, ordinary and partial differential equations, probability and stochastic processes, and an introduction to Monte Carlo and molecular dynamics simulations.—II. (II.) Raychaudhuri

*(change in existing course—eff. spring 09)***108. Biomedical Signals and Control (4)**

Lecture—4 hours. Prerequisite: Mathematics 22B; Engineering 6, 100 (can be taken concurrently); restricted to upper division Engineering students. Systems and control theory applied to biomedical engineering problems. Time-domain and frequency-

domain analyses of signals and systems, convolution, Laplace and Fourier transforms, transfer function, dynamic behavior of first and second order processes, and design of control systems for biomedical applications. No credit for students who have taken Electrical and Computer Engineering 150A; two units of credit for students who have taken Mechanical Engineering 171.—III. (III.) Qi  
*(change in existing course—eff. spring 09)*

**109. Biomaterials (4)**

Lecture—4 hours. Prerequisite: course 106; restricted to upper division Engineering majors. Introduce concepts most important for design, selection and application of biomaterials. Given the interdisciplinary nature of the subject, principles of polymer science, surface science, materials science and biology will be integrated into the course.—III. (III.) Revzin

*(change in existing course—eff. spring 09)***116. Physiology: Problem Solving and Biomedical Devices (5)**

Lecture—2 hours; lecture/discussion—3 hours. Prerequisite: Biological Sciences 2A, Mathematics 22B, Physics 9C. Basic human physiology for the nervous, cardiovascular, respiratory, gastrointestinal, renal, and endocrine systems. Emphasis on small group design projects and presentations in interdisciplinary topics relating biomedical engineering to medical diagnostic and therapeutic applications. GE Credit: Wrt.—I. (I.) Louie

*(change in existing course—eff. spring 09)***140. Protein Engineering (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: Biological Sciences 2A, Chemistry 8B. Introduction to protein structure and function. Modern methods for designing, producing, and characterizing novel proteins and peptides. Design strategies, computer modeling, heterologous expression, in vitro mutagenesis. Protein crystallography, spectroscopic and calorimetric methods for characterization, and other techniques.—III. (III.) Facciotti

*(change in existing course—eff. spring 09)***142. Biomedical Imaging: Basic Principles and Practice (4)**

Lecture—3 hours; term paper. Prerequisite: course 107, 108 (may be taken concurrently), Physics 9D and Mathematics 22B. Basic physics, engineering principles, and applications of biomedical imaging techniques including x-ray imaging, computed tomography, magnetic resonance imaging, ultrasound and nuclear imaging.—III. (III.) Ferrara

*(change in existing course—eff. spring 09)***173. Cell and Tissue Engineering (4)**

Lecture/discussion—4 hours. Prerequisite: course 109. Engineering principles to direct cell and tissue behavior and formation. Cell sourcing, controlled delivery of macromolecules, transport within and around biomaterials, bioreactor design, tissue design criteria and outcomes assessment.—I. (I.) Leach

*(change in existing course—eff. fall 07)***192. Internship in Biomedical Engineering (1-12)**

Internship—3-36 hours. Prerequisite: consent of instructor. Restricted to upper division majors. Supervised work experience in the Biomedical Engineering field. May be repeated for credit. (P/NP grading only.)—I, II, III. (I, II, III.)

*(new course—eff. fall 10)***Graduate Course****222. Cytoskeletal Mechanics (4)**

Lecture/discussion—4 hours. Prerequisite: course 202. Current topics in cytoskeletal mechanics including physical properties of the cytoskeleton and motor proteins, molecular force sensor and generator, cytoskeletal regulation of cell motility and adhesion. Offered in alternate years.—(I.) Yamada  
*(new course—eff. fall 10)*

## Biophotonics

### New and changed courses in Biophotonics (BPT)

#### Graduate Course

##### 280. Biophotonics Internship (7-12)

Internship—36 hours. Prerequisite: graduate standing; consent of instructor. Open only to students in the designated emphasis in Biophotonics. Research experience distinct from the student's dissertation topic at an industrial company, a national laboratory, or a cross-college laboratory for one quarter. (S/U grading only.)—I, II, III. (I, II, III.)  
(new course—eff. fall 08)

## Biotechnology

### New and changed courses in Biotechnology (BIT)

#### Upper Division Course

##### 161A. Genetics and Biotechnology Laboratory (6)

Lecture—3 hours; laboratory—9 hours. Prerequisite: Plant Sciences 152 or Biological Sciences 101; consent of instructor. Techniques of genetic analysis at the molecular level including recombinant DNA, gene mapping and basic computational biology. Not open for credit to students who have completed Plant Biology 161A.—II. (II.) Beckles  
(change in existing course—eff. winter 10)

## Cantonese

### New and changed courses in Cantonese (CAN)

#### Lower Division Courses

**1-2-3. Elementary Cantonese (5-5-5)**  
(cancelled course—eff. spring 08)

**4-5-6. Intermediate Cantonese (3-3-3)**  
(cancelled course—eff. spring 08)

## Cell Biology and Human Anatomy

### New and changed courses in Cell Biology and Human Anatomy (CHA)

#### Upper Division Courses

##### 101. Human Gross Anatomy (4)

Lecture—4 hours. Prerequisite: Biological Sciences 2A, concurrent enrollment in Exercise Biology 106L or course 101L strongly recommended. Upper division students only; Pass 1 open to upper division Exercise Biology or Anthropology majors only; Pass 2 open to Seniors in any major; Open enrollment at the start of the quarter for upper division students in any major. Detailed study of the gross anatomical structure of the human body, with emphasis on function and clinical relevance to students entering health care professions. (Same course as Exercise Biology 106.) GE Credit: SciEng.—II. (II.) Gross  
(change in existing course—eff. fall 10)

##### 101L. Human Gross Anatomy Laboratory (3)

Laboratory—9 hours. Prerequisite: Biological Sciences 2A; must take Exercise Biology 106 or course 101 concurrently (or have already completed). Upper division students only; Pass 1 open to upper division Exercise Biology or Anthropology majors only; Pass 2 open to Seniors in any major; Open enrollment at the start of the quarter for upper division students in any major; mandatory attendance on first day of lab. Detailed study of prosected human cadavers in small group format with extensive hands-on experience. (Same course as Exercise Biology 106L.) GE Credit: SciEng.—II. (II.) Gross  
(change in existing course—eff. fall 10)

#### Graduate Course

##### 292. Fertilization and Gamete Literature Critique (1)

(change in existing course—eff. winter 10)

#### Professional Course

##### 493. Clinically-Oriented Anatomy Special Study Module (6)

Lecture—5 hours; lecture/laboratory—10 hours; laboratory—16 hours; clinical activity—4 hours. Prerequisite: consent of instructor. Restricted to School of Medicine students only. Reviews aspects of the anatomy of the head and neck, thoracic cavity, abdomen, pelvis, extremities, vascular system, peripheral nervous system and central nervous system. Focus on the understanding of anatomy related to common surgical procedures. (Same course as Surgery 493.) (H/P/F grading only.)—III. (III.) Blankenship, Khatri  
(change in existing course—eff. spring 10)

## Chemistry

### New and changed courses in Chemistry (CHE)

#### Graduate Courses

##### 219L. Laboratory in Spectroscopy of Organic Compounds (1)

Laboratory—2.5 hours. Prerequisite: course 219 (may be taken concurrently). Restricted to Chemistry graduate students only (or consent of instructor). Practical application of NMR, IR and MS techniques for organic molecules.—III. (III.)  
(change in existing course—eff. summer 09)

##### 222. Chemistry of Nanoparticles (3)

Lecture/discussion—3 hours. Prerequisite: course 110C or equivalent. Chemical and physical aspects of inorganic nanoparticles, including synthesis, purification, reactivity, characterization, and applications for technology. Emphasis is on problems from the current literature. Not open for credit to students who have taken course 122.—III. (III.) Osterloh  
(new course—eff. winter 09)

##### 238. Introduction to Chemical Biology (3)

Lecture—3 hours. Prerequisite: course 118C or 128C, or the equivalent; course 130A & B and Biological Sciences 102, 103, & 104, or the equivalents recommended. Synthesis of complex molecules in nature. Use of biosynthetic pathways in synthesis of new chemical entities. Applications of small molecules in chemical genetics and structural biology. Solving biological problems using synthetic biomolecules.—II. (II.) Beal  
(new course—eff. winter 09)

##### 294. Presentation of Chemistry Research (1)

Seminar—2 hours. Prerequisite: graduate standing; restricted to graduate students in Chemistry who have not yet given their departmental presentation. Introduces first- and second-year Chemistry graduate students to the process of giving an effective research presentation. Advanced Ph.D. students give

formal seminars describing the design and execution of their research projects. May be repeated three times for credit. (S/U grading only.)—II, III. (II, III.)  
(new course—eff. winter 09)

##### 296. Research in Pharmaceutical Chemistry (6)

Laboratory—18 hours. Prerequisite: courses 130A and 130B, 135, and 233 (may be taken concurrently). Restricted to students in the Integrated B.S./M.S. Program in Chemistry. The laboratory provides qualified graduate students with the opportunity to pursue original investigation in Pharmaceutical Chemistry and allied fields in order to fulfill the letter-graded research requirement of the Integrated B.S./M.S. Program in Chemistry (Pharmaceutical Chemistry Emphasis). May be repeated three times for credit. May be repeated three times for credit.—I, II, III, IV. (I, II, III, IV.)  
(new course—eff. fall 09)

## Chicana/Chicano Studies

### New and changed courses in Chicana/Chicano Studies (CHI)

#### Upper Division Courses

##### 147S. Indigenous Healing and Biodiversity in Latin America (4)

Lecture—3 hours; term paper. Contrast between western and traditional healing practices in Latin America and the role of the natural environment in creating sustainable health delivery systems. Questions of health status attributable to public health and environmental risk factors.—IV. (IV.) de la Torre  
(new course—eff. fall 09)

##### 182. Race and Juvenile Justice (4)

Lecture—4 hours. Prerequisite: course 10, Women's Studies 10, or Sociology 10, or equivalent. Individual and institutional responses to "troublesome" youth of color through history and in contemporary society. Emphasis on how race, as well as ethnicity, class, and gender have informed the treatment of "delinquent" youth. Offered in alternate years. GE Credit: ArtHum or SocSci, Div, Wrt.—III. Chávez-García  
(change in existing course—eff. winter 07)

## Chinese

### New and changed courses in Chinese (CHN)

#### Upper Division Courses

##### 109B. Topics in Chinese Literature (in English) (4)

(cancelled course—eff. winter 10)

##### 109F. Topics in Chinese Literature (in English) (4)

(cancelled course—eff. winter 10)

## Classics

### New and changed courses in Classics (CLA)

#### Upper Division Course

##### 101D. Topics in the Classical Tradition (4)

Lecture/discussion—3 hours; term paper. Prerequisite: one course in Classics or consent of instructor. Topics in the classical tradition from late antiquity to

the present. Topics may be ordered by time or place (e.g. the classical tradition in Washington, D.C.) or by theme or genre (e.g. cinematic representations of the ancient world). May be repeated two times for credit when topic differs. Offered irregularly. GE credit: ArtHum, Wrt.—III. Albu  
(new course—eff. winter 09)

### Graduate Course

**200B. Approaches to the Classical Past (4)**  
Independent study—4 hours. Prerequisite: course 200A; graduate student status. Research project on major area of Classical scholarship, with special emphasis on the continuing impact of Mediterranean antiquity on later literature, history, art, and culture. Limited enrollment. Offered in alternate years.—(III.) Albu  
(change in existing course—eff. summer 08)

## Clinical Research

### New and changed courses in Clinical Research (CLH)

#### Graduate Courses

**200. Introduction to Clinical Research (3)**  
Lecture—2 hours; independent study—3 hours. Prerequisite: one of the following degrees: MD, DDS, DMD, OD, ND, DO, PharmD, DVM, PhD or DNS in nursing. Application and acceptance into the Clinical Research Graduate Group, K30 program or other SOM/CTSC training programs; consent of instructor. Introduction to the CRGG program and overview of major clinical research topics. Overview of basic clinical skills needed to accomplish CRGG mentored research project. (Formerly Medical Science 460CR.) (S/U grading only.)—IV. (IV.) Meyers  
(new course—eff. summer 08)

#### 201. Strategies for Grant Writing (2)

Lecture—2 hours. Prerequisite: consent of instructor; completed one of the following degrees: MD, DDS, DMD, OD, ND, DO, PharmD, DVM, PhD or DNS in nursing. Application and acceptance into the Clinical Research Graduate Group, K30 program or other SOM/CTSC training program. Practical skills and strategies to create successful grant proposals in NIH style/format. Generating ideas, identifying and accessing research resources, grant components, specific aims, background and significance, preliminary studies, budgets, and bios. Matriculation through UC system, and resubmissions. (Former course Medical Sciences 461CR.) (S/U grading only.)—IV. (IV.) Rutledge  
(new course—eff. summer 08)

#### 202. Introduction to Clinical Epidemiology and Study Design (3)

Lecture—25 hours; discussion—10 hours. Prerequisite: completed one of the following degrees: MD, DDS, DMD, OD, ND, DO, PharmD, DVM, PhD or DNS in nursing; application and acceptance into the Clinical Research Graduate Group, (K30) program, or other SOM/CTSC training programs; consent of instructor. Anatomy and physiology of conducting clinical epidemiologic research. Familiarity with three basic study designs (cross-sectional, case-control, and cohort). Discussion of principles of measurements in clinical epidemiological studies, basic methods for analyzing data, and ethical issues involved in conducting research. (Formerly Medical Sciences 462CR.) (S/U grading only.)—IV. (IV.) McCurdy, Romano  
(new course—eff. summer 08)

#### 203. Methods in Clinical Research (5)

Lecture—3 hours; discussion—2 hours. Prerequisite: completed one of the following degrees: MD, DDS, DMD, OD, ND, DO, PharmD, DVM, PhD or DNS in nursing; application and acceptance into the Clinical Research Graduate Group, K30 program or

other SOM training programs; consent of instructor. Overview of major approaches to clinical research, including health services research techniques, informatics, GCRC, and preclinical methodologies to enhance clinical projects. Overview of UCD clinical research support infrastructure. Methodologies applicable to clinical research and its multi-disciplinary perspective. (Formerly Medical Sciences 463CR.) (S/U grading only.)—IV. (IV.) Berglund, Kravitz, Lloyd  
(new course—eff. summer 08)

#### 204. Responsible Conduct of Research (3)

Lecture—3 hours. Prerequisite: consent of instructor; completed one of the following degrees: MD, DDS, DMD, OD, ND, DO, PharmD, DVM, PhD or DNS in nursing. Application and acceptance into the Clinical Research Graduate Group, K30 program or other SOM training program. The nine NIH-mandated modules: Data Acquisition and Reporting, Mentor Training, Publication Practices and Authorship, Peer Review/Grant Process, Collaborative Science, Human Subjects, Research with Animals, Conflict of Interest, Research Misconduct, and Entrepreneurship/Industry Collaborations/Intellectual Property/Technology Transfer. (Former course Medical Sciences 464CR.) (S/U grading only.)—IV. (IV.) Wun  
(new course—eff. summer 08)

#### 205. Introduction to Medical Statistics (4)

Lecture—3 hours; laboratory—2 hours. Prerequisite: completed one of the following degrees: MD, DDS, DMD, OD, ND, DO, PharmD, DVM, PhD or DNS in nursing; application and acceptance into the Clinical Research Graduate Group, K30 program or other SOM training program; consent of instructor. Biomedical applications of statistical methods in clinical, laboratory, population medicine. Graphical/tabular data presentation, probability, binomial, Poisson, normal, t, F-, and Chi-square distributions, elementary nonparametric methods, simple linear regression/correlation, life tables. Microcomputer applications of statistical procedures in population medicine. (Formerly Medical Sciences 465CR.) (S/U grading only.)—IV. (IV.) Beckett  
(new course—eff. summer 08)

#### 231. Current Techniques in Clinical Research (2)

Lecture—1 hour; clinical activity—3 hours. Prerequisite: consent of instructor and graduate standing; completion of course 250. Current techniques used in clinical research such as electrophysiology, cardiovascular surgery, cardiac catheterization and echocardiography, team science, and patient management. Lectures are presented by experts on each technique, with an emphasis on use in translational research. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.)  
(new course—eff. fall 06)

#### 290C. Literature in Translational Research (1)

Discussion—1 hour. Prerequisite: graduate standing and consent of instructor. Critical presentation and analysis of recent journal articles in translational research by students. May be repeated for credit. (S/U grading only.)—I, II, III. (I, II, III.) Knowlton  
(change in existing course—eff. fall 10)

## Communication

### New and changed courses in Communication (CMN)

#### Upper Division Course

##### 161. Health Communication (4)

Lecture/discussion—4 hours. Prerequisite: course 102 or equivalent course in research methods. Survey of health communication theories and research. Review of research on health literacy, social support

and coping, doctor-patient interaction, health communication campaigns, and media influences on health. Examination of the application of new communication technologies in health promotion.—III. (III.) Bell  
(new course—eff. spring 10)

### Graduate Courses

#### 210. Experimental Methods and Analysis in Communication (4)

Lecture—4 hours. Prerequisite: graduate standing; one course in inferential statistics; consent of instructor. Experimental designs in communication. Topics include: causation; threats to validity; conceptualization, operationalization, and measurement; hypothesis testing; ethics; data analysis software focusing on the analysis of variance and planned contrasts; and the practical and effective implementation and writing of experiments.—I. (I.) Moitley, Palomares  
(change in existing course—eff. fall 10)

#### 211. Survey Research Methods in Communication (4)

Seminar—4 hours. Prerequisite: graduate standing; one course in inferential statistics; consent of instructor. Methods for designing personal interview, phone, mail, and web-based surveys in communication. Topics include: sampling strategies, sources of error and bias in survey designs, questionnaire construction, cognitive interviewing, interviewer behavior, and analysis of complex survey data using standard software packages.—II. (II.) Bell, Cho  
(change in existing course—eff. winter 11)

## Community and Regional Development

### New and changed courses in Community and Regional Development (CRD)

#### Lower Division Courses

##### 17. Population and Community: Issues in Human Ecology (4)

(cancelled course—eff. winter 10)

##### 20. Food Systems (4)

Lecture—3 hours; laboratory—3 hours. Prerequisite: course 1. Social aspects of agri-food systems. Social science perspectives applied to food, agriculture, and sustainability in relation to power, labor, knowledge, technology, governance, and social movements. Discussions of specific commodity chains and their social and environmental effects in comparative global context.—I. (I.) Galt  
(new course—eff. fall 08)

#### Upper Division Courses

##### 151. Community Field Research: Theory and Analysis (4)

Lecture—4 hours; extensive writing; project. Prerequisite: course 1 and any upper division Community and Regional Development course are recommended. Emphasis on the design and analysis of community research considering the relationship between theory and practice. Study of community research methods, including structural analysis, elite interviewing, and ethnographic approaches. GE credit: SocSci, Div, Wrt.—III. (III.) Tarallo  
(change in existing course—eff. spring 09)

##### 151L. Laboratory in Community Research and Analysis: Field Experience (1-3)

(cancelled course—eff. fall 09)

##### 156. Community Economic Development (5)

Lecture—4 hours; laboratory—2 hours. Prerequisite: Plant Sciences 21 or Engineering Computer Sciences 15 and course 152 or consent of instructor. How low income communities work together to improve

their economic well-being, increase their control over their economic lives, and build community power and decision-making. Includes techniques to analyze community economic potential and identification of appropriate intervention tools. Group project.—II. (II.) Banner

(change in existing course—eff. winter 09)

#### 160. Research Design and Method in Community Studies (4)

(cancelled course—eff. fall 09)

#### 161. Ethnographic Research in America (4)

(cancelled course—eff. fall 09)

#### 164. Theories of Organizations and Their Roles in Community Change (5)

Lecture—4 hours; laboratory—2 hours. Prerequisite: course 1 or 2 or other equivalent social science course and Statistics 13 or equivalent. Planned change within and through community organizations. Private voluntary organizations, local community associations, and local government.

Relationship between community organizations and social capital. Collaborative original data gathering and professional report writing.—II. (II.) Hirtz

(change in existing course—eff. spring 09)

#### 168. Program Evaluation and the Management of Organizations (4)

(cancelled course—eff. fall 09)

### Graduate Courses

#### 242S. Community Development Organizations (International) (4)

Fieldwork—10 hours; lecture—5 hours; workshop—5 hours. Prerequisite: course 240. Theory and praxis of organizations with social change agendas at the community level. Emphasis on local governance, non-profit organizations and philanthropic foundations at an international level. Limited enrollment.—IV. (IV.) Hirtz

(new course—eff. summer 08)

#### 244. Political Ecology of Community Development (4)

Lecture—4 hours. Prerequisite: graduate standing. Community development from the perspective of geographical political ecology. Social and environmental outcomes of the dynamic relationship between communities and land-based resources, and between social groups. Cases of community conservation and development in developing and industrialized countries.—II. (II.) Galt

(new course—eff. spring 08)

#### 293. Community Development Graduate Proseminar (1)

Lecture/discussion—1 hour. Prerequisite: enrolled in Community Development graduate group; restricted to first year Community Development graduate students only. Introduction to graduate training in Community Development. Seminar designed to introduce students entering graduate work in the Community Development Graduate Group to its ongoing activities. (S/U grading only.)—I. (I.)

(new course—eff. fall 08)

## Comparative Literature

### New and changed courses in Comparative Literature (COM)

#### Lower Division Courses

#### 1. Major Books of Western Culture: The Ancient World (4)

Lecture/discussion—4 hours. Prerequisite: completion of Entry Level Writing Requirement. Introduction, through class discussion and frequent written assignments, to some of the major books of western civili-

zation such as The Odyssey, Aeneid, Bible, and Augustine's Confessions. GE credit: ArtHum, Wrt (cannot be used to satisfy a college or university composition requirement and GE writing experience simultaneously).—I, II, III. (I, II, III.)

(change in existing course—eff. spring 10)

#### 2. Major Books of Western Culture: From the Middle Ages to the Enlightenment (4)

Lecture/discussion—4 hours. Prerequisite: completion of Entry Level Writing Requirement. Introduction to the methods of inquiry applied to critical reading and the practice of writing. Focus on texts from the European Middle Ages to the eighteenth century; critical analysis of the historical-cultural developments in this period. GE credit: ArtHum, Wrt (cannot be used to satisfy a college or university composition requirement and GE writing experience simultaneously).—I, II, III. (I, II, III.)

(change in existing course—eff. spring 10)

#### 3. Major Books of Western Culture: The Modern Crisis (4)

Lecture/discussion—4 hours. Prerequisite: completion of Entry Level Writing Requirement. Introduction, through class discussion and frequent written assignments, to the major literature and thought of the late eighteenth to the mid-twentieth century. GE credit: ArtHum, Wrt (cannot be used to satisfy a college or university composition requirement and GE writing experience simultaneously).—I, II, III. (I, II, III.)

(change in existing course—eff. spring 10)

### Upper Division Courses

#### 110. Hong Kong Cinema (4)

Lecture/discussion—3 hours; film viewing—3 hours. Prerequisite: upper-division standing, or consent of instructor. Hong Kong cinema, its history, industry, styles, genres, directors, and stars. Special attention to its polyglot, multicultural, transnational, colonial, and postcolonial environment. GE Credit: ArtHum, Div, Wri.—II. (II.) Lu

(new course—eff. fall 10)

#### 138. Gender and Interpretation in the Renaissance (4)

Lecture/discussion—3 hours; term paper. Prerequisite: completion of Subject A requirement, at least one course in literature, or consent of instructor. Critical analysis of Renaissance texts with primary focus on issues such as human dignity, education and gender politics; "high" and "low" culture and its relation to literary practices. (Same course as Italian 141.) GE credit: ArtHum, Div, Wrt.—II. (II.) Schiesari

(change in existing course—eff. fall 09)

#### 141. Introduction to Comparative Critical Theory (4)

Lecture/discussion—3 hours; term paper. Prerequisite: one upper division literature course or consent of instructor. Introduction to comparative critical theory and its use for interpreting literary texts, film, and media forms in global culture. (Same course as Critical Theory 101.) GE credit: ArtHum, Wrt.—III. (III.) Blanchard, Larsen

(change in existing course—eff. fall 08)

#### 148. Mystical Literatures of South Asia and the Middle East (4)

Lecture/discussion—3 hours; term paper. Exploration of the comparative mystical literatures of major religious traditions, with a focus on those produced in South Asia and the Middle East, although including other traditions. Offered in alternate years. GE Credit: ArtHum, Div, Wri.—I. Venkatesan

(new course—eff. fall 10)

#### 156. The Ramayana (4)

Lecture—3 hours; term paper. Exploration of the Indian epic, Ramayana, through the lens of literature, performance, and visual art. Emphasis on the text's diversity and its contemporary global relevance. Topics include Ramayanas in Southeast Asia,

and in various South Asian diaspora communities. Offered in alternate years. GE Credit: ArtHum, Div, Wri.—(II.) Venkatesan  
(new course—eff. fall 09)

## Dermatology

### New and changed courses in Dermatology (DER)

#### Professional Course

#### 470. Introduction to Dermatopathology (6)

Clinical—20 hours; independent study—20 hours; lecture/discussion—6 hours. Prerequisite: previous rotation in a Dermatology Clerkship; consent of instructor. Restricted to fourth year medical student. Integrated, multi-specialty approach to the microscopic diagnosis of inflammatory and neoplastic skin disorders. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Barr, Fung, Konia

(new course—eff. spring 10)

## Design

### New and changed courses in Design (DES)

#### Lower Division Courses

#### 3. Photography for Designers (4)

(cancelled course—eff. fall 08)

#### 13. Photography for Designers (4)

Lecture—2 hours; studio—6 hours. Prerequisite: course 1, 14, 15. Priority to Junior Design majors. Photography for designers with emphasis on 35mm camera photography, black and white processes, and darkroom techniques. Digital photography, critical analysis of photographs, and the role of photography in society.—II, IV. (II, IV.) Sylva

(change in existing course—eff. summer 08)

#### 16. Graphic Design and Computer Technology (4)

Lecture—2 hours; studio—5 hours. Prerequisite: course 1, 14, 15. Priority given to sophomore and junior Design students. Computer software for creative design development, applications of design theory, principles of color, visual organization, visual hierarchy, typography, image enhancement. Projects created on Macintosh computers.—I, II, III, IV. (I, II, III, IV.) Sylva

(change in existing course—eff. summer 08)

#### 21. Drafting and Perspective (4)

Lecture—2 hours; studio—5 hours. Prerequisite: course in drawing recommended. Priority to Design majors. Exploration of the process of visual presentation through methods of orthographic projection and perspective drawing. Introduction to presentation skills. IV. (IV.)

(change in existing course—eff. summer 08)

#### 40A. History of Design: Ancient through Industrial Revolution (4)

Lecture—4 hours. Prerequisite: course 1. Priority to Design majors. A social and stylistic history of design (crafts and industrial products, costume, architecture, landscape, graphics) up to the 19th century. Emphasis on changing methods of design and production in the 19th century. Field trip required. Not open for credit to students who have completed course 40 or course 140.—I, IV. (I, IV.)

(change in existing course—eff. winter 09)

#### 40B. History of Modern Design (4)

Lecture—4 hours. Prerequisite: course 1; course 40A or art history (ancient through 19th century) recommended or consent of instructor. Priority given to



Design majors. A social and stylistic history of design (crafts and industrial products, costume, architecture, landscape, visual communication) from the mid-nineteenth century to the present. Emphasis on design reform and the growth of modernism in Europe and America. Field trip required.—II. (II.)  
(change in existing course—eff. spring 09)

### Upper Division Courses

**127. Critical Issues in Design and Art: Environmental Consciousness (4)**  
(cancelled course—eff. winter 08)

**132A. Textile Design: Woven Structures (4)**

Lecture—2 hours; studio—5 hours. Prerequisite: courses 1, 14, 15, 16, 70. Introduction to handweaving techniques, tools and vocabulary. Emphasis on yarn identification, basic drafting by hand, and computer drafting using textile design software. Exploration of woven structures, pattern, and color effects. Field trip required. May be repeated one time for credit with permission of instructor.

(new course—eff. fall 08)

**135A. Furniture Design (4)**

Lecture—2 hours; studio—5 hours. Prerequisite: course 21; course 134A recommended. Priority to Design majors. Development of designs for contemporary furniture. Consideration of behavioral and physical requirements, cultural and historic expression, and structural and aesthetic qualities. Research, drawings, and constructions of scale models. Field trip required.—II. (II.)

(change in existing course—eff. fall 08)

**135B. Furniture Design (4)**

Lecture—2 hours; studio—5 hours. Prerequisite: courses 21 and 135A; course 134A recommended; or consent of instructor. Design and construction of full-size prototype furniture based on preliminary work completed in course 135A. Material technology, construction methods, and finishes discussed. Development of shop drawings and furniture construction project.—III. (III.)

(change in existing course—eff. fall 08)

**137B. Daylighting Design Studio (4)**

Lecture/discussion—3 hours; studio—4 hours. Prerequisite: course 137A; courses 136A and 136B recommended. Daylighting design issues; ambient and task lighting; lighting requirements in residential, commercial, and industrial applications; daylight analysis and design; side and top lighting; glazing selection; shading systems; integration with electric lighting; daylighting and energy efficiency; photo-sensor lighting controls. Limited enrollment. GE Credit: ArtHum or SciEng.—Papamichael

(change in existing course—eff. fall 06)

**151. Visual Communication: Type in Motion (4)**

Lecture—2 hours; studio—5 hours. Prerequisite: courses 1, 14, 15, 16, 113, 115. Priority to Design majors. Fundamentals of creating motion-based, screen-based typography. Consideration of narrative structures, movement assemblage, and other visual languages, synthesized within a nuanced understanding of typography within digital space.—I. (I.) Drew

(new course—eff. fall 08)

## Dramatic Art

### New and changed courses in Dramatic Art (DRA)

#### Upper Division Courses

**114. Theatre on Film (4)**

Lecture/discussion—3 hours; film viewing—2 hours; term paper. Prerequisite: consent of instructor; graduate standing; course 1, 14, 15. Study of six/eight plays on film, using mixed casts and raising issues of diversity. Focus: sociohistorical context for production and reception, interpretation and analysis of topics (gender, ethnicity, age, politics, philosophy), and filming, screenwriting, design, and acting/directing for film. GE Credit: ArtHum or SocSci, Div, Wrt.

(change in existing course—eff. fall 06)

**135. Voice in Performance (2)**

Performance instruction—4 hours. Prerequisite: course 21B or consent of instructor. Progression of exercises to free, develop and strengthen the voice, as a human and then as an actor's instrument with emphasis on how the voice works, to freeing the channel for sound, to interpersonal communication. May be repeated two times for credit.—I. (I.)

(new course—eff. fall 10)

**144. Introduction to Traditional Chinese Physical Culture (4)**

Lecture/discussion—4 hours. Traditional Chinese Wushu practices, explored through practical work in dance laboratory conditions. Integration of practice with conceptual analysis; contemporary social, educational and artistic applications. GE Credit: ArtHum or SocSci.—II. (II.) Hunter

(change in existing course—eff. fall 06)

**144B. Introduction to Traditional Chinese Physical Culture (4)**

Lecture/discussion—4 hours. Prerequisite: course 144A. Traditional Chinese Wushu practices, explored through practical work in dance laboratory conditions. Integration of practice with conceptual analysis; contemporary social, educational and artistic applications. May be repeated two times for credit if instructor is different, and if student progression requires it. GE Credit: ArtHum or SocSci, Div.—I, II, III, IV. (I, II, III, IV.) Hunter

(new course—eff. fall 08)

#### Graduate Course

**211. Advanced Voice and Speech (3)**

Lecture—2 hours; laboratory—2 hours. Prerequisite: advanced senior undergraduate Acting major or graduate student. Open only to Dramatic Arts Students and Ph.D. students with an emphasis in Performance and Theatre. Review a progression of exercises to free, develop and strengthen the voice, first as a human instrument, and then as an actor's instrument using various texts such as Shakespeare, Ibsen and contemporary plays. Required for the M.F.A. degree in Acting. May be repeated two times for credit.—I, IV. (I, IV.) Porter

(change in existing course—eff. winter 11)

**260. Topics in Contemporary Theatre and Performance (4)**

Seminar—3 hours; term paper; project. Prerequisite: admission to any graduate program in the University. Preference will be given to students enrolled in the Designated Emphasis in Studies in Performance and Practice. Instruction is offered a variety of disciplinary approaches and methodologies in Performance and Practice, with a focus is on cross-disciplinary learning and research. Usually offered each quarter. Maybe repeated for credit with different topical matter/instructor. Offered irregularly.

(new course—eff. fall 08)

**270A. Individually Guided Research in Performance Studies (4)**

Discussion—1 hour; independent study; extensive writing. Prerequisite: course 200; one of courses 265A, B, C, or D; consent of instructor. Restricted to students in the Graduate Group PhD in Performance Studies. Individually guided research, under the supervision of a faculty member, on a Performance Studies topic related to the student's proposed dissertation project to produce a dissertation prospectus.

(new course—eff. winter 10)

**270B. Individually Guided Research in Performance Studies (4)**

Discussion—1 hour; independent study; extensive writing. Prerequisite: course 200; one of courses 265A, B, C, or D; consent of instructor. Restricted to students in the Graduate Group PhD in Performance Studies. Individually guided research, under the supervision of a faculty member, on a Performance Studies topic related to the student's proposed dissertation project, to produce a dissertation prospectus.

(new course—eff. winter 10)

**270C. Individually Guided Research in Performance Studies (4)**

Discussion/laboratory—1 hour; fieldwork; term paper. Prerequisite: course 200; one of courses 265A, B, C, or D; consent of instructor. Restricted to students in the Graduate Group PhD in Performance Studies. Individually guided research, under the supervision of a faculty member, on a Performance Studies topic related to the student's proposed dissertation project to produce a dissertation prospectus.

(new course—eff. winter 10)

## Ecology

### New and changed courses in Ecology (ECL)

#### Graduate Course

**210. Advanced Topics in Human Ecology (4)**

(cancelled course—eff. winter 10)

## Economics

### New and changed courses in Economics (ECN)

#### Upper Division Courses

**106. Decision Making (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: course 100; Mathematics 16A-16B or 21A-21B; Statistics 13 or 32, with grade of C- or better in each course, or consent of the instructor. Descriptive and normative analysis of individual decision making, with applications to personal, professional, financial, and public policy decisions. Emphasis on decision making under uncertainty and over time. Heuristics and biases in the psychology of decisions; overcoming decision traps.—II. (II.) Nehring

(change in existing course—eff. summer 08)

**140. Econometrics (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: course 102, course 100 and course 101; Mathematics 16A and 16B or Mathematics 21A and 21B; Statistics 13, or any upper division Statistics course. Problems of observation, estimation and hypotheses testing in economics through the study of the theory and application of linear regression models. Critical evaluation of selected examples of empirical research. Exercises in applied economics. Not open for credit to students who have enrolled in or completed Agricultural and Resource Economics 106.—II. (II.) Jorda

(change in existing course—eff. summer 09)

**152. Economics of Education (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: course 100; course 102; Mathematics 16B or 21B; Statistics 13 or 32, with grade of C- or better in each course, or consent of the instructor. Application of theoretical and empirical tools of economics to the education sector. Demand for Education; Education Production and Market Structures in Education. Policy applications: class size reduction, school finance equalization, accountability, and school choice.—I. (I.) Cascio

(change in existing course—eff. summer 08)

## Education

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### New and changed courses in Education (EDU)

#### Upper Division Courses

**120. Philosophical and Social Foundations of Education (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: upper division standing. Philosophical, historical, and sociological study of education and the school in our society. GE credit: SocSci, Wrt.—I, II, III. (I, II, III.) Strunk, Timar

(change in existing course—eff. winter 09)

**142. Introduction to Environmental Education (4)**

Lecture—3 hours; field work. Study of history, philosophy, principles and approaches to environmental education (EE) and outreach; learning theories, teaching strategies and techniques in EE and outreach; evaluation of EE curricula in non-formal and in-school contexts; observing, aiding and facilitating local environmental education programs.—I. (I.) Ballard

(new course—eff. fall 09)

**147. Anglos, Latinos and the Spanish Black Legend: The Origins and Educational Implications of Anti-Hispanic Prejudice (4)**

Lecture/discussion—3 hours; field work; term paper. Prerequisite: upper division standing or consent of instructor. Examination of anti-Hispanic prejudice in the United States focusing on the “Black Legend,” a 16th Century anti-Spanish myth underpinning the doctrine of “Manifest Destiny.” Exploration of the Legend's presence in contemporary American society through interviews and analysis of school textbooks. (Same course as Spanish 147.) GE Credit: ArtHum, Div, Wrt.—I. (I.) González

(new course—eff. fall 10)

**183. Teaching High School Mathematics and Science (3)**

Lecture/discussion—2 hours; field work—3 hours. Prerequisite: Geology 81/course 81 or Geology 81/course 181 or consent of instructor. Exploration and creation of effective teaching practices based on examination of how high school students learn mathematics and science. Field experience in high school classrooms. Limited enrollment. (Same course as Geology 183.)—I, II, III. (I, II, III.) Passmore, Stevenson

(new course—eff. fall 08)

#### Graduate Courses

**216. School-Based Prevention Programs (4)**

(cancelled course—eff. winter 10)

**218. Testing Minority Children (4)**

(cancelled course—eff. winter 10)

**220. Concepts and Methods of Policy Analysis (4)**

Seminar—3 hours; fieldwork; term paper. Prerequisite: graduate standing. Introduction to concepts and methods of policy analysis. Emphasis on the relationship between educational issues and problems; pol-

icy development; constructing persuasive policy analyses; issues related to policy process.—I. (I.) Timar

(new course—eff. summer 08)

**228. Politics and Governance of Education (4)**

Seminar—3 hours; term paper. Prerequisite: graduate standing. Examination of political power, representation, influence, decision-making and inter-governmental relations in the public schools. Offered in alternate years.—II. Kurlaender, Timar

(new course—eff. winter 08)

**229. Education Finance Policy (4)**

Seminar—3 hours; term paper. Prerequisite: graduate standing. Examination of (1) United States financing public education, (2) the relationship between school finance and education policy, and (3) the relationship between education finance and education practice.—II. Rodriguez, Timar

(new course—eff. winter 08)

**230. Special Topics in Education Policy (4)**

Seminar—3 hours; term paper. Prerequisite: graduate standing or consent of instructor. Selected topics in education policy. Designed to facilitate preparation for the qualifying examination or dissertation. Students will critically analyze scholarly work including their own works in progress. May be repeated for credit when topic differs. Offered irregularly.—I, II, III. (I, II, III.) Timar

(new course—eff. winter 08)

**231. Culture and Learning (4)**

(cancelled course—eff. winter 10)

**233. Anthropology of Education (4)**

(cancelled course—eff. winter 10)

**235. Critical Pedagogy (4)**

Seminar—4 hours. Prerequisite: Critical Theory 200A and graduate standing. A socio-cultural critique, from an interdisciplinary perspective, of educational reform and change. The critique will include an analysis of the influence of text content on the perpetuation of social power differences.—III. (III.)

(change in existing course—eff. winter 97)

**236. Application of Hierarchical Linear Models in Education Research (4)**

Lecture—2 hours; lecture/discussion—2 hours; term paper. Prerequisite: course 204A or similar course with permission of the instructor. Application of hierarchical linear models in education research across multiple areas, such as policy, curriculum, and assessment. Develop working knowledge of hierarchical linear modeling and an understanding of its use in existing research as well as student's work.—III. (III.) Strunk

(new course—eff. spring 09)

**237. Survey Research Methods (4)**

Lecture/discussion—3 hours; field work—1 hour; term paper. Prerequisite: course 114 or equivalent. Theories, principles and application of survey research methodology. Students develop, validate, and administer survey instruments; select representative samples; conduct focus groups; and collect, organize, and analyze survey data. Familiarity with introductory concepts in descriptive and inferential statistics is assumed. Offered in alternate years.—(II.) Abedi

(change in existing course—eff. winter 10)

**280A. Inquiry and Practice: Qualitative Research for Educational Leaders (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Prepares students to understand the nature/assumptions/logic of qualitative methodology as applied to educational settings, focusing on issues of design/conceptualization/

interpretation/application of qualitative research procedures. Students will use these methods in conducting studies in their educational settings.—I. (I.) (new course—eff. fall 09)

**280B. Inquiry and Practice: Quantitative Research for Educational Leaders (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Field-based and general quantitative research methods in education will focus this course. Students acquire skills and knowledge to collect, organize, analyze, and interpret univariate and multivariate quantitative data in educational research, dissertation projects, and field-based projects.—II. (II.)

(new course—eff. winter 10)

**280C. Inquiry and Practice: Research Design and Application for Educational Leaders (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Educational leaders are introduced to qualitative, quantitative, and mixed-methods educational research methods and learn to frame research questions, identify data/data sources, use descriptive statistics, critically examine research studies, make sense of educational research/policy, and conduct independent studies.—III. (III.)

(new course—eff. spring 10)

**281A. Problem-Based Learning Courses: Part 1 (4)**

Lecture/discussion—4 hours; extensive writing or discussion; fieldwork. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Students identify problems from their educational settings, engage in data collection/analysis, write-up the process/results, and present to class. Work may become a dissertation proposal, if the problem or its extension is of sufficient interest and value.—I. (I.)

(new course—eff. fall 09)

**281B. Problem-Based Learning Courses: Part 2 (4)**

Lecture/discussion—4 hours; extensive writing or discussion; fieldwork. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Continuation of part one.—II. (II.)

(new course—eff. winter 10)

**281C. Problem-Based Learning Courses: Part 3 (4)**

Lecture/discussion—4 hours; extensive writing or discussion; fieldwork. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Continuation of part two.—III. (III.)

(new course—eff. spring 10)

**282A. Beginning Issues and Practices: Contemporary Educational Leadership (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Students explore the history and emergent relationships among leadership theories/practice and their application to current educational settings. Students will reflect on and refine their personal theory of leadership.—I. (I.)

(new course—eff. fall 09)

**282A. Beginning Issues and Practices: Diversity Issues for Educational Leaders (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. The diversity of stakeholders and community issues in California schools and colleges will be explored. Emphasis will be placed on the interaction between underrepresented segments of society and educational institutions. Best Practices in leading diverse schools will be explored.—II. (II.)

(new course—eff. winter 10)

**283A. Advanced Issues and Practices: Leadership Across Communities (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Students examine the theory/practice/process of leadership in community-building and collaboration in/across communities, while addressing the utilization of human and material resources and the creation of partnerships, community linkages, and collaborative efforts.—III. (III.)  
(new course—eff. winter 10)

**283B. Advanced Issues and Practices: Leadership and Student Services (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Practical and theoretical perspectives for building a sense of vision to lead the profession of student affairs and to meet the needs of the whole student.—III. (III.)  
(new course—eff. spring 10)

**284A. Policy: History and Theory of Educational Policy (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Students learn/analyze the history/theory of educational policy. They see how education leaders have/can positively influence the process and implement effective policies in their local institutions. Policy issues covered: educational opportunity, equity, access, regulation, testing, tenure, accountability.—I. (I.)  
(new course—eff. fall 09)

**284B. Policy: Formulating and Influencing Policy (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Students will conduct critical analyses of policy at the federal, judicial, state, regional and local levels. Specific California and federal policy environment structures, processes and people will be examined for intended consequences, ethical dilemmas, social justice and equity issues.—II. (II.)  
(new course—eff. winter 10)

**284C. Policy: Possibilities and Limitations of Educational Policy in a Democracy (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Students will critically examine the democratic purposes of education in light of existing National, State, and local policy reform efforts. Questions like, In what ways are these reforms and policies guided by democratic ideas and challenged by those ideals.—II. (II.)  
(new course—eff. winter 10)

**285A. Educational Finance, Human Resources, and Law: Integrated Seminar: Human and Financial Assets: Allocations, and Budgets (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Topics include: education finance theory, contemporary finance policy issues, intergovernmental relations, effective resource management, budget analysis and preparation.—III. (III.)  
(new course—eff. spring 10)

**285B. Educational Finance, Human Resources, and Law: Ethical and Legal Issues in Education (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Human resource and legal concepts and activities governing decisions of school leaders in public education. Attention to theory, application, and practice of personnel and risk management, curriculum, student services, teacher rights, torts, student rights.—I. (I.)  
(new course—eff. fall 09)

**285C. Educational Finance, Human Resources, and Law: Human Resources and Personnel (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Human resource management research and theory and for applying human resource techniques in the educational setting.—III. (III.)  
(new course—eff. spring 10)

**286A. Organizational Structures and Change: Data-Driven Decision-Making for Change (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. Students use and examine multiple sources of information and data and trends found in making quality decisions to improve P-12/ community college settings and addressing problems at sites. Students learn limitations of these data sources.—I. (I.)  
(new course—eff. fall 09)

**286B. Organizational Structures and Change: Curriculum & Instruction Issues in Education (4)**

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: admission into the CANDEL EdD program or consent of instructor. This course addresses the historical development of various curriculum and instructional methodologies found in public and private schools and colleges, and their impact on current curriculum development and reform efforts at the national, state and local level.—II. (II.)  
(new course—eff. winter 10)

**287. CANDEL Dissertation Seminars (6-12)**

Prerequisite: admission into the CANDEL EdD program or consent of instructor. Third year seminars encourage students to complete dissertations within the year. Cohort members meet together in every three-week meetings with faculty members and share their writing, data collection, analysis, discussion of results, development of conclusions/implications. May be repeated nine times for credit until completion of dissertation. (S/U grading only)—I, II, III. (I, II, III.)  
(new course—eff. fall 09)

**290C. Research Conference in Education (1)**

(cancelled course—eff. winter 11)

**291. Proseminar in Education (4)**

Seminar—3 hours; fieldwork—3 hours. Prerequisite: admission to the Ph.D. graduate program in Education. Professional induction into educational research field and Graduate Group in Education at UC Davis. Introduction to landscape of educational research methodologies, purposes and theories. Analysis of debates within field. Investigation of K-12 educational outreach efforts at UC Davis.—I. (I.) Ambrose  
(change in existing course—eff. fall 10)

**293. Topical Seminar in School Psychology (3)**

(cancelled course—eff. winter 10)

**Professional Course****303. Art Education in the Elementary School (2)**

Lecture/discussion—2 hours. Prerequisite: admission to multiple subject credential program. Understanding the principles of education in the arts through participation. Development of concepts, introduction to media, and techniques suitable for the elementary school. Curriculum, pedagogy, and materials for teaching the visual and performing arts curriculum in elementary schools.—III. (III.)  
(change in existing course—eff. winter 10)

# Engineering

**New and changed courses in Engineering (ENG)****Lower Division Courses****6. Engineering Problem Solving (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: Mathematics 16A or 21A, C- or above; Mathematics 16B or 21B (may be taken concurrently). Methodology for solving engineering problems. Engineering computing and visualization based on MATLAB. Engineering examples and applications. GE Credit: SciEng.—I, II, III. (I, II, III.)  
(change in existing course—eff. fall 10)

**17. Circuits I (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: Mathematics 22A, C- or better; Mathematics 22B (may be taken concurrently); Physics 9C, C- or better. Basic electric circuit analysis techniques, including electrical quantities and elements, resistive circuits, transient and steady-state responses of RLC circuits, sinusoidal excitation and phasors, and complex frequency and network functions. GE Credit: SciEng.—I, III. (I, III.)  
(change in existing course—eff. fall 10)

**20. Introduction to Space Exploration: Understanding the Technological and Environmental Challenges to Our Exploration of the Solar System (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: high school level Algebra, Geometry, General Science (Physics and Chemistry). Introductory overview of the space environment. Discussion of space exploration technology including propulsion, orbital mechanics, and spacecraft engineering. GE Credit: SciEng.—III. (III.) Harris  
(new course—eff. spring 09)

**Upper Division Courses****100. Electronic Circuits and Systems (3)**

Laboratory—3 hours; lecture—1 hour; discussion—1 hour. Prerequisite: course 17, C- or better. Introduction to analog and digital circuit and system design through hands on laboratory design projects. Students who have completed Electrical and Computer Engineering 100 may receive only 1.5 units of credit. GE Credit: SciEng.—II, III. (II, III.)  
(change in existing course—eff. winter 11)

**180. Engineering Analysis (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: course 21D, 22B, and course 6 or Mechanical Engineering 5. Solutions of systems of linear and nonlinear algebraic equations; approximation methods; solutions of ordinary differential equations; initial and boundary value problems; solutions of partial differential equations of Elliptic, parabolic, and hyperbolic types; Eigen value problems.—I. (I.) Hafez  
(change in existing course—eff. fall 10)

## Engineering: Aerospace Science and Engineering

### New and changed courses in Engineering: Aerospace Science and Engineering (EAE)

#### Upper Division Courses

##### 129. Stability and Control of Aerospace Vehicles (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: Engineering 102. Restricted to upper division standing. Aircraft and spacecraft stability and control. Derivation of fundamental equations of motion for aircraft/spacecraft. Specialization of equations for aircraft. Fundamentals of feedback. Aircraft flight control systems. Specialization of equations of motion for orbiting spacecraft. Spacecraft attitude control systems.—II. (II.) Hess

(change in existing course—eff. fall 10)

##### 133. Finite Element Methods in Structures (4)

Lecture—3 hours; laboratory—3 hours. Prerequisites: Engineering 104. Open to Engineering students only. An introduction to the aerospace structural design process. History of aircraft materials. Effects of loading beyond elastic limit. Deflections and stresses due to combined loading. Virtual work principles, and finite element methods. Applications to aerospace structures.—I. (I.) Sarigul-Klijin

(change in existing course—eff. spring 10)

##### 135. Aerospace Structures (4)

Lecture—4 hours. Prerequisite: course 133. Analysis and design methods used in aerospace structures. Shear flow in open, closed and multicell beam cross-sections, buckling of flat and curved sheets, tension field beams, local buckling.—II. (II.) La Saponara

(change in existing course—eff. spring 10)

##### 137. Structural Composites (4)

Lecture—3 hours; laboratory—1 hour. Prerequisite: Engineering 104. Overview of materials and technology for creating structures from fiber reinforced resin matrix composite material systems. Elementary design analysis and case studies emphasizing aeronautical applications.—II. (II.) Wack

(change in existing course—eff. fall 10)

##### 141. Space Systems (4)

Lecture—2 hours; discussion—1 hour; laboratory—3 hours. Prerequisite: Engineering 102 and Mechanical Engineering 106. Introduction to space systems design including space project organization, requirements definition and specification, concepts formulation, system tradeoffs, subsystem design. Prototype space mission concepts are presented and a multidisciplinary mission design is developed that considers all relevant architecture elements. Offered in alternate years.—I. Joshi

(change in existing course—eff. fall 08)

##### 189A. Rocket Propulsion (4)

Lecture—4 hours. Prerequisite: Engineering 103 and 105, upper division standing. Fluid and thermodynamics of rocket engines, liquid and solid rocket propulsion. Space propulsion concepts and space mission requirements.—IV. (IV.) Hafez

(change in existing course—eff. summer 08)

##### 189B. Orbital Mechanics (4)

Lecture—4 hours. Prerequisite: course 102; upper division standing. Satellite orbits, multistage rockets, current global boosters, and new technologies. Design application problems include satellites, trajectory optimizations, and interplanetary trajectories.—IV. (IV.) M. Sarigul-Klijin, N. Sarigul-Klijin

(change in existing course—eff. summer 08)

## Engineering: Applied Science

### New and changed courses in Engineering: Applied Science (EAD)

#### Upper Division Courses

##### 137. Nuclear Power, Weapons, and Proliferation (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: upper division standing; one course from Physics 7C, 9C. Scientific and technical aspects of nuclear power production, weapons, and proliferation. Basic topics include fission and chain reactions, fusion and thermo-nuclear reactions, nuclear materials, effects of nuclear arms (delivery, blast, radiation, waste, etc.), and technology related to nuclear non-proliferation. GE Credit: SciEng.—II. (II.) Gygi, Jensen, Orel

(new course—eff. winter 09)

##### 188. Science and Technology of Sustainable Power Generation (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: upper-division standing, Physics 7C or 9C. Focus on scientific understanding and development of power generation that is the basis of modern society. Concentration on power generation methods that are sustainable, in particular, discussion of the most recent innovations. GE Credit: SocSci.—II. (II.) Hwang

(new course—eff. fall 10)

#### Graduate Course

##### 289A-N. Special Topics in Applied Science (1-5)

Lecture, laboratory, or combination. Prerequisite: graduate standing or permission of instructor. Special topics in the following areas: (A) Atomic, Molecular, and Optical Physics; (B) Chemical Physics; (C) Computational Physics; (D) Biophotonics/Biotechnology; (E) Materials Science; (F) Imaging Science and Photonics; (G) Nonlinear Optics; (H) Plasma/Fusion Energy Physics; (I) Quantum Electronics; (J) Condensed Matter/Statistical Physics; (K) Classical Optics; (L) Microwave and Millimeter-Wave Technology; (M) Synchrotron Radiation Science; (N) Space Physics. May be repeated for credit up to a total of five units per segment when topic differs.—I, II, III. (I, II, III.)

(change in existing course—eff. fall 08)

## Engineering: Biological Systems

### New and changed courses in Engineering: Biological Systems (EBS)

#### Lower Division Course

##### 1. Foundations of Biological Systems Engineering (4)

Lecture—2 hours; laboratory—3 hours; project—3 hours. Restricted to students in Biological Systems Engineering. Introduction to engineering and the engineering design process with examples drawn from the field of biological systems engineering. Introduction to computer-aided design and mechanical fabrication of designs. Students work on a quarter-long group design project.—I. (I.) Piedrahita

(change in existing course—eff. fall 09)

#### Upper Division Courses

##### 125. Heat Transfer in Biological Systems (4)

Lecture—3 hours; laboratory—3 hours. Prerequisite: course 103; Engineering 105; Biological Sciences 2A, 2B and 2C. Fundamentals of heat transfer with application to biological systems. Steady and transient heat transfer. Analysis and simulation of heat conduction, convection and radiation. Heat transfer operations.—III. (III.) Fan, Jenkins, VanderCheynst

(change in existing course—eff. spring 09)

##### 127. Mass Transfer and Kinetics in Biological Systems (4)

Lecture—3 hours; laboratory—3 hours. Prerequisite: course 125. Fundamentals of mass transfer and kinetics in biological systems. Molecular diffusion and convection. Thermodynamics and bioenergetics. Biological and chemical rate equations. Heterogeneous kinetics. Batch and continuous reaction processes.—I. (I.) VanderGheynst, Zicari

(new course—eff. fall 09)

##### 132. Unit Operations in Biological and Food Engineering (4)

(cancelled course—eff. spring 09)

##### 160. Biotechnical Systems Engineering (4)

(cancelled course—eff. spring 09)

##### 162. Industrial Bioprocessing (4)

Lecture—3 hours; laboratory—3 hours. Prerequisite: course 127. Introduction to biorefineries and major industrial bioprocesses including feedstock logistics and properties, biochemical and thermochemical conversion systems, processing for higher value products such as enzymes and fuels. Laboratories provide experience in feedstock and process design and characteristics.—II. (II.) Fan, Jenkins, VanderGheynst, Zhang, Zicari

(new course—eff. winter 09)

## Engineering: Civil and Environmental

### New and changed courses in Engineering: Civil and Environmental (ECI)

#### Lower Division Courses

##### 10. Introduction to Surveying (4)

(cancelled course—eff. spring 10)

##### 16. Spatial Data Analysis (2)

Lecture—1 hour; laboratory—3 hours. Restricted to Civil Engineering and Biological Systems Engineering majors; non-majors accommodated on a space-available basis. Computer-aided design and geographic information systems in civil engineering practice.—III. (III.) Fan

(new course—eff. spring 10)

##### 17. Surveying (2)

Lecture—2 hours. Prerequisite: Physics 9A (may be taken concurrently). Restricted to Civil Engineering and Biological Systems Engineering majors. Non-majors accommodated on a space-available basis. Theory behind and description of modern methods of land surveying in Civil Engineering.—III. (III.) Darby

(new course—eff. spring 10)

##### 19. C Programming for Civil and Environmental Engineers (4)

Lecture—3 hours; laboratory—3 hours. Prerequisite: Mathematics 21A (may be taken concurrently). Pass 1 open to Civil Engineering majors and Optical Science and Engineering majors. Computational problem solving techniques for Civil and Environmental

Engineering applications using structured C programming. Algorithm design applied to realistic problems.—II. (II.) Jeremic, Kleeman  
(change in existing course—eff. winter 11)

### Upper Division Courses

**123. Urban Systems and Sustainability (4)**  
Lecture—4 hours. Prerequisite: upper division standing. Systems-level approach of how to evaluate and then modify sustainability of urban systems based on interaction with natural environments. Topics include: definition/metrics of urban sustainability; system analyses of urban systems; enabling technology, policies, legislation; measures and modification of ecological footprints. GE Credit: SciEng or SocSci, Div, Wri.—I. (I.) Loge, Niemeier  
(change in existing course—eff. fall 06)

**142. Engineering Hydrology (4)**  
Lecture—4 hours. Prerequisite: course 141 (may be taken concurrently); course 114 recommended. Restricted to students in the College of Engineering. The hydrologic cycle. Evapotranspiration, interception, depression storage and infiltration. Streamflow analysis and modeling. Flood routing through channels and reservoirs. Frequency analysis of hydrologic variables. Precipitation analysis for hydrologic design. Hydrologic design.—I. (I.) Kavvas  
(change in existing course—eff. fall 09)

### 143. Green Engineering Design and Sustainability (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: upper division standing. Restricted to Civil Engineering and Civil Engineering/Materials Science and Engineering majors only. Application of concepts, goals, and metrics of sustainability, green engineering, and industrial ecology to the design of engineered systems. Life-cycle analyses, waste audit and environmental management systems, economics of pollution prevention and sustainability, and substitute materials for products and processes.—I. (I.) Loge  
(change in existing course—eff. fall 10)

### 144L. Groundwater Systems Design Laboratory (1)

Laboratory—3 hours. Prerequisite: course 144, taken concurrently. Computer modeling of groundwater flow under regional gradient, well injection/withdrawal, and natural and engineered boundary conditions. Use of Groundwater Vistas computer program.—I. (I.) Ginn  
(new course—eff. fall 10)

### 148A. Water Quality Management (4)

Lecture—4 hours. Prerequisite: Chemistry 2B. Basic concepts of water quality. Fundamentals of water and wastewater treatment processes. Analysis of treatment process flowsheets. Analysis of water quality management alternatives.—II. (II.) Wuertz  
(change in existing course—eff. winter 10)

### 148B. Water Quality Management Systems Design (4)

Lecture—3 hours; laboratory—3 hours. Prerequisite: Engineering 103, course 148A. Application of the principles of fluid mechanics to the analysis and design of flow measuring devices, pumps and pump station design, water distribution systems, wastewater collection systems, water and wastewater treatment plant headloss analysis, and bioremediation systems.—III. (III.) Darby  
(change in existing course—eff. fall 09)

### 162. Transportation Land Use Sustainable Design (4)

Lecture—3 hours; laboratory—3 hours. Prerequisite: course 161 or 163. Interactions between land use and transportation systems design. Generalized design paradigm; group problem solving.—III. (III.) Niemeier  
(change in existing course—eff. spring 10)

### Graduate Course

#### 271. Inverse Problems (4)

Lecture—3 hours. Prerequisite: courses 114 and 144 or equivalents. Inverse calibration of distributed parameter models, using data representing model outputs. Forward and inverse mappings, stability, uniqueness, identifiability. Optimization formulation of inverse problems, maximum likelihood and other objective functions, indirect and direct approaches, solution by UCODE in hands-on project format.—I. (I.) Ginn  
(change in existing course—eff. fall 10)

#### 283. Physico-Chemical Aspects of Soil Behavior (3)

Lecture—2 hours; laboratory—3 hours. Prerequisite: course 171. Soil formation, mineralogy, and transport; soil-fluid-electrolyte systems; electrical, surface tension, van der Waals forces; particle shape and contact mechanics, and electromagnetic and mechanical properties of soils. Laboratories demonstrate effects of chemical admixtures, salts and particle texture on soil behavior.—I. (I.) Kutter  
(change in existing course—eff. spring 09)

## Engineering: Computer Science

### New and changed courses in Engineering: Computer Science (ECS)

#### Lower Division Course

##### D. Intermediate Algebra (no credit)

Lecture—3 hours. Basic concepts of algebra, prepares student for college work in mathematics, such as course 16A or 21A. Functions, equations, graphs, logarithms, and systems of equations. Offered only if sufficient number of students enroll. Not open to Concurrent student enrollment. (P/NP grading only.) (There is a fee of \$15.)—I, II. (I, II.)  
(change in existing course—eff. 199701)

#### Upper Division Courses

##### 130. Scientific Computation (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 30 or Engineering 6; Mathematics 22A or Mathematics 67. Matrix-vector approach using MATLAB for floating point arithmetics, error analysis, interpolations, numerical integration, matrix computations, nonlinear equations and optimization. Parallel computing for matrix multiplication and the Cholesky factorization.—III. (III.) Bai, Hamann, Joy  
(change in existing course—eff. spring 09)

##### 173. Image Processing and Analysis (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 60; Mathematics 67 or C- or better in Mathematics 22A. Techniques for automated extraction of high-level information from images generated by cameras, three-dimensional surface sensors, and medical devices. Typical applications include automated construction of 3D models from video footage and detection of objects in various types of images.—II. (II.) Amenta  
(new course—eff. winter 09)

##### 175. Computer Graphics (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 60; Mathematics 22A or Mathematics 67A. Principles of computer graphics. Principles of computer graphics. Current graphics hardware, elementary operations in two- and three-dimensional space, transformational geometry, clipping, graphics system design, standard graphics systems, individual projects.—I, II. (I, II.) Amenta, Hamann, Joy  
(change in existing course—eff. spring 09)

##### 188. Ethics and the Information Age (4)

Lecture/discussion—4 hours. Prerequisite: upper division standing. Foundations of ethics. Views of technology. Technology and human values. Costs and benefits of technology. The character of technological change. The social context of work in computer science and engineering.—I, II, III. (I, II, III.) Chen, Devanbu, Mukherjee, Rogaway  
(change in existing course—eff. spring 09)

##### 189A-M. Special Topics in Computer Science (1-5)

Lecture, laboratory or combination. Prerequisite: consent of instructor. Special topics in (A) Computer Science Theory; (B) Architecture; (C) Programming Languages and Compilers; (D) Operating Systems; (E) Software Engineering; (F) Data Bases; (G) Artificial Intelligence; (H) Computer Graphics; (I) Networks; (J) Computer-Aided Design; (K) Scientific Computing; (L) Computer Science; (M) Computer Security. May be repeated for credit when topic differs.—I, II, III. (I, II, III.)  
(change in existing course—eff. spring 09)

#### Graduate Courses

##### 207A-207B-207C. Topology (4-4-4)

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: graduate standing or consent of instructor. Ordinary differential equations and dynamical systems. Variational principles. Eigenfunctions, integral equations and Green's functions. Complex analysis and contour integration. Laplace's equation. Diffusion equations. Wave phenomena. Dimensional analysis and scaling. Asymptotic expansions and perturbation theory. Stochastic processes and Brownian motion.—I-III. (I-III.)  
(new course—eff. fall 10)

##### 216. Geometric Topology (4)

Lecture—3 hours; extensive problem solving—1 hour. Prerequisite: course 215A. Introduction to measure theory. Topology of two- and three-dimensional manifolds. Surfaces and their diffeomorphisms. Dehn twists. Heegaard surfaces. Theory of 3-dimensional manifolds. Knots and knot theory. Hyperbolic manifolds and geometric structures. May be repeated one time for credit. Offered in alternate years.—(II.)  
(new course—eff. spring 10)

##### 255. Resource Management in Wireless Communication Networks (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 252A. Advanced research issues in wireless communication networks, including multi-user diversity and cross-layer optimization, basic network information theory, MIMO systems and the impact on networks, and dynamics spectrum management. Offered in alternate years.—III. Liu  
(new course—eff. winter 09)

##### 258. Networking Architecture and Resource Management (4)

Lecture—3 hours; project—1 hour. Prerequisite: course 152A or Electrical & Computer Engineering 173A; course 252 recommended. Design and implementation principles of networking architecture and protocols. Internet, ATM, and telephony case studies. Topics: Internet technology; application and services; resource management; Quality of Service (QoS) provisioning; traffic engineering; performance evaluation and future research issues. (Same course as Electrical & Computer Engineering 273.)—II. (II.) Chuah, Mohapatra  
(change in existing course—eff. spring 10)

##### 278. Computer-Aided Geometric Design (4)

Lecture—3 hours; laboratory—3 hours. Prerequisite: course 175. Mathematical techniques for the definition and manipulation of curves and surfaces. Bezier curves and surfaces. B-spline curves and surfaces, subdivision surfaces, wavelets. Integration into various computer graphics rendering models, visualization systems and computer-aided design systems. Offered in alternate years.—(III.) Joy, Hamann  
(change in existing course—eff. summer 08)

Quarter Offered: I=Fall, II=Winter, III=Spring, IV=Summer; 2009-2010 offering in parentheses

General Education (GE) credit: ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Wrt=Writing Experience

**279. Computer Animation (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: course 175 or 275. Course surveys current research and fundamental techniques that lie behind character animation tools. Emphasis on improving expressive aspects of movement and how physics, motion capture data, the arts and psychology literature, and interactive techniques can be used towards this goal. Offered in alternate years.—II. Neff  
(change in existing course—eff. spring 09)

**289A-N. Special Topics in Computer Science (1-5)**

Lecture, laboratory, or combination. Prerequisite: consent of instructor. Special topics in (A) Computer Science Theory; (B) Architecture; (C) Programming Languages and Compilers; (D) Operating Systems; (E) Software Engineering; (F) Data Bases; (G) Artificial Intelligence; (H) Computer Graphics; (I) Networks; (J) Computer-Aided Design; (K) Scientific Computing; (L) Computer Science; (M) Security; (N) Bioinformatics and Computational Biology. May be repeated for credit when topic differs.—I, II, III. (I, II, III.)

(change in existing course—eff. spring 09)

**Professional Course****315. Teaching Computer Science (3)**

(cancelled course—eff. winter 09)

## Engineering: Electrical and Computer

### New and changed courses in Engineering: Electrical and Computer (EEC)

**Upper Division Courses****100. Circuits II (5)**

Laboratory—3 hours; lecture—3 hours; discussion—1 hour. Prerequisite: Engineering 17. Restricted to the following majors: Electrical Engineering, Computer Engineering, Computer Science & Engineering, Electronic Materials Engineering, Electrical Engineering/Materials Science, Optical Science & Engineering, Biomedical Engineering, Applied Physics, Electrical & Computer Engineering Graduate Students. Theory, application, and design of analog circuits. Methods of analysis including frequency response, SPICE simulation, and Laplace transform. Operational amplifiers and design of active filters. Students who have completed Engineering 100 may receive 3.5 units of credit.—I, II. (I, II.)

(change in existing course—eff. fall 10)

**110A. Electronic Circuits I (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: courses 100; 140A. Use and modeling of nonlinear solid-state electronic devices in basic analog and digital circuits. Introduction to the design of transistor amplifiers and logic gates.—II, III. (II, III.) Amirtharajah, Hurst, Lewis, Spencer

(change in existing course—eff. fall 09)

**110B. Electronic Circuits II (4)**

Lecture—3 hours; laboratory—3 hours. Prerequisite: course 110A. Analysis and design of integrated circuits. Single-stage amplifiers, cascaded amplifier stages, differential amplifiers, current sources, frequency response, and return-ratio analysis of feedback amplifiers.—III. (III.) Hurst, Lewis, Spencer

(change in existing course—eff. fall 09)

**114. Analog Integrated Circuits (3)**

(cancelled course—eff. fall 09)

**132C. RF and Microwaves in Wireless Communications (5)**

Lecture—3 hours; laboratory—3 hours; discussion—1 hour. Prerequisite: course 132B. RF and microwave amplifier theory and design, including transistor circuit models, stability considerations, noise models and low noise design. Theory and design of microwave transistor oscillators and mixers. Wireless system design and analysis.—III. (III.) Branner  
(change in existing course—eff. spring 09)

**135. Optical Communications I: Fibers (4)**

Lecture—4 hours. Prerequisite: courses 130B, 140A, 150A. Principles of optical communication systems. Planar dielectric waveguides. Optical fibers: single-mode, multi-mode, step and graded index. Attenuation and dispersion in optical fibers. Optical sources, detectors, transmitters and receivers. Design of digital optical communication links.—II. (II.) Knoesen, Yoo

(change in existing course—eff. summer 08)

**136. Opto-Electronics and Fiber Optics Laboratory (3)**

(cancelled course—eff. spring 09)

**136A. Electronic Design Project (3)**

Workshop—1 hour; laboratory—8 hours. Prerequisite: course 135 or 151 or 152 or 172, any may be taken concurrently. Optical, electronic and communication-engineering design of an opto-electronic system operating under performance and economic constraints. Measurement techniques will be designed and implemented, and the system will be characterized. (Deferred grading only, pending completion of sequence.)—II. (II.)

(change in existing course—eff. winter 10)

**136B. Electronic Design Project (2)**

Workshop—1 hour; laboratory—5 hours. Prerequisite: course 136A. Optical, electronic and communication-engineering design of an opto-electronic system operating under performance and economic constraints. Measurement techniques will be designed and implemented, and the system will be characterized. (Deferred grading only, pending completion of sequence.)—III. (III.)

(change in existing course—eff. spring 10)

**140A. Principles of Device Physics I (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: Engineering 17; Physics 9D. Semiconductor device fundamentals, equilibrium and non-equilibrium statistical mechanics, conductivity, diffusion, electrons and holes, p-n and Schottky junctions, first-order metal-oxide-semiconductor (MOS) field effect transistors, bipolar junction transistor fundamentals.—I, II. (I, II.) Fink, Hunt, Islam, Kiehl, Yankelevich

(change in existing course—eff. fall 09)

**140B. Principles of Device Physics II (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: course 140A. Electrical properties, designs, models and advanced concepts for MOS, Bipolar, and Junction Field-Effect Transistors, including scaling, minority-carrier distributions, non-ideal effects, and device fabrication methods. MESFET and heterojunction bipolar transistors (HBTs). Fundamentals of solar cells, photodetectors, LEDs and semiconductor lasers.—III. (III.) Hunt, Islam, Kiehl

(change in existing course—eff. spring 10)

**173A. Computer Networks (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: Computer Science Engineering 60; Mathematics 135A or Statistics 131A, or Statistics 120 or Statistics 32. Overview of local and wide-area computer networks. ISO seven-layer model. Physical aspects of data transmission. Data-link layer protocols. Network architectures. Routing. TCP/IP protocol suite. Local area networks. Medium access protocols. Network performance analysis. Only two units of credit

for students who have taken Computer Science Engineering 157. (Same course as Computer Science Engineering 152A.)—I, II, III. (I, II, III.)  
(change in existing course—eff. fall 08)

**175. Compiler Optimization (5)**

(cancelled course—eff. summer 08)

**181. Digital Systems Design Project (4)**

(cancelled course—eff. spring 10)

**181A. Digital Systems Design Project (2)**

Workshop—1 hour; laboratory—4 hours. Prerequisite: courses 180B and either course 170 or Computer Science 122A. Digital-system and computer-engineering design course involving architecture, design, implementation and testing of a prototype application-specific processor under given design constraints. This is a team project that includes a final presentation and report. (Deferred grading only, pending completion of sequence.)—II. (II.)  
(new course—eff. winter 10)

**181B. Digital Systems Design Project (2)**

Workshop—1 hour; laboratory—4 hours. Prerequisite: courses 180B and either course 170 or Computer Science 122A. Digital-system and computer-engineering design course involving architecture, design, implementation and testing of a prototype application-specific processor under given design constraints. This is a team project that includes a final presentation and report. (Deferred grading only, pending completion of sequence.)—III. (III.)  
(new course—eff. spring 10)

**193B. Senior Design Project (2)**

Project—1 hour; laboratory—6 hours. Prerequisite: course 193A. Team design project for seniors in Electrical Engineering or Computer Engineering. Project involves analysis, design, implementation and evaluation of an Electrical Engineering or Computer Engineering system. Project supervised by a faculty member. (Deferred grading only, pending completion of sequence.)—II, III. (II, III.)

(change in existing course—eff. winter 09)

**195B. NATCAR Design Project (2)**

Workshop—1 hour; laboratory—4 hours. Prerequisite: course 195A. Design and construct an autonomous race car. Students work in groups to design, build and test speed control circuits, track sensing circuits, and a steering control loop. (Deferred grading only pending completion of sequence.)—II. (II.) Spencer

(change in existing course—eff. winter 10)

**196. Issues in Engineering Design (1)**

Seminar—1 hour. Prerequisite: senior standing in Electrical or Computer Engineering. The course covers various electrical and computer engineering standards and realistic design constraints including economic, manufacturability, sustainability, ethical, health and safety, environmental, social, and political.—I. (I.)

(new course—eff. fall 08)

**196A. Senior Design Project (1)**

(cancelled course—eff. winter 09)

**Graduate Courses****207. Pattern Recognition and Classification (3)**

(cancelled course—eff. winter 10)

**208. Image Analysis and Computer Vision (3)**

(cancelled course—eff. winter 10)

**209. Multimedia Compression and Processing (4)**

(cancelled course—eff. winter 10)

**218A. Introduction to VLSI Circuits (3)**

(cancelled course—eff. winter 10)

**218B. Multiproject Chip Design (1)***(cancelled course—eff. winter 10)***218C. IC Testing and Evaluation (1)***(cancelled course—eff. winter 10)***233. High Speed Signal Integrity (3)**

Lecture—3 hours. Prerequisite: course 130B. Design and analysis of interconnects in high-speed circuits and sub-systems; understanding of high-speed signal propagation and signal integrity concepts; electromagnetic modeling tools and experimental techniques. Offered in alternate years.—III. Pham  
*(new course—eff. fall 10)*

**241. Advanced Silicon Devices (3)***(cancelled course—eff. winter 10)***245. Applied Solid-State Physics (3)***(cancelled course—eff. winter 10)***271. Multimedia Networking and Communications (4)***(cancelled course—eff. winter 10)***273. Networking Architecture and Resource Management (4)**

Lecture—3 hours; project—1 hour. Prerequisite: Computer Science Engineering 152A or course 173A; Computer Science Engineering 252 recommended. Design and implementation principles of networking architecture and protocols. Internet, ATM, and telephony case studies. Topics: Internet technology; application and services; resource management; Quality of Service (QoS) provisioning; traffic engineering; performance evaluation and future research issues. [Same course as Computer Science Engineering 258.]—II. (II.) Chuah, Mohapatra  
*(change in existing course—eff. spring 10)*

**280. High-Performance System Design (3)***(cancelled course—eff. winter 10)*

## Engineering: Materials Science and Engineering

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### New and changed courses in Materials Science and Engineering (EMS)

**Graduate Courses****240. Transport Phenomena in Materials Processes (4)***(cancelled course—eff. spring 10)***242. Advanced Mechanical Properties of Materials (4)***(cancelled course—eff. fall 10)***245. Advanced Topics in Structure of Materials (4)***(cancelled course—eff. spring 10)***247. Advanced Thermodynamics of Solids (3)***(cancelled course—eff. spring 10)***262. Advanced Topics in Structure of Materials (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: course 162; course 174 recommended; graduate standing in Engineering or consent of instructor. Nature of microstructure in engineering materials. Crystalline and non-crystalline structures, with special emphasis on grain boundary segregation in the development of polycrystalline microstructure and the radial distribution function of amorphous materials. Not open for credit to students who previously completed (cancelled) course 245. Offered in alternate years.—(I.) Browning  
*(new course—eff. winter 11)*

## Engineering: Mechanical

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### New and changed courses in Engineering: Mechanical (EME)

**Lower Division Course****50. Manufacturing Processes (4)**

Lecture/discussion—3 hours; laboratory—3 hours. Prerequisite: Engineering 4, grade of C- or better; Physics 9A. Restricted to Mechanical Engineering, Aeronautical Science and Engineering, and Mechanical Engineering/Materials Science Engineering majors. Modern manufacturing methods, safety, manufacturing instructions, computer-aided manufacturing and their role in the engineering design and development process.—I, II. (I, II.) Schaaf, Yamazaki  
*(change in existing course—eff. fall 10)*

**Upper Division Courses****107A. Experimental Methods (3)**

Lecture—2 hours; laboratory—1.5 hours. Prerequisite: course 106; open to Mechanical Engineering, Aeronautical Science & Engineering and Mechanical/Materials Science Engineering Majors only. Experiments to illustrate principles of thermal-fluid systems. Statistical and uncertainty analysis of data; statistical design of experiments; measurement devices; Experiments involving thermodynamic cycles, combustion, compressible and incompressible flows. Two units of credit for students who have previously taken Chemical and Materials Science Engineering 155A. One unit of credit for students who have taken Chemical and Materials Science Engineering 155B. Two units of credit for students who have taken Civil and Environmental Engineering 141L.—I, II, III, IV. (I, II, III, IV.) Kennedy  
*(change in existing course—eff. fall 08)*

**107B. Experimental Methods (3)**

Lecture—2 hours; laboratory—3 hours. Prerequisite: Engineering 100 and 102. Open to Mechanical Engineering, Aeronautical Science & Engineering and Mechanical/Materials Science & Engineering. Experiments to illustrate principles of mechanical systems. Theory of measurements; Signal analysis; Demonstration of basic sensors for mechanical systems; Experimental project design; Experiments involving voltage measurement; strain gauges, dynamic systems of 0th, 1st and 2nd order. Only two units of credit for students who have previously taken Biomedical Engineering 111. Only one unit of credit for students who have previously taken Biological Systems Engineering 165.—I, II, III, IV. (I, II, III, IV.)  
*(change in existing course—eff. fall 08)*

**121. Engineering Applications of Dynamics (4)**

Lecture—3 hours; laboratory—3 hours. Prerequisite: Engineering 102. Open to students in the College of Engineering. Technical elective that revisits dynamic principles with emphasis on engineering applications; stressing importance of deriving equations of

motion and setting these into format for computer solution with computer simulation lab, students gain experience with solving complex, real engineering applications.—III. (III.) Karnopp, Margolis  
*(new course—eff. spring 11)*

**141. Space Systems (4)***(cancelled course—eff. fall 08)***162. Modern Power Plants (4)***(cancelled course—eff. fall 10)***163. Internal Combustion Engines and Future Alternatives (4)**

Lecture—3 hours; laboratory—3 hours. Prerequisite: Engineering 103 and 105. Fundamentals of internal combustion engine design and performance. Future needs to adapt to environmental concerns, and the feasibility of better alternatives in the future.—III. (III.) Erickson  
*(change in existing course—eff. spring 10)*

**184A. Senior Design Project (2)***(cancelled course—eff. winter 11)***184B. Senior Design Project (2)***(cancelled course—eff. winter 11)***189A-L. Selected Topics in Mechanical Engineering (1-5)**

Prerequisite: consent of instructor. Directed group study of selected topics in separate sections in (A) Energy Systems and the Environment, (B) Engineering Controls, (C) Engineering Dynamics, (D) Biomechanics, (E) Fluid Mechanics, (F) Manufacturing Engineering, (G) Mechanical Engineering and Product Design, (H) Mechatronics Systems, (I) MEMS/Nanotechnology, (J) Solid and Structural Mechanics, (K) Thermodynamics, (L) Vehicle and Transportation Systems. May be repeated for credit when the topic is different.—I, II, III. (I, II, III.)  
*(change in existing course—eff. summer 08)*

## Engineering: Mechanical and Aerospace

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### New and changed courses in Engineering: Mechanical and Aerospace (MAE)

**Graduate Course****229. Design & Analysis of Micro-Electromechanical Systems (4)**

Lecture—4 hours. Prerequisite: consent of instructor; Engineering 45, 100, 104; Engineering 122 recommended. Mechanical design of micro-electromechanical systems (MEMS). Device modeling: lumped parameter models; energy methods; nonlinearities; electrical and mechanical noise sources. Actuation and measurement methods: capacitive, piezoresistive, thermal, piezoelectric, and optical techniques. Review of basic electronics: bridge circuits, amplitude modulation; lock-in detection.—(III.) Horsley  
*(new course—eff. spring 08)*

## English

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### New and changed courses in English (ENL)

**Upper Division Courses****102A. Writing in the Disciplines (4)***(cancelled course—eff. fall 10)*

**102B. Writing in the Disciplines: Biological Sciences (4)***(cancelled course—eff. fall 10)***102C. Writing in History (4)***(cancelled course—eff. fall 10)***102D. Writing Int. Relations (4)***(cancelled course—eff. fall 10)***102E. Writing in Engineering (4)***(cancelled course—eff. fall 10)***102F. Writing in in Food Sci & Tech (4)***(cancelled course—eff. fall 10)***102G. Writing: Bioregion (4)***(cancelled course—eff. fall 10)***104F. Writing in Health Prof. (4)***(cancelled course—eff. fall 10)***110A. Introduction to Literary Theory (4)**

Lecture/discussion—3 hours; extensive writing or discussion—1 hour. Prerequisite: course 3 or University Writing Program 1. Key theoretical terms, concepts, and thinkers from the Greeks to the modern era. GE credit: Wrt.

*(change in existing course—eff. fall 09)***110B. Introduction to Modern Literary and Critical Theory (4)**

Lecture/discussion—3 hours; extensive writing or discussion—1 hour. Prerequisite: course 3 or University Writing Program 1. Key terms, concepts, and thinkers in the modern era.

*(change in existing course—eff. fall 09)***115. Topics in Sixteenth and Seventeenth Century Literature (4)**

Lecture/discussion—3 hours; extensive writing or discussion—1 hour. Prerequisite: course 3 or University Writing Program 1. Historically, generically, or thematically focused study of works of the sixteenth or seventeenth centuries. May be repeated for credit when content differs. GE credit: Wrt.

*(change in existing course—eff. fall 09)***117. Shakespeare (4)**

Lecture—3 hours; extensive writing or discussion—1 hour. Prerequisite: course 3 or University Writing Program 1 or equivalent. Historically, generically, or thematically focused study of Shakespeare's works. May be repeated two times for credit. GE Credit: ArtHum, Wri.

*(new course—eff. fall 09)***117A. Shakespeare: The Early Works (4)***(cancelled course—eff. winter 10)***117B. Shakespeare: The Middle Works (4)***(cancelled course—eff. fall 09)***117C. Shakespeare: The Later Works (4)***(cancelled course—eff. fall 09)***118. Shakespeare (4)***(cancelled course—eff. fall 09)***125. Topics in Irish Literature (4)**

Lecture—3 hours; extensive writing or discussion—1 hour. Prerequisite: course 3 or University Writing Program 1 or equivalent. Study of emergence, invention, and re-invention of Irish literature. GE Credit: Div, Wri.

*(new course—eff. fall 09)***139. Topics in Global Literatures and Cultures (4)**

Lecture—3 hours; extensive writing or discussion. Prerequisite: course 3 or University Writing Program 1 or equivalent. Historically or thematically organized study of Anglophone literature at the global scale. Possible emphases: globalization of English and its literatures; the history of "world literature"; lit-

eratures of British imperialism; questions of translation. May be repeated two times for credit when content differs. GE credit: ArtHum, Div, Wrt.

*(change in existing course—eff. fall 09)***140. Topics in Postcolonial Literatures and Cultures (4)**

Lecture/discussion—3 hours; extensive writing or discussion—1 hour. Prerequisite: course 3 or University Writing Program 1. Study of postcolonial literature of Anglophone colonies. Specific emphases may include literature from and about Anglophone India, the Caribbean, the Middle East, South Asia, Africa, and/or South America. May be repeated two times for credit when topic differs. GE credit: Wrt.

*(new course—eff. fall 09)***141. Topics in Postcolonial Literatures and Cultures (4)**

Lecture/discussion—3 hours; extensive writing or discussion—1 hour. Prerequisite: course 3 or University Writing Program 1 or equivalent. Study of literatures, histories, and cultures of one or more diasporic groups. May be repeated for credit when topic differs. GE credit: Wrt.

*(new course—eff. fall 09)***150B. Drama from 1800 to the Present (4)**

Lecture/discussion—3 hours; extensive writing or discussion—1 hour. Prerequisite: course 3 or University Writing Program 1 or the equivalent. Historically or thematically focused study of works of anglophone drama from 1800 to the present. May be repeated for credit when topic differs. GE credit: Wrt.—I. (I.)

*(change in existing course—eff. fall 09)***163S. Topics in British Literature and Culture (4)***(cancelled course—eff. fall 10)***178. Topics in Nations, Regions, and Other Cultural Geographies (4)**

Lecture—3 hours; extensive writing or discussion—1 hour. Prerequisite: course 3 or University Writing Program 1 or equivalent. Literary productions of a local, regional, national, transnational, or other geographical formation; e.g., the global South; literature of Hawaii; literature of Australia. May be repeated two times for credit. GE credit: Div, Wrt.—II. (II.)

*(change in existing course—eff. winter 10)***179. Topics in Comparative American Literatures (4)**

Lecture—3 hours; extensive writing or discussion—1 hour. Prerequisite: course 3 or University Writing Program 1 or equivalent. Comparative study of what constitutes "American" literature. Possible emphases: North American or Latin American literature; Pacific Rim or Circum-Atlantic approaches; interrelations among different modes of racialization within and beyond U.S. borders. May be repeated two times for credit when topic differs. GE credit: ArtHum, Div, Wrt.

*(change in existing course—eff. fall 09)***185A. Women's Writing I (4)**

Lecture/discussion—3 hours; extensive writing or discussion—1 hour. Prerequisite: course 3 or University Writing Program 1. Women's Writing in English before 1800; organized by period, place, genre, or theme. GE credit: Div, Wrt.

*(change in existing course—eff. fall 10)***185B. Women's Writing II (4)**

Lecture/discussion—3 hours; extensive writing or discussion—1 hour. Prerequisite: course 3 or University Writing Program 1. Women's Writing in English from 1800 to 1900; organized by period, place, genre, or theme. GE credit: Div, Wrt.

*(change in existing course—eff. fall 10)***185C. Women's Writing III (4)**

Lecture/discussion—3 hours; extensive writing or discussion—1 hour. Prerequisite: course 3 or University Writing Program 1. Women's Writing in English after 1900; organized by period, place, genre, or theme. GE credit: Div, Wrt.

*(new course—eff. fall 10)***187. Literature and the Other Arts (4)***(cancelled course—eff. fall 10)***187A. Topics in Literature and Media (4)**

Seminar—3 hours; film viewing—3 hours. Prerequisite: course 110A or 110B; consent of instructor. Group study of a topic centered on the relationships between literature and film or other moving-image media. GE credit: Wrt.

*(new course—eff. fall 09)***188. Special Topics in Literary Studies (4)***(cancelled course—eff. fall 10)***188A. Topics in Literary and Critical Theory (4)**

Seminar—3 hours; term paper. Prerequisite: course 110A or 110B; consent of instructor. Intensive examination of theories addressing a particular problem, topic, or question. GE credit: Wrt.

*(new course—eff. fall 09)***194H. Seminar for Honors Students (4)**

Seminar—3 hours; term paper. Prerequisite: course 110A or 110B; one advanced study course; admission to English Department Senior Honors Program in Literature, Criticism, and Theory. Preparation for writing an honors thesis in course 195H. Limited enrollment; high level of participation expected.—II. (II.)

*(change in existing course—eff. fall 10)***Graduate Course****287. Topics in Literature and Media (4)**

Seminar—3 hours; film viewing—3 hours. Prerequisite: graduate standing. Study of a topic centered on film or other moving-image media. Course materials to be selected by the instructor. Preparation and evaluation of research papers. May be repeated for credit when topic differs.

*(new course—eff. fall 09)*

## Entomology

**New and changed courses in Entomology (ENT)****Upper Division Courses****111. Insects and Human Affairs (4)***(cancelled course—eff. spring 00)***116. Freshwater Macroinvertebrates (3)**

Lecture—2 hours; laboratory—3 hours. Prerequisite: Biological Sciences 2B or equivalent. Biology, ecology and taxonomy of freshwater macroinvertebrates, including insects, crustaceans, molluscs, worms, leeches, flatworms and others. Adaptations to life in freshwater. Aquatic food webs. Uses of macroinvertebrates in water quality monitoring. Field trips during regular lab hours. Limited enrollment.—III. (III.) Lawler

*(change in existing course—eff. summer 09)***116L. Aquatic Insect Collection (2)**

Laboratory—4 hours; field work—2 hours. Prerequisite: high school biology recommended. Students will learn to collect aquatic insects and to identify them to Family and Genus levels. Collections will require two, one-day weekend field trips (by arrangement). Collection requirement is 40 Families, with 20 identified to Genus level. Limited enrollment.



May not be taken for credit if students have completed the 5-unit option for Entomology 116.—III. (III.) Lawler  
(new course—eff. spring 09)

#### 140S. Biodiversity and Conservation in South Africa (8)

(cancelled course—eff. winter 11)

## Environmental and Resource Sciences

### New and changed courses in Environmental and Resource Sciences (ERS)

#### Lower Division Course

##### 8. Water Quality at Risk (3)

Lecture—2 hours; discussion—1 hour. Natural and human threats to water quality. Balance of science and policy in all aspects of attaining, maintaining, and managing water quality, water contamination. Decoding popular media coverage of water quality and water contamination. GE credit: SciEng or SocSci, Wrt. (Same course as Science and Society 8.)—II. (II.) Hernes

(change in existing course—eff. winter 06)

#### Upper Division Course

##### 120. Global Environmental Interactions (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: one college-level chemistry course; one college-level biology course. Limited to 25 students per discussion section. Relationships among climate, hydrology, biogeochemical cycles, soils and vegetation distribution in diverse landscapes and biomes. Emphasis on physical, chemical, and biological processes affecting ecosystems from the poles to the equator, and human impacts on the environment. Not open to students who have successfully completed course 60. (Formerly course 60.)—II. (II.) Southard

(change in existing course—eff. spring 10)

## Environmental Horticulture

### New and changed courses in Environmental Horticulture (ENH)

#### Upper Division Course

##### 145. Tree Improvement and Utility (3)

(cancelled course—eff. spring 10)

## Environmental Science and Management

### New and changed courses in Environmental Science and Management (ESM)

#### Upper Division Course

##### 120. Global Environmental Interactions (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: one college level chemistry course; one college level biology course. Limited to 25 students per discussion section. Relationships among climate, hydrology, biogeochemical cycles, soils and vegetation distribution in diverse landscapes and biomes. Emphasis on physical, chemical, and biological processes affect-

ing ecosystems from the poles to the equator, and human impacts on the environment. Not open to students who have successfully completed Environmental Resources Sciences 60 or 120. (Formerly Environmental Resources Sciences 60 and 120.)—II. (II.) Southard

(new course—eff. fall 10)

## Environmental Science and Policy

### New and changed courses in Environmental Science and Policy (ESP)

#### Lower Division Course

##### 10D. Current Issues in the Environment—Discussion (1)

(cancelled course—eff. winter 10)

#### Upper Division Courses

##### 116. The Oceans (3)

(cancelled course—eff. winter 09)

##### 125A. Field Ecology (4)

(cancelled course—eff. spring 10)

##### 125B. Physiological Ecology (4)

(cancelled course—eff. spring 10)

##### 125C. Applied Conservation Biology (4)

(cancelled course—eff. spring 10)

(cancelled course—eff.

##### 165. Science, Experts and Public Policy (4)

(cancelled course—eff. winter 10)

##### 166. Policy Making in Natural Resource Agencies (4)

(cancelled course—eff. fall 10)

##### 167. Energy Policy (4)

Lecture—4 hours; term paper. Prerequisite: Economics 1A, Mathematics 16B, or consent of instructor. Survey of primary energy resources (fossil, renewable, nuclear), energy conversion methods, future energy demand scenarios, and environmental impacts of energy. Overview of energy policy in the U.S. Analysis of policy alternatives for addressing energy-related environmental and national security issues. Offered in alternate years.—(III.) Ogden

(change in existing course—eff. fall 09)

##### 191A. Workshop on Food System Sustainability (3)

Lecture—2 hours; laboratory—3 hours. Prerequisite: upper-division standing; Plant Sciences 15, Community and Regional Development 20, Agricultural and Resource Economics 121, Plant Sciences 150 or consent of the instructor. Priority enrollment for seniors in the sustainable agriculture and food systems major; limited to 25 students per section. First in a two-quarter senior capstone course sequence. Identify projects addressing specific problems and opportunities of sustainable agriculture and food systems, form multidisciplinary teams, and identify and consult with key stakeholders to understand their needs and concerns.—I. (I.) Tomich

(new course—eff. fall 09)

##### 191B. Workshop on Food System Sustainability (3)

Lecture—2 hours; laboratory—3 hours. Prerequisite: course 191A. Priority enrollment for seniors in the sustainable agriculture and food systems major; limited to 25 students per section. Continuation of course 191A. Student teams conduct analyses of a specific issue in sustainable agriculture or food systems, prepare a critical assessment of technological,

economic, environmental, and social dimensions of options for action and present their results to stakeholders.—II. (II.) Tomich

(new course—eff. winter 10)

## Epidemiology

### New and changed courses in Epidemiology (EPI)

#### Graduate Courses

##### 204A. Foundation of Statistical Models, Methods, and Data Analysis for Scientists (4)

Lecture—3 hours; laboratory/discussion—1 hour. Prerequisite: Statistics 130A, or Statistics 131A, or Statistics 133, course 228 recommended. Provides the mathematical statistics foundation for statistical models, methods, and data analysis.—II. (II.) Nguyen

(new course—eff. winter 06)

##### 204B. Statistical Models, Methods, and Data Analysis for Scientists (4)

Lecture—3 hours; laboratory/discussion—1 hour. Prerequisite: course 204A; Statistics 108 recommended. Introduces statistical models, methods, and data analysis in the areas of generalized linear, survival, and correlated data methodology.—III. (III.) Nguyen

(new course—eff. winter 06)

##### 205A. Principles of Epidemiology (4)

Lecture—4 hours. Prerequisite: Preventive Veterinary Medicine 402 or consent of instructor. Basic epidemiologic concepts and approaches to epidemiologic research, with examples from veterinary and human medicine, including outbreak investigation, infectious disease epidemiology, properties of tests, and an introduction to epidemiologic study design and surveillance. (Same course as Preventive Veterinary Medicine 405.)—I. (I.)

(change in existing course—eff. fall 08)

##### 206. Epidemiologic Study Design (3)

Lecture—20 sessions; discussion—6 sessions; laboratory—4 sessions. Prerequisite: course 205A and 205B or consent of instructor. Builds on concepts presented in course 205. Concepts of epidemiologic study design—clinical trials, observational cohort studies, case control studies—introduced in course 205A are covered in more depth, using a problem-based format. Discussion of published epidemiologic studies. (Same course as Preventive Veterinary Medicine 406A.)—II. (II.) Miller

(change in existing course—eff. fall 08)

##### 226. Methods for Longitudinal and Repeated Measurement Data (3)

Lecture—2 hours; discussion—1 hour. Prerequisite: course 204 or consent of instructor. Mixed models for longitudinal data (LD)/repeated measurements; Mean and covariance models; General linear LD models; Random coefficients models; Linear mixed effects models for continuous outcome; Generalized linear mixed effects model for discrete outcome including binary, ordinal and count data.—I. (I.) Nguyen

(new course—eff. fall 09)

##### 229. Geographic Information Systems for Health Professionals (4)

Lecture—2 hours; laboratory—6 hours. Emphasis on basic geographic and data management principles. Focus on software proficiency in application to analyzing/solving health-related problems. For graduate and professional students in epidemiology, public health, preventive veterinary medicine, health informatics with interest in spatial techniques in research.—III. (III.) Case

(new course—eff. spring 10)

**252. Social Epidemiology (2)**

Lecture/discussion—2 hours. Prerequisite: course 205A; consent of instructor. Social determinants of health; psychosocial and physiological pathways; health and social inequality; gender and racial/ethnic disparities in health; social support, social cohesion and health; social gradient in behavioral risk factors; social ecological approaches to health intervention; interventions addressing social determinants. (Same Course as Public Health Sciences 252.)—III. (III.) Gibson  
(new course—eff. spring 09)

## Epidemiology and Preventive Medicine

### New and changed courses in Epidemiology and Preventive Medicine (EPP)

**Lower Division Course**

**92. Internship in Community Health (1-12)**  
(cancelled course—eff. summer 08)

**Upper Division Courses**

**101. Perspectives in Community Health (3)**  
(cancelled course—eff. spring 09)

**160. General Health Education and Prevention (1-5)**  
(cancelled course—eff. fall 08)

**161. Campus Alcohol/Drug Abuse Prevention Program Peer Educator Training (4)**  
(cancelled course—eff. fall 08)

**162. Health Advocates Peer Educator Training (4)**  
(cancelled course—eff. summer 08)

**175W. Health Policy and Health Politics (4)**  
(cancelled course—eff. summer 09)

**190C. Research Conference in Community and International Health (1)**  
(cancelled course—eff. summer 08)

**192. Internship in Community Health Practice (1-12)**  
(cancelled course—eff. fall 08)

**198. Study in Community and International Health (1-5)**  
(cancelled course—eff. summer 08)

**199. Research in Community and International Health (1-5)**  
(cancelled course—eff. summer 08)

**Graduate Courses**

**222. Social and Behavioral Aspects of Public Health (3)**  
(cancelled course—eff. winter 09)

**244. Introduction to Medical Statistics (4)**  
(cancelled course—eff. summer 08)

**245. Statistical Analysis of Laboratory Data (4)**  
(cancelled course—eff. winter 09)

**246. Biostatistics for Clinical Research (4)**  
(cancelled course—eff. winter 09)

**247. Biostatistics for Epidemiology (4)**  
(cancelled course—eff. spring 09)

**255. Human Reproductive Epidemiology (3)**  
(cancelled course—eff. fall 09)

**262. Principles of Environmental Health Science (3)**

(cancelled course—eff. winter 09)

**273. Health Services Administration (3)**  
(cancelled course—eff. winter 09)

**290. Topics in Public Health (1)**  
(cancelled course—eff. winter 09)

**295. International Health (1)**  
(cancelled course—eff. winter 09)

**297. Public Health Practicum (1-16)**  
(cancelled course—eff. winter 09)

**298. Study in Community and International Health (1-5)**  
(cancelled course—eff. winter 09)

**299. Research in Community and International Health (1-12)**  
(cancelled course—eff. winter 09)

**Graduate Courses**

**402. Introductory Medical Spanish (2)**  
(cancelled course—eff. winter 09)

**455. Multidisciplinary Clinical Preceptorship (4.5)**  
(cancelled course—eff. fall 08)

**461. Clerkship in Community Health Group Practice (3-9)**  
(cancelled course—eff. summer 08)

**465. Community Health Preceptorship (3-18)**  
(cancelled course—eff. summer 08)

**466. Occupational and Environmental Medicine Elective (6-12)**  
(cancelled course—eff. summer 08)

**470. Clinical Selective in Occupational and Environmental Medicine (3-6)**  
(cancelled course—eff. summer 08)

**471. Health Issues Confronting Asian Americans and Pacific Islanders (4)**  
(cancelled course—eff. winter 09)

**480. Insights in Occupational and Environmental Medicine (1-3)**  
(cancelled course—eff. summer 08)

**495. International Health (1)**  
(cancelled course—eff. summer 08)

**496. Current Issues in Public Health (1)**  
(cancelled course—eff. summer 08)

**498. Study in Community and International Health (1-6)**  
(cancelled course—eff. fall 08)

**499. Research in Community and International Health (1-9)**  
(cancelled course—eff. summer 08)

## Evolution and Ecology

### New and changed courses in Evolution and Ecology (EVE)

**Lower Division Course****92. Internship (1-12)**

Internship—3-36 hours. Prerequisite: lower division standing and consent of instructor. Work experience off and on campus in all subject areas offered in the Department of Evolution and Ecology. Internships supervised by a member of the faculty. (P/NP grading only.)

(change in existing course—eff. fall 08)

**Upper Division Courses****103. Phylogeny and Macroevolution (4)**

Lecture—3 hours; lecture/discussion—3 hours. Prerequisite: course 100. Statistical inference of evolutionary patterns and processes above the species level. Topics include estimation of phylogenies and divergence times, character evolution, biogeographic history, and rates and patterns of lineage diversification, with an emphasis on the origin of species. Offered in alternate years.—II. Moore, Turelli

(change in existing course—eff. winter 10)

**120. Global Change Ecology (3)**

Lecture/discussion—3 hours. Prerequisite: course 100 and 101 or equivalents. Treatment of historical evolution of the biosphere resulting from physical, chemical, and biological influences. Special focus upon changes caused by humans. Topics pertain to biodiversity, resources, conservation, and ecosystem services. Offered in alternate years.—I, III. Strong  
(new course—eff. spring 10)

**131. Human Genetic Variation and Evolution (3)**

Lecture—3 hours. Prerequisite: Biological Sciences 1B or 2B. Introduction to genome-wide nucleotide sequence variation in human populations and computational methods for its analysis. Topics to include forensics, disease gene mapping, and studies of human evolutionary history. Misuses, such as eugenics, and ethical/legal issues will be discussed.—III. (III.) Rannala

(new course—eff. spring 10)

**181. Ecology and Evolution of Animal-Plant Interactions (4)**

Lecture—1.5 hours; lecture/discussion—1.5 hours; term paper; extensive writing or discussion. Prerequisite: Biological Sciences 2B and 2C required, 2C may be taken concurrently. Animal adaptations for eating plants, pollinating flowers, dispersing seeds. Plant adaptations to herbivore defense, attraction of mutualists; role of coevolutionary arms race, mutualists and cheaters in plant/animal speciation. Exploration through lectures, original scientific literature, discussions and term paper. Offered in alternate years.—I. Strauss  
(new course—eff. fall 10)

**192. Internship (1-12)**

Internship—3-36 hours. Prerequisite: completion of 84 units and consent of instructor. Work experience off and on campus in all subject areas offered in the Department of Evolution and Ecology. Internships supervised by a member of the faculty. (P/NP grading only.)

(change in existing course—eff. fall 08)

**197T. Tutoring in Biological Sciences 2B (1-2)**

Tutorial—3-6 hours. Prerequisite: Biological Sciences 1B or Biological Sciences 2B with a grade of B or better. Assisting the instructor by tutoring students in a Biological Sciences 2B laboratory. Tutoring is voluntary and is supervised by a Laboratory Teaching Assistant and the Biological Sciences 2B Laboratory Coordinator. May be repeated three times for credit. (P/NP grading only.)—I, II, III. (I, II, III.)

(change in existing course—eff. fall 08)

## Exercise Biology

### New and changed courses in Exercise Biology (EXB)

**Upper Division Courses****106. Human Gross Anatomy (4)**

Lecture—4 hours. Prerequisite: Biological Sciences 2A; concurrent enrollment in course 106L or Cell Biology and Human Anatomy 101L strongly recom-

mended. Upper division students only; Pass 1 open to upper division Exercise Biology or Anthropology majors only; Pass 2 open to Seniors in any major; Open enrollment at the start of the quarter for upper division students in any major. Detailed study of the gross anatomical structure of the human body, with emphasis on function and clinical relevance to students entering health care professions. (Same course as Cell Biology and Human Anatomy 101.) GE Credit: SciEng. —II. (II.) Gross  
(new course—eff. fall 10)

### 106L. Human Gross Anatomy Laboratory (3)

Laboratory—9 hours. Prerequisite: Biological Sciences 2A; must take course 106 or Cell Biology and Human Anatomy 101 concurrently (or have already completed). Upper division students only; Pass 1 open to upper division Exercise Biology or Anthropology majors only; Pass 2 open to Seniors in any major; Open enrollment at the start of the quarter for upper division students in any major; mandatory attendance on first day of lab. Detailed study of projected human cadavers in small group format with extensive hands-on experience. (Same course as Cell Biology and Human Anatomy 101L.) GE Credit: SciEng. —II. (II.) Gross  
(new course—eff. fall 10)

### 110. Exercise Metabolism (3)

Lecture—3 hours. Prerequisite: course 101 or Neurobiology, Physiology and Behavior 101. Exercise metabolism, with emphasis on skeletal muscle and cardiac muscle metabolism during activity and inactivity. Basics of bioenergetics, substrate utilization, and cell signaling; mechanisms that regulate these properties, and differences between skeletal muscle and cardiac muscle metabolism.—II. (II.) Gomes  
(change in existing course—eff. spring 09)

### 112. Clinical Exercise Physiology (4)

Lecture—3 hours; lecture/discussion—3 hours. Prerequisite: courses 101 or consent of instructor. Physical activity as a therapeutic modality in normal and diseased populations (cardiovascular, pulmonary, diabetic). Effects of exercise and inactivity in terms of normal physiology, pathophysiology, and therapeutic benefit. Exercise fitness and disease assessment methods.—II. (II.) Harris  
(change in existing course—eff. spring 09)

### 120. Sport in American Society (3)

Lecture—3 hours. Sociological approaches to the study of sport and contemporary American culture, including sport interaction with politics, economics, religion, gender, race, media and ethics. Socialization factors involving youth, scholastic, collegiate, and Olympic sport. (Same course as Physical Education 120.) GE credit: SocSci, Div.—I, IV. (I, IV.) Salitsky  
(change in existing course—eff. summer 09)

### 121. Advanced Sport Psychology (3)

Lecture—3 hours. Prerequisite: course 102; Psychology 1 recommended. Advanced study and consideration of major theoretical and practical issues in sport psychology. Emphasis on practical application to sport and human performance.—II. (II.) Salitsky  
(change in existing course—eff. winter 10)

### 124. Physiology of Maximal Human Performance (4)

Lecture—3 hours; practice—4 hours. Prerequisite: course 101 or permission of instructor; Biological Sciences 101, 102, and 103 recommended. Molecular mechanisms underlying adaptation to training. Learn how to exercise to maximize their own performance as well as learning how the frequency, intensity and timing of exercise and nutrition affect the molecular signals that underlie performance.—I. (I.) Baar  
(new course—eff. winter 11)

### 189. International Perspectives in Exercise Biology (4)

Lecture—4 hours. Prerequisite: course 10 or upper division standing in Exercise Biology; consent of instructor: students will be accepted based upon academic merit, personal experience, and academic discipline in order to provide multidisciplinary perspectives. Compare and contrast exercise science issues between the US and an international location. Identify political, economic, cultural, technological and environmental issues that impact human exercise, physical activity, wellness, and sport from a global perspective. Limited enrollment. Offered irregularly.

(new course—eff. summer 09)

## Film Studies

### New and changed courses in Film Studies (FMS)

#### Upper Division Courses

##### 121. New Italian Cinema (4)

Lecture/discussion—3 hours; film viewing—3 hours. Prerequisite: course 1 and upper-division standing, or consent of instructor. Italian cinema of the 21st century in the context of profound cultural and social changes in Italy since World War II. Productions by representative directors such as Amelio, Giordana, Moretti, Muccino are included. Knowledge of Italian not required. Offered in alternate years. (Same course as Italian 121.) GE credit: ArtHum, Div, Wrt.—III. Heyer-Caput  
(new course—eff. fall 08)

##### 129. Russian Film (4)

Lecture/discussion—3 hours; film viewing—3 hours. Prerequisite: completion of Subject A requirement. History of Russian film; film and social revolution, the cult of Stalin, dissident visions; film and the collapse of the Soviet empire; gender and the nation in Russian film. Course taught in English; films are in Russian with English subtitles. Offered in alternate years. (Same course as Russian 129.) GE credit: ArtHum, Div, Wrt.—II.  
(new course—eff. fall 09)

## Food Science and Technology

### New and changed courses in Food Science and Technology (FST)

#### Upper Division Course

##### 117. Design and Analysis for Sensory Food Science (3)

Lecture—3 hours. Prerequisite: Statistics 13 or consent of instructor. Methods of design and analysis for sensory food science. Experimental design strategies. Use of taste panels and consumer testing. Data analysis and computation including the relative merits and limitations of parametric and nonparametric approaches. Modifications for quality assurance.—I. (I.) O'Mahony  
(change in existing course—eff. fall 08)

#### Graduate Courses

##### 201. Food Chemistry and Biochemistry (4)

Lecture—4 hours. Prerequisite: undergraduate courses in organic chemistry and biochemistry; undergraduate course in food chemistry is recommended. Advanced topics in food chemistry and biochemistry, emphasizing the application of the basic principles of chemistry and biochemistry to food composition, properties, preservation and pro-

cessing. Chemical structures, interactions, reaction mechanisms and experimental methods are stressed.—I. (I.) G. Smith

(change in existing course—eff. fall 08)

##### 213. Flavor Chemistry of Foods and Beverages (3)

Lecture/discussion—3 hours. Prerequisite: Chemistry 8B, Viticulture and Enology 123, Viticulture and Enology 123L or course 103 or consent of instructors. Students will become familiar with basic principles of flavor chemistry, analysis, and formation in fresh and processed foods. Students will be required to read and critically evaluate flavor chemistry literature. (Same course as Viticulture and Enology 213).—III. (III.) Ebeler, Heymann

(new course—eff. spring 09)

##### 217. Advanced Food Sensory Science (3)

Lecture—3 hours. Prerequisite: course 107 (may be taken concurrently) or consent of instructor. Advanced study of the techniques and theory of the sensory measurement of food as an analytical tool and as a measure of consumer perception and acceptance. Advanced examination of the sensory and cognitive systems associated with the perception of food.—I. (I.) O'Mahony

(change in existing course—eff. fall 10)

##### 219. Biochemistry, Microbiology and Technology of Cheeses of the World (4)

Lecture—4 hours. Prerequisite: course 119 and Biological Sciences 103 or course 100A, 123, Biological Sciences 103, Chemistry 107B, 128B or consent of instructor. Restricted to graduate level students or senior undergraduate students with appropriate background in biochemistry and microbiology. Compositional and physico-chemical aspects of milk and their implications on cheesemaking; enzymatic, microbiological and physical aspects of cheesemaking; cheese as a biological composite; designing cheese quality attributes; cheese aging. Cheese from all over the world will be tasted and discussed. Offered in alternate years.—III. Rosenberg  
(new course—eff. fall 08)

## Forensic Science

### New and changed courses in Forensic Science (FOR)

#### Graduate Course

##### 283. Forensic Biology (3)

Lecture—2 hours; discussion—1 hour. Prerequisite: consent of instructor. Restricted to students enrolled in the M.S. in Forensic Science program or by consent of the Forensic Science Program Director. Overview to the foundational concepts in forensic biology: chemistry and molecular biology of biological evidence, genetic basis of biological uniqueness, evolutionary basis of species differences, patterns and dynamics of evidence deterioration, and the legal/professional considerations associated with biological evidence.—II. (II.) Sensabaugh  
(new course—eff. fall 09)

## French

### New and changed courses in French (FRE)

#### Upper Division Courses

##### 115. Medieval French Literature and Society (4)

Lecture/discussion—3 hours; term paper. Prerequisite: course 100. Social and cultural life of medieval France as studied through its representation in such literary works as La Chanson de Roland, courtly love

lyric, the Arthurian romances of Chrétien de Troyes, Aucassin et Nicolette, selected fabliaux and farces. Offered in alternate years. GE credit: ArtHum.—I. Guynn

*(change in existing course—eff. winter 10)*

#### 116. The French Renaissance (4)

Lecture/discussion—3 hours; term paper. Prerequisite: course 100. Overview of major works and writers with particular attention to the historical context of the turbulent 16th century. Writers to be read may include Rabelais, Marot, Ronsard, Du Bellay, Labé, Marguerite de Navarre, Montaigne, and D'Aubigné. Offered in alternate years. GE credit: ArtHum.—(III.) Peureux

*(change in existing course—eff. winter 10)*

#### 160. Linguistic Study of French-Sound and Form (4)

Seminar—3 hours; term paper. Prerequisite: course 109 and Linguistics 1, or consent of instructor. Introduction to the linguistic study of modern French, with focus on sound structure and form, inflection and derivation.—II. (II.) Anderson, Russell Webb

*(change in existing course—eff. winter 10)*

#### 161. Linguistic Study of French—Form and Meaning (4)

Seminar—3 hours; term paper. Prerequisite: one of course 104, 105, 160, 162 and Linguistics 1, or permission of instructor. Introduction to the linguistic study of modern French, with focus on sentence construction and constituency, meaning and discourse functions.—III. (III.) Anderson, Russell Webb

*(change in existing course—eff. winter 10)*

## Freshman Seminar Program

### New and changed courses in Freshman Seminar (FRS)

#### Lower Division Courses

##### 1. First-Year Seminar (1)

Seminar—1 hour. Open only to: students who have completed fewer than 45 quarter units; transfer students in their first academic year at UC Davis. Investigation of a special topic through shared readings, discussions, written assignments, term papers, and special activities (such as fieldwork, site visits, laboratory work, etc.). Emphasis placed upon student participation in learning. Students may take more than one freshman seminar, but may not take more than one in any given quarter. May be repeated for credit if topic differs.—I, II, III. (I, II, III.)

*(change in existing course—eff. fall 09)*

##### 2. First-Year Seminar (2)

Seminar—2 hours. Open only to: students who have completed fewer than 45 quarter units; transfer students in their first academic year at UC Davis. Investigation of a special topic through shared readings, discussions, written assignments, term papers, and special activities (such as fieldwork, site visits, laboratory work, etc.). Emphasis placed upon student participation in learning. Students may take more than one freshman seminar, but may not take more than one in any given quarter. May be repeated for credit if topic differs.—I, II, III. (I, II, III.)

*(change in existing course—eff. fall 09)*

##### 3. First-Year Seminar (1)

Seminar—1 hour. Open only to: students who have completed fewer than 45 quarter units; transfer students in their first academic year at UC Davis. Investigation of a special topic through shared readings, discussions, written assignments, term papers, and special activities (such as fieldwork, site visits, laboratory work, etc.). Emphasis placed upon student participation in learning. Students may take more than one freshman seminar, but may not take more

than one in any given quarter. May be repeated for credit if topic differs. (P/NP grading only.)—I, II, III. (I, II, III.)

*(change in existing course—eff. fall 09)*

#### 4. First-Year Seminar (2)

Seminar—2 hours. Open only to: students who have completed fewer than 45 quarter units; transfer students in their first academic year at UC Davis. Investigation of a special topic through shared readings, discussions, written assignments, term papers, and special activities (such as fieldwork, site visits, laboratory work, etc.). Emphasis placed upon student participation in learning. Students may take more than one freshman seminar, but may not take more than one in any given quarter. May be repeated for credit if topic differs. (P/NP grading only.)—I, II, III. (I, II, III.)

*(change in existing course—eff. fall 09)*

## Genetics (A Graduate Group)

### New and changed courses in Genetics (A Graduate Group) (GGG)

#### Graduate Courses

##### 207L. Research Methods in Plant Genetics Laboratory (2-5)

*(new course—eff. fall 10)*

##### 292. Seminar in Plant Breeding and Biodiversity (1-3)

Topics of current interest in plant breeding and biodiversity. May be repeated for credit. Offered in alternate years. (S/U grading only.)—(I.)

*(new course—eff. fall 09)*

## Geography

### New and changed courses in Geography (GEO)

#### Graduate Courses

##### 200C. Theory and Practice of Geography (4)

*(cancelled course—eff. fall 08)*

##### 211. Physical Geography Traditions and Methods (3)

Lecture/discussion—2 hours; term paper. Prerequisite: Introductory course in physical geography. Graduate-level standing in geography or related discipline. Course Description: Discussion of the physical science tradition in geography, including key concepts and current research in climatology, geomorphology, soils geography, biogeography, climate change, watershed science, and coastal studies. Research paradigms, programs, and methods as used by physical geographers will be discussed. May be repeated three times for credit. Offered in alternate years.—I. Elliott-Fisk

*(new course—eff. fall 08)*

##### 290. Seminar in Geography (1-3)

Seminar—1-3 hours. Prerequisite: Graduate standing or consent of instructor. The seminar will focus on specified topical areas within geography, which will vary quarter to quarter. Students will be expected to present an oral seminar on an aspect of the general topic under discussion. May be repeated six times for credit. (S/U grading only.)—I, II, III. (I, II, III.)

*(change in existing course—eff. fall 08)*

##### 292. Seminar in Plant Geography (4)

*(cancelled course—eff. fall 08)*

## Geology

### New and changed courses in Geology (GEL)

#### Lower Division Course

##### 18. Energy and the Environment (3)

Lecture—3 hours. Conventional and alternative energy resources and their environmental impacts. Basic principles, historical development, current advantages and disadvantages, future prospects. Oil, natural gas, coal, nuclear, wind, geothermal, water, tidal, solar, hydrogen, and other sources of energy for the 21st century. GE Credit: SciEng.—II. (II.) Verosub

*(new course—eff. winter 10)*

##### 28. Astrobiology (3)

Lecture—3 hours. Origin, evolution and distribution of life in our solar system and the Universe. Detecting habitable worlds, Drake equations, necessities and raw materials for life, philosophical implications of the search for life elsewhere. GE Credit: SciEng.—I. (I.) Yin

*(new course—eff. fall 09)*

##### 30. Fractals, Chaos and Complexity (3)

Lecture/discussion—3 hours. Prerequisite: Mathematics 16A or 21A. Modern ideas about the unifying ideas of fractal geometry, chaos and complexity. Basic theory and applications with examples from physics, earth sciences, mathematics, population dynamics, ecology, history, economics, biology, computer science, art and architecture. Offered in alternate years. (Same course as Physics 30.) GE Credit: SciEng.—(II.) Rundle

*(change in existing course—eff. winter 10)*

### Upper Division Courses

##### 132. Introductory Inorganic Geochemistry (3)

Lecture—3 hours. Prerequisite: course 60, may be taken concurrently; Chemistry 2B. Nucleosynthesis of chemical elements, physical and chemical properties of elements, ionic substitution, elemental partition, distribution and transport among planetary materials, basic thermodynamics and phase diagrams, isotopic geochronometers, stable isotope fractionation, mixing and dilution, advection and diffusion, geochemical cycles.—I. (I.) Cooper, Yin, Zierenberg

*(new course—eff. fall 10)*

##### 139. Rivers: Form, Function and Management (4)

Lecture—3 hours; fieldwork—3 hours. Prerequisite: courses 50, 50L, or equivalent; Mathematics 16B or 21B recommended. Analysis of river form and processes, emphasis on fluvial geomorphology, and river and stream restoration; case studies to illustrate concepts and applications. Two weekend field trips required.—III. (III.) Mount

*(change in existing course—eff. summer 09)*

##### 140. Introduction to Process Geomorphology (4)

Lecture—3 hours; laboratory—3 hours. Prerequisite: course 1 or 50 or equivalent; Mathematics 16B or 21B, or equivalent; or consent of instructor. Quantitative description and interpretation of landscapes with emphasis on the relationships between physical processes, mass conservation, and landform evolution. Topics covered include physical and chemical weathering, hillslopes, debris flows, fluvial systems, alluvial fans, pedogenesis, eolian transport, glaciation and Quaternary geochronology. Offered in alternate years.—(III.) Oskin

*(new course—eff. spring 10)*

**146. Radiogenic Isotope Geochemistry and Cosmochemistry (3)**

Lecture—3 hours. Prerequisite: Chemistry 2C, Physics 7C, and Mathematics 16C. Basic principles of nuclear chemistry and physics applied to geology to determine the ages of terrestrial rocks, meteorites, archeological objects, age of the Earth, to trace geological/environmental processes, and explain formation of the chemical elements in the Universe. Offered in alternate years.—(I.) Day, Yin  
(change in existing course—eff. fall 09)

**161. Geophysical Field Methods (3)**

Lecture/discussion—3 hours; term paper. Prerequisite: course 1 or 50, Mathematics 21C, Physics 7C or 9C, or consent of instructor. Geophysical methods applied to determining subsurface structure in tectonics, hydrogeology, geotechnical engineering, hydrocarbon and mineral exploration. Theory, survey design and interpretation of gravity, electrical resistivity, electromagnetic, reflection and refraction seismology, and ground-penetrating radar measurements.—III. (III.) Billen  
(change in existing course—eff. spring 09)

**175. Advanced Field Geology (3)**

Discussion—3 hours; fieldwork—6 hours. Prerequisite: consent of instructor. Advanced field studies of selected geologic terrains, interpretation and discussion of field observations. May be repeated two times for credit when instructors varies. (P/NP grading only.)—I. (I.) Cooper, Roeske  
(change in existing course—eff. fall 09)

**183. Teaching High School Mathematics and Science (3)**

Lecture/discussion—2 hours; field work—3 hours. Prerequisite: course 81/Education 81 or course 181/Education 181 or consent of instructor. Exploration and creation of effective teaching practices based on examination of how high school students learn mathematics and science. Field experience in high school classrooms. Limited enrollment. (Same course as Education 183.)—I, II, III. (I, II, III.) Passmore, Stevenson  
(new course—eff. fall 08)

**Graduate Course****230. Geomorphology and River Management (3)**

Seminar—3 hours. Prerequisite: graduate standing, course 139 or equivalent. Impacts of management and land use activities on the geomorphology of rivers and streams. Evaluation and use of analytical tools for river assessment. Assessment of river and stream restoration strategies and emerging issues in river management. May be repeated for credit when topic differs.—I. (I.) Mount  
(new course—eff. fall 09)

**232. The Oceans and Climate Change (3)**

Lecture/discussion—3 hours. Prerequisite: graduate standing or consent of instructor. Modern climate change and linkages between the ocean-atmosphere-cryosphere-terrestrial climate system. Importance of the ocean in forcing climate change, and the impacts of anthropogenic processes on the ocean. Topics vary. May be repeated three times for credit. Offered in alternate years.—(II.) Hill  
(new course—eff. spring 10)

**251. Advanced Topics in Isotope Geochemistry and Cosmochemistry (3)**

Lecture/discussion—2 hours; term paper. Prerequisite: graduate standing or consent of instructor. Astrophysical context on origin of Solar System, synthesis of chemical elements, condensation sequence, star and planet formation, cosmochronology, building blocks of planets, development on planets' layered structure, atmosphere and hydrosphere and the role of comets/asteroids for volatile delivery. May be repeated three times for credit when topics differs. Offered in alternate years.—(II.) Yin  
(new course—eff. winter 10)

## German

**New and changed courses in German (GER)****Lower Division Course****20. Intermediate German (4)**

Lecture/discussion—3 hours; extensive writing. Prerequisite: course 3; may be taken concurrently with course 6. Review of grammatical principles by means of written exercises; expanding of vocabulary through readings of modern texts.—I, II. (I, II.)  
(change in existing course—eff. spring 05)

**Upper Division Course****113. Goethe's Faust (4)**

Discussion—3 hours; term paper. Knowledge of German not required. Intensive study of Goethe's Faust in its entirety. Discussions and readings in English; reading the text in the original is encouraged. Offered in alternate years. GE credit: ArtHum, Div, Wrt.—II, III. Bernd  
(change in existing course—eff. fall 10)

**117. After the Catastrophe: Jews and Jewish Life in Post-1945 Germany (4)**

Lecture/discussion—3 hours; term paper. Examination of the place of Jews and Jewish culture in post-1945 Germany, with special attention given to literature, historical debates, photography, film, as well as websites and other new media. Offered in alternate years. GE Credit: ArtHum, Div, Wrt.—II, III. Fisher  
(new course—eff. winter 10)

## Greek

**New and changed courses in Greek (GRK)****Upper Division Course****110. Readings in the Greek Novel (4)**

Lecture—3 hours; term paper. Prerequisite: course 100N. Selected readings from Greek prose fiction of the late classical, Hellenistic and imperial periods. Offered in alternate years. May be repeated two times for credit with consent of instructor. GE credit: Wrt.—(III.) Watanabe  
(new course—eff. spring 09)

## Health Informatics

**New and changed courses in Health Informatics (MHI)****Graduate Courses****202. Computer-Based Patient Records (4)**

Lecture/discussion—3 hours; discussion—1 hour. Prerequisite: current enrollment within the Health Informatics graduate program or consent of instructor. Introduction and overview of computer-based clinical record systems. Topics include data modeling, health system standards and terminologies; security, privacy and confidentiality; workflow modeling; data visualization; legal; decision support; public health; and evidence-based practice.—III. (III.) Turner  
(new course—eff. winter 09)

**207. Decision Support Systems (4)**

Lecture/discussion—2 hours. Prerequisite: consent of instructor. Explores decision support systems for medical application. Topics include medical decision

making, uncertainty, review of existing decision support systems, knowledge engineering, data mining, and knowledge based systems.—II. (II.) Malyj  
(new course—eff. winter 10)

**208. Medical Informatics in Web-Based Enterprise Computing (4)**

Lecture—2 hours; discussion—2 hours. Introduction to the decision making processes and technologies that are involved in developing web-based distributed enterprise applications in medicine. Focus on the Informatician's role as a team member.—II. (II.) Lynch  
(change in existing course—eff. spring 10)

**209. Data Acquisition and Analysis (4)**

Lecture—2 hours; discussion—1 hour; laboratory—3 hours. Examines the nature, acquisition, and analysis of medical data. Data ranges from signals of electrical potentials, sounds, text, images (still and motion), and data from nucleic acid and protein expression and sequencing instruments.—I. (I.) Malyj  
(change in existing course—eff. spring 10)

**210. Introduction to Health Informatics (4)**

Lecture—3 hours; discussion—1 hour. Overview course to give the student a broad exposure to the field of Health Informatics. Topics covered include, but are not limited to, networking, information systems, coding, HL7, Security, and HIPPA.—I. (I.) Galvez  
(change in existing course—eff. spring 09)

**211. Telemedicine (4)**

Web virtual lecture—3 hours; web electronic discussion—1 hour. Issues for the development and maintenance of a successful telemedicine program with focus on strategic planning, clinical applications, project management, risk management and legal issues; reimbursement and contracting; human resources and program sustainability.—I, II, III. (I, II, III.) Yellowlees  
(change in existing course—eff. fall 09)

**215. Beginning and Intermediate Programming in M (MUMPS) (3)**

Lecture—3 hours. Project-oriented approach to fundamentals of programming in ANSI Standard M (MUMPS) language. Basic syntax, Hierarchical file structure; arrays and string subscripts, indirection and extrinsic functions. (S/U grading only.)—I, II, III. (I, II, III.) Walters  
(new course—eff. winter 09)

**289F. Database and Knowledge Management (4)**

Lecture/discussion—3 hours; term paper. Prerequisite: consent of instructor. Course objectives include understanding the informatics techniques for data capture, information management, and knowledge generation that a student will use throughout their career. May be repeated for credit.—I, II, III. (I, II, III.) Lynch  
(change in existing course—eff. winter 10)

**290. Seminar in Medical Informatics (1)**

Seminar—1 hour. Restricted to 20 students. Discussion of current graduate research and topics in Health Informatics. Oral presentations of individual study. (S/U grading only.)—I, II, III. (I, II, III.)  
(new course—eff. winter 09)

**299. Research in Health Informatics (1-12)**

Independent research in Health Informatics. (S/U grading only.)—I, II, III. (I, II, III.)  
(change in existing course—eff. spring 10)

## History

### New and changed courses in History (HIS)

#### Lower Division Course

##### 3. Cities: A Survey of World Cultures (4)

Lecture—3 hours; lecture/discussion—1 hour. Survey of urban world cultures, focusing on up to ten cities selected by the instructor. GE Credit: ArtHum or SocSci, Div, Wrt.

*(change in existing course—eff. fall 08)*

#### Upper Division Courses

##### 109A. Global Environmental History (4)

Lecture/discussion—3 hours; project. Global, comparative study of how environmental change, human perceptions of nature, and manipulations of nature have changed over time. Primary focus post-1500, emphasis on critically analyzing many common ideas of environmental change. GE Credit: ArtHum, SocSci.—II. (II.) Davis

*(new course—eff. winter 10)*

##### 109B. Environmental History of Disease and Public Health (4)

Lecture/discussion—3 hours; project. Restriction to upper division standing. Disease from prehistory to the present in global perspective; the origins of pathogens in human manipulations of the environment and how people and governments have mobilized to contain or eliminate them.—III. (III.) Davis

*(new course—eff. fall 10)*

##### 110. Themes in World History (4)

Lecture—3 hours; term paper. Prerequisite: upper division standing. Issues and topics in world history. Topics will emphasize the interaction of diverse regions of the world as well as common patterns of historical change. May be repeated for credit if topic and/or instructor differs. GE Credit: ArtHum or SocSci, Div, Wrt.

*(change in existing course—eff. fall 08)*

##### 115A. History of West Africa (4)

Lecture—3 hours; term paper. Prerequisite: course 15 recommended. Introductory survey of the history of West Africa and/or the Congo region from the earliest times to the present. Offered in alternate years. GE credit: ArtHum, Div, Wrt.—Lawrance

*(change in existing course—eff. fall 08)*

##### 115B. History of East and Central Africa (4)

Lecture—3 hours; term paper. Prerequisite: course 15 recommended. Introductory survey of the history of east and central Africa from earliest times to the present. GE credit: ArtHum, Div, Wrt.—Lawrance

*(change in existing course—eff. fall 08)*

##### 115C. History of Southern Africa (4)

Lecture—3 hours; term paper. Prerequisite: course 15 recommended. Introductory survey of the history of Southern Africa (including South Africa) from earliest times to the present. GE credit: ArtHum, Div, Wrt.—Lawrance

*(change in existing course—eff. fall 08)*

##### 115F. History of North, Horn, Sudan and Nile Valley (North and North-East Africa) (4)

Lecture—4 hours; term paper. This course shall investigate the history of the north and northeast regions of continental Africa, encompassing the Mediterranean Coast, Maghreb, Sahara, Horn of Africa, the Nile Valley and the Sudan, covering the ancient period to the present. May be repeated up to four units for credit when instructor differs. GE Credit: ArtHum or SocSci, Div, Wrt.—I, III. (I, III.) El Shakry, Lawrance

*(change in existing course—eff. fall 08)*

##### 161A. History of Colonial Spanish America (4)

*(cancelled course—eff. fall 10)*

##### 161B. Latin American History (4)

*(cancelled course—eff. fall 10)*

##### 177A. History of Black People and American Race Relations, 1450-1860 (4)

Lecture—3 hours; term paper. History of black people in the United States from the African background to Reconstruction. GE credit: ArtHum or SocSci, Div, Wrt.—I. (I.) C.E. Walker

*(change in existing course—eff. winter 10)*

##### 177B. History of Black People and American Race Relations, 1860-Present (4)

Lecture—3 hours; term paper. History of black people and race relations from 1860-present. Emphasis on Civil War, Reconstruction, Segregation, Age of Accommodation, black nationalism, urbanization, civil rights, and changing ideology of race relations. GE credit: ArtHum or SocSci, Div, Wrt.—II. (II.) Materson, C.E. Walker

*(change in existing course—eff. winter 10)*

##### 178A. Race in America, 1492-1865 (4)

Lecture—4 hours. Prerequisite: course 17A or 17B or course 177A or 177B. Racial formation during the Age of Discovery, the Colonial Period, Early National and Antebellum periods up to the Civil War. Not open for credit to students who have completed course 178. Offered in alternate years. GE credit: ArtHum, Div, Wrt.—III. C.E. Walker

*(change in existing course—eff. spring 03)*

##### 178B. Race in America, 1865-Present (4)

Lecture—3 hours; term paper. Racial Formation in the Post Civil War. United States from 1860 to the present. Offered in alternate years. GE credit: ArtHum or SocSci, Div, Wrt.—II. C.E. Walker

*(change in existing course—eff. winter 10)*

##### 179. Asian American History, 1850-Present (4)

Lecture—3 hours; term paper. Prerequisite: upper division standing recommended. The historical experience of people of Asian ancestry in the United States from the mid-nineteenth century to the present. Migration, labor, community formation, race relations, women and gender, popular culture. GE Credit: Div, SocSci, Wri.—Tsu

*(change in existing course—eff. fall 07)*

##### 179. Asian American History, 1850-present (4)

Lecture—3 hours; term paper. Prerequisite: upper division standing recommended. The historical experience of people of Asian ancestry in the United States from the mid-nineteenth century to the present. Migration, labor, community formation, race relations, women and gender, popular culture. GE Credit: Div, SocSci, Wri.—Tsu

*(new course—eff. fall 07)*

##### 190A. Middle Eastern History I: The Rise of Islam, 600-1000 (4)

Lecture—3 hours; extensive writing. Middle Eastern history from the rise of Islam to the disintegration of the Abbasid Caliphate; the formative centuries of a civilization. Politics and religion, conquest and conversion, arts and sciences, Christians, Jews and Muslims, gender and sexuality, orthodox and heterodoxy. Offered in alternate years. GE credit: ArtHum or SocSci, Div, Wrt.—(I.) Tezcan

*(change in existing course—eff. fall 10)*

##### 190B. Middle Eastern History II: The Age of the Crusades, 1001-1400 (4)

Lecture—3 hours; extensive writing. Middle Eastern history during the age of the Crusades and Mongol invasions. The idea of holy war, the Crusades, the Mongols as the bearers of Chinese arts, nomads and sedentary life, feudalism, mysticism, slavery,

women in the medieval Middle East. Offered in alternate years. GE credit: ArtHum or SocSci, Div, Wrt.—(I.) Tezcan

*(change in existing course—eff. fall 10)*

##### 190C. Middle Eastern History III: The Ottomans, 1401-1730 (4)

Lecture—3 hours; extensive writing. Middle Eastern history from the foundation of the Ottoman Empire on the borderlands of Byzantine Anatolia through its expansion into Europe, Asia, and Africa, creating a new cultural synthesis including the Arab, Greek, Islamic, Mongol, Persian, Slavic, and Turkish traditions. Offered in alternate years. GE credit: ArtHum or SocSci, Div, Wrt.—(II.) Tezcan

*(change in existing course—eff. fall 10)*

##### 190D. Middle Eastern History IV: Safavids Iran, 1300-1720 (4)

Lecture—3 hours; term paper. Middle Eastern history focusing on Safavid Empire (present-day Iran, Iraq, Afghanistan, up to Georgia), beginning with the origins of the dynasty as a powerful religious family, to the establishment of the Empire, focusing on Social, Religious, Economic, and Political History. Offered in alternate years. GE credit: ArtHum, Div, Wrt.—II. Anooshahr

*(new course—eff. fall 10)*

##### 193C. Environment and Development in the Middle East (4)

Lecture/discussion—3 hours; project. Prerequisite: upper division standing recommended. Examines Middle East environment and human use of nature over last 10,000 years. Discussion of colonial and contemporary environment and development planning and politics. Case studies include Egypt, the Maghreb, Palestine/Israel on rivers, desertification, national parks indigenous knowledge, etc. GE Credit: ArtHum, SocSci.—II. (II.) Davis

*(new course—eff. winter 10)*

## Horticulture

### New and changed courses in Horticulture (HRT)

#### Graduate Course

##### 251. Modeling Horticultural Systems (4)

Lecture—3 hours; laboratory—3 hours. Prerequisite: Plant Sciences 142, calculus, or consent of instructor. Development and application of models. Emphasis on physiological and ecological models, with examples from areas of interest to class participants. Applications to horticultural systems.—II. (II.) Lieth

*(change in existing course—eff. fall 08)*

## Human Development

### New and changed courses in Human Development (HDE)

#### Lower Division Course

##### 12. Human Sexuality (3)

Lecture—3 hours. Vocabulary, structure/function of reproductive system; sexual response; pre-natal development; pregnancy and childbirth; development of sexuality; rape and sexual assault; birth control; sexually transmitted diseases; homosexuality; establishing/maintaining intimacy; sexual dysfunctions; communication; enhancing sexual interaction, cultural differences in attitudes towards sexuality. GE credit: Div.—I, III. (I, III.)

*(change in existing course—eff. spring 01)*

## Upper Division Courses

### 117. Longevity (4)

Lecture—3 hours; term paper. Prerequisite: upper division standing or consent of instructor. Nature, origin, determinants, and limits of longevity with particular reference to humans; emphasis on implications of findings from non-human model systems including natural history, ecology and evolution of life span; description of basic demographic techniques including life table methods. (Same course as Entomology 117.) GE credit: SciEng, Wrt.—II. (II.) Carey

*(change in existing course—eff. fall 00)*

### 120. Research Methods in Human Development (4)

Lecture—3 hours; laboratory—3 hours. Prerequisite: course 100A or 100B; Statistics 13 or Education 114 or Psychology 41 or Sociology 46A and 46B. Scientific view of Human Development; origins of scientific inquiry; research strategies; preparation for conducting research; descriptive statistics and statistical inference (hypothesis testing); Statistical analysis and understanding results. Major emphasis on experimentation, collecting data, and analyzing results.—II, III. (II, III.) Acredolo, Barton

*(change in existing course—eff. winter 01)*

### 140. Communication and Interaction with Young Children (2)

Lecture—2 hours. Prerequisite: course 100A; concurrent enrollment in course 140L required; consent of instructor. Integration of research, theory and practice in child development, emphasizing the role of relationships in creating a growth-promoting environment for young children. Includes: peer relationships, emotional understanding and self regulation, attachment, communication and school readiness. To enroll, students must sign up for laboratory time at the Child and Family Studies Center located at 244 First Street, Davis, CA.—I, II, III. (I, II, III.) Chen

*(change in existing course—eff. winter 09)*

### 140L. Laboratory in Early Childhood (3-5)

Laboratory—6-15 hours; laboratory/discussion—3 hours. Prerequisite: course 140, must be taken concurrently for first 3 units of credit; students must contact the Center for Child and Family Studies to enroll. Application of theories of learning and development to interaction with infants, toddlers, and preschoolers at Early Childhood Laboratory. Applied skills in communication, guidance and curriculum. Limited enrollment. May be repeated two times for credit. (P/NP grading only.)—I, II, III. (I, II, III.) Chen

*(change in existing course—eff. winter 09)*

### 143. Field Studies of the Elderly (4-6)

Discussion—2 hours; field work—6-12 hours. Prerequisite: course 100C or 160 may be taken concurrently. Apply theory and research on adult development and aging, work with older adults in a variety of settings, and develop skills relevant to that application. Develop a small research project.—I. (I.) Ober

*(change in existing course—eff. fall 97)*

### 161. Applied Cognition and Aging (4)

Lecture/discussion—4 hours. Prerequisite: introductory social sciences course, Human Development, Psychology 1, Education, or a related social science, or permission of instructor. Principles from cognition and aging and applies these to real-world concerns in areas including education, technology, job performance, and health. Considers physical and social changes in later life that impact functioning. Offered in alternate years. GE Credit: SocSci, Wrt.—(I.) Miller

*(new course—eff. spring 09)*

## Graduate Courses

### 205. Path Analysis, Factor Analysis, and Structural Equation Modeling (4)

Lecture—4 hours. Prerequisite: Psychology 204B or equivalent graduate courses in statistics or permission of the instructor; familiarity with multiple regression and the basics of matrix algebra. Graduate standing in HDGG, Psychology, Sociology, Education, or a related social science, or permission of the instructor. Introduction of basic concepts, principles, and applications of structural equation modeling including path analysis, confirmatory factor analysis, multiple-group modeling, and latent growth curve modeling. Offered in alternate years.—(I.) Masyn

*(new course—eff. fall 07)*

### 206. Cross-Sectional Data Analysis with Categorical Observed and Latent Variables (4)

Lecture—4 hours. Prerequisite: Psychology 204B or equivalent graduate courses in statistics or permission of the instructor; familiarity with multiple linear regression; restricted to Graduate standing in HDGG, Psychology, Sociology, Education, or a related social science, or permission of the instructor. Introduction to basic concepts, principles, and applications of: contingency table analysis; binary, multinomial, and ordinal logistic regression; latent class analysis; and latent trait analysis. Offered in alternate years.—II. (II.) Masyn

*(new course—eff. winter 09)*

### 207. Topics in Applied Cognitive Aging (4)

Lecture/discussion—2 hours. Prerequisite: graduate standing in Human Development Graduate Group, Psychology, Education, or a related social science, or consent of the instructor. Apply principles from cognitive aging to real-world concerns in areas such as education, technology, job performance, and health. Examine how physical and social changes occurring in later life impact functioning. Offered in alternate years.—I. Miller

*(new course—eff. winter 09)*

### 211. Physiological Correlates of Behavioral Development (4)

Seminar—4 hours. Prerequisite: consent of instructor. An overview of mechanisms of organismic development and the implications of developmental biology for the analysis of behavioral ontogeny; consideration of parallels between processes of organismic development and behavioral development in children and infra-human mammals. Offered in alternate years.—III. Harper

*(change in existing course—eff. spring 09)*

### 234. Children's Learning and Thinking (3)

Seminar—3 hours. Prerequisite: course 200A or Psychology 212 recommended. Analysis of theories, research methods, and major findings of children's higher-order cognition, including origins of knowledge, development of problem-solving skills, reasoning strategies, and scientific concepts, with an emphasis on the underlying mechanism involved in children's thinking and learning processes. Offered in alternate years.—I. Chen

*(change in existing course—eff. fall 00)*

### 239. Developmental Trajectories in Typical and Atypical Children; Birth to Five (4)

Lecture/discussion—3 hours; term paper. Prerequisite: graduate standing in Human Development, Psychology, Sociology, a related social science, or permission of the instructor. Discuss theories of development in typical and atypical children from birth to five from a socio-cultural perspective including parent-child interaction, peer interactions, cultural contexts of learning, as well as theoretical and empirical issues for understanding continuities and discontinuities in development. Offered in alternate years.—III. Mastergeorge

*(new course—eff. winter 07)*

## Humanities

### New and changed courses in Humanities (HUM)

#### Lower Division Courses

##### 2A. Global Humanities Forum (4)

Lecture—3 hours; extensive writing. Introduction to humanities topics and methodologies; analysis of major figures, works, and genres in world arts and literatures, with emphasis on relationships between history, society, and culture. May be repeated one time for credit if topic differs. GE Credit: ArtHum.—I, II, III. (I, II, III.)

*(new course—eff. fall 10)*

##### 2B. American Humanities Forum (4)

Lecture—3 hours; extensive writing. Introduction to humanities topics and methodologies; analysis of major figures, works, and genres in American arts and literatures, with emphasis on relationships between history, society, and culture. May be repeated one time for credit if topic differs. GE Credit: ArtHum.—I, II, III. (I, II, III.)

*(new course—eff. fall 10)*

##### 5. Representation of the Law in Literature and Film (5)

*(cancelled course—eff. fall 10)*

##### 6. Wagner and Star Wars (4)

*(cancelled course—eff. fall 10)*

##### 11. Shakespeare in Performance (4)

*(cancelled course—eff. fall 10)*

##### 12. History of the Book (4)

*(cancelled course—eff. fall 10)*

##### 18. Performance and the 21st Century (4)

Lecture/discussion—3 hours; extensive writing. Live performance and globalization in the twenty-first century. Consideration of the cultural context of performing arts and artists including their methods of creativity. GE credit: ArtHum or SocSci, Div, Wrt.

*(change in existing course—eff. fall 07)*

##### 40. Introduction to Computing in the Humanities (4)

*(cancelled course—eff. fall 10)*

## Upper Division Courses

### 113. Goethe's Faust (4)

*(cancelled course—eff. fall 10)*

### 140. Advanced Computing in the Humanities (4)

*(cancelled course—eff. fall 10)*

### 145. The Literature of Deviance: Mann, Hesse, Kafka (4)

*(cancelled course—eff. fall 10)*

## Hydrologic Science

### New and changed courses in Hydrologic Science (HYD)

#### Lower Division Course

##### 10. Water, Power, Society (3)

Lecture—2 hours; discussion—1 hour. Water resources issues. How water has been used to gain and wield socio-political power. Water resources development in California as related to current and future sustainability of water quantity and quality. Roles of science and policy in solving water problems. (Same course as Science and Society 10.) GE credit: SciEng or SocSci, Wrt.—III. (III.) Fogg

*(change in existing course—eff. spring 05)*

## Upper Division Courses

### 110. Irrigation Principles and Practices (3)

Lecture—2 hours; laboratory—3 hours. Prerequisite: Physics 7A; Soil Science 100 recommended. General course for agricultural and engineering students dealing with soil and plant aspects of irrigation and drainage. Soil-water principles including water movement, plant responses to irrigation regimes, water use by crops; also irrigation systems and water quality. Offered in alternate years. Not open for credit to students who have completed Water Science 110.—(III.) Goldhamer, Grattan  
(change in existing course—eff. fall 09)

### 110A. Irrigation Principles and Practices (3)

(cancelled course—eff. fall 09)

### 134. Aqueous Geochemistry (6)

Lecture—4 hours; laboratory—3 hours. Prerequisite: Chemistry 2B. Chemistry of natural waters; dielectric properties of water; thermodynamic and mass-action relations; metal hydrolysis; acid-base equilibria; metal-coordination chemistry; solubility calculations; electron-exchange reactions; sorptive partitioning; ion exchange; and dissolved organic matter.—III. (III.) Hernes, Parikh  
(change in existing course—eff. fall 09)

## Immunology

### New and changed courses in Immunology (IMM)

#### Graduate Course

### 204. Topics in Innate Immunity (2)

Extensive writing or discussion—1 hour; performance instruction—1 hour. Prerequisite: course 201 or equivalent; course 293 preferred. Restricted to first- or second-year GGI and MGG students; others with permission of instructor. Enrollment limited to 18 students. Covers current topics in the field of innate immunity through student seminar presentations and critical evaluation of the literature. Concepts include: pathogen recognition, intercellular communication, specialized cellular function and effector/signaling molecules. Offered in alternate years.—(IV.) Bevins  
(cancelled course—eff. spring 10)

## International Commercial Law (A Graduate Group)

### New and changed courses in International Commercial Law (A Graduate Group) (ICL)

#### Graduate Courses

### 202. Introduction to Contracts (4)

Lecture/discussion—20 hours. Prerequisite: Law school education or the equivalent. Examines sorts of promises that are enforced and the nature of protection given promissory obligations in both commercial and noncommercial transactions. Inquiry is made into the means by which traditional doctrine adjusts to changing social demands. Offered irregularly.—IV.  
(new course—eff. fall 09)

### 203. Civil Procedure (2)

Lecture/discussion—20 hours. Prerequisite: Law school education or the equivalent. Study of the fundamental and recurrent problems in civil actions

including the methods used by federal and state courts to resolve civil disputes. Offered irregularly.—IV.

(new course—eff. fall 09)

### 205. Introduction to Constitutional Law (4)

Lecture/discussion—20 hours. Prerequisite: Law school education or the equivalent. Principles, doctrines and controversies regarding the structure and division of powers in American government. Includes judicial review, jurisdiction, standing to sue, federalism, federal and state powers and immunities, and the separation of powers among branches of the federal government. Offered irregularly.—IV.  
(new course—eff. fall 09)

### 212. Introduction to Negotiation (2)

Lecture/discussion—20 hours. Prerequisite: Law school education or the equivalent. Introduction to theoretical and empirical approaches to negotiation for the purposes of making deals and resolving legal disputes. Offered irregularly.—IV.  
(new course—eff. fall 09)

### 214. Advanced Negotiation (2)

Lecture/discussion—20 hours. Prerequisite: Law school education or the equivalent. Principles and empirical approaches to advanced negotiations including negotiation framework, models, styles, multiple party/issue negotiations and settlements. Offered irregularly.—IV.  
(new course—eff. fall 09)

### 217. Alternative Dispute Resolution (2)

Lecture/discussion—20 hours. Prerequisite: Law school education or the equivalent. Introduces students to a wide variety of alternative dispute resolution procedures, with an in-depth emphasis on negotiation, mediation and arbitration. Offered irregularly.—IV.  
(new course—eff. fall 09)

### 229. Criminal Procedure (2)

Lecture/discussion—20 hours. Prerequisite: Law school education or equivalent. Federal constitutional limits on government authority to gather evidence and investigate crime. Includes Fourth Amendment limits on search, seizure, and arrest; Fifth Amendment privilege against self-incrimination; Sixth Amendment right to counsel. Not offered every year.—IV.  
(new course—eff. summer 09)

### 239. Mediation (2)

Lecture/discussion—20 hours. Prerequisite: Law school education or the equivalent. Introduction to the mediation process. Development of communication skills, the ability to analyze disputes, to understand why mediations succeed or fail, and understand the advantages and limitations of mediation as a method of resolving disputes. Offered irregularly.—IV.  
(new course—eff. fall 09)

### 285. Environmental Law (2)

Lecture/discussion—20 hours. Prerequisite: Law school education or the equivalent. Introduction to federal and state environmental law. Historical development of environmental law; the role of courts, the legislature and the executive branch in the development and implementation of environmental policy. Review of major statutes. Offered irregularly.—IV.  
(new course—eff. fall 09)

### 292. International Commercial Law Seminar (4)

Lecture/discussion—20 hours. Prerequisite: Law school education or the equivalent. Advanced seminar in a current topic in International Commercial Law. The topic will change each year the course is offered. Offered irregularly. May be repeated one time for credit.—IV.  
(new course—eff. fall 09)

## Italian

### New and changed courses in Italian (ITA)

#### Lower Division Course

### 121. New Italian Cinema (4)

Lecture/discussion—3 hours; film viewing—3 hours. Prerequisite: course 1 and upper-division standing, or consent of instructor. Italian cinema of the 21st century in the context of profound cultural and social changes in Italy since World War II. Productions by representative directors such as Amelio, Giordana, Moretti, Muccino are included. Knowledge of Italian not required. Offered in alternate years. (Same course as Film Studies 121.) GE credit: ArtHum, Div, Wrt.—III. Heyer-Caput  
(new course—eff. fall 08)

### 141. Gender and Interpretation in the Renaissance (4)

Lecture/discussion—3 hours; term paper. Prerequisite: completion of Subject A requirement, at least one course in literature, or consent of instructor. Critical analysis of Renaissance texts with primary focus on issues such as human dignity, education and gender politics; “high” and “low” culture and its relation to literary practices. (Same course as Comparative Literature 138.) GE credit: ArtHum, Div, Wrt.—I. (I.) Schiesari  
(change in existing course—eff. fall 09)

#### Professional Course

### 396. Teaching Assistant Training Practicum (1-4)

Prerequisite: graduate standing. May be repeated for credit. (S/U grading only.)—I, II, III. (I, II, III.)  
(new course—eff. fall 08)

## Landscape Architecture

### New and changed courses in Landscape Architecture (LDA)

#### Lower Division Course

### 1. Landscape Meaning (4)

Lecture-3 hours; discussion-1 hour. Overview of the meaning of landscapes as manifested in designed and natural landscapes, everyday and sacred environments, parks, plazas, community gardens and found spaces. Introduction to the profession of landscape architecture and methods used to design, plan and manage landscapes. Not open for credit to students who have taken course 40. GE credit: ArtHum or SocSci, Wrt.—I. (I.)  
(change in existing course—eff. fall 08)

#### Upper Division Course

### 180F. Special Topics in Landscape Architecture: Landscape Ecology (2)

Lecture—2 hours. Prerequisite: course 50 or an introductory course in Ecology. Theories, major concepts and research methods of landscape ecology. Spatial structure, function and dynamics of various landscape types. Biological conservation, ecological restoration, and landscape planning, design, and management. Not open for credit to students who have taken Landscape Architecture 183. Offered in alternate years.—II. Collinge  
(change in existing course—eff. fall 08)



## Graduate Course

### 200. Citizenship, Democracy, & Public Space (4)

Seminar—4 hours. Prerequisite: graduate standing or consent of instructor. Introduction to seminal works in political theory, philosophy, and the social sciences that focus on citizenship and the public sphere; development of critical perspective regarding restructuring of public space in a pluralistic and global culture; discussion of contemporary case studies—III. (III.) Rios

(new course—eff. fall 08)

## Law

### New and changed courses in Law (LAW)

#### Graduate Courses

**212. Law and the Mental Health System (3)**  
(cancelled course—eff. spring 10)

#### 219. Evidence (3)

Discussion—3 hours. Covers rules regarding the admissibility of testimonial and documentary proof during trial of civil and criminal cases, including rules governing relevancy, hearsay, the examination and impeachment of witnesses, expert opinion, and constitutional and statutory privileges.

(change in existing course—eff. winter 10)

#### 219T. Advanced Evidence (3)

Discussion—3 hours. Prerequisite: course 219. Limited to six students; selected by professor. Limited to six students; selected by professor. Interested students complete an application form; available in the Law Registrar's Office. Credit is contingent on attending all classes and participating in all exercises. Participation is crucial to the success of the course, as students will be working in teams of three. Do not take this course unless you are willing and able to participate fully and can accept criticism. Public interest lawyers often spend much time in the courtroom. Prosecution, defender, and legal aid offices usually don't have resources to train lawyers in trial work. Course seeks to help remedy this deficiency by helping develop witness interrogation skills. (S/U grading only.)

(change in existing course—eff. fall 10)

#### 220A. Federal Income Taxation (3)

Discussion—3 hours. Surveys the federal income tax system, with consideration of the nature of income, when and to whom income is taxable, exclusions from the tax base, deductions and credits, and tax consequences of property ownership and disposition.

(new course—eff. fall 09)

#### 222. Critical Race Theory Seminar (3)

Discussion—3 hours. Examines race relations and racial discrimination in America through the perspectives of proponents of the Critical Race Theory movement ("CRT"), a collection of legal scholars who challenge both conservative and liberal political orthodoxies.

(change in existing course—eff. fall 08)

#### 226T. Topics in Disability Rights (2)

Seminar—20 hours. Focuses on the Americans with Disabilities Act (ADA) as it applies to employment, higher education, public accommodations, and government services and programs. (P/NP grading only.)

(new course—eff. fall 09)

#### 228A. Mergers and Acquisitions Law (3)

Discussion—2 hours. Prerequisite: course 215. Takes a practical approach to mergers and acquisitions, with an in-depth look at the planning, negotiation and completion of mergers and acquisitions.

(change in existing course—eff. fall 08)

#### 231A. Sexual Orientation, Gender Identity, and the Law (2)

Discussion—2 hours. Examines the legal and social regulation of sexual orientation and gender identity.

(change in existing course—eff. winter 10)

#### 233. Refugee Law Seminar (2)

(cancelled course—eff. spring 10)

#### 235A. Seminar in Administrative Law (2)

(cancelled course—eff. spring 10)

#### 236A. Securities Regulation (3)

Discussion—3 hours. Prerequisite: course 215 or consent of instructor. Legal rules and concepts applicable to business associations, both public and closely held. Corporate form of organization, partnerships and other associational forms.

(change in existing course—eff. fall 08)

#### 238. Tax Strategies of Business (2)

(cancelled course—eff. spring 10)

#### 241. Law and Psychiatry (2)

(cancelled course—eff. spring 09)

#### 241T. Voting Rights Act Seminar (2)

Seminar—2 hours. Explores the Voting Rights Act of 1965, its subsequent amendments, and litigation brought under or in reaction to the Act.

(new course—eff. spring 09)

#### 245. Corporate and White Collar Crime (3)

Discussion—3 hours. The law of conspiracy, corporate criminal liability, mail and wire fraud, RICO, money laundering, and other business and environmental crimes and associated defenses.

(change in existing course—eff. winter 10)

#### 245T. Death Penalty Seminar (2)

(cancelled course—eff. fall 06)

#### 247. Taxation of Partnerships and LLCs (3)

Discussion—3 hours. Prerequisite: course 220. The federal income taxation of business entities whose owners are taxed on the income, deductions and losses of the entity on a pass-through basis.

(change in existing course—eff. fall 08)

#### 247A. International Aspects of U.S. Taxation (3)

Discussion—3 hours. Prerequisite: course 220. Completion or current enrollment in a course covering the domestic taxation of corporations is suggested but not required. Corporate Tax may be taken concurrently. Examine the U.S. income tax laws and policies related to the taxation of foreign income of U.S. persons and U.S. income of foreign person.

(new course—eff. fall 08)

#### 247B. Corporate Tax (2)

Discussion/laboratory—2 hours. Examination of the federal income tax relationship between corporations and their owners. Covers the transfer of funds into a corporation on formation and the re-transfer of money and property from the corporation to its shareholders.

(change in existing course—eff. winter 10)

#### 248B. International Human Rights & Transitional Justice (3)

Discussion—3 hours. Study in international law respecting the protection of individuals from harm, both by the state and, increasingly, by other individuals.

(change in existing course—eff. fall 09)

#### 248F. Labor and Global Economy Seminar (2)

(cancelled course—eff. spring 10)

#### 248TT. Theories of International Law (2)

Discussion—2 hours. International law, once critiqued as powerless and ineffective, is now challenged as a threat to American democracy. Introduction to competing theories of international law, including natural law, positivism, realism, liberalism, constructivism, fairness, legal process, and world public order.

(change in existing course—eff. winter 10)

#### 250. Jurisprudence Seminar (2)

Seminar—2 hours. Deals principally with the question of how judges should decide "hard cases," where the content of the law is in doubt and competent arguments have or could be offered for mutually inconsistent decisions in favor of either party. Limited enrollment.

(change in existing course—eff. fall 08)

#### 251AT. Labor Law II (2)

(cancelled course—eff. winter 10)

#### 251T. Labor Law I (2)

Discussion—2 hours. Restricted to students who previously took Labor Law in Fall 2008 may not enroll in Labor Law I. Survey of the legislative, administrative, and judicial regulation of labor relations under federal law.

(new course—eff. fall 09)

#### 251TB. Labor Law II (2)

Discussion—2 hours. Prerequisite: course 251T preferred; not required. Survey of the legislative, administrative, and judicial regulation of labor relations under federal law.

(change in existing course—eff. winter 10)

#### 253. Products Liability (3)

(cancelled course—eff. spring 10)

#### 254A. Law and Rural Livelihoods Seminar (2)

Seminar—2 hours. Provides broad overview of law as it relates and applies to rural people and places.

(new course—eff. winter 10)

#### 259T. Women, Islam and the Law (2)

(cancelled course—eff. spring 10)

#### 260. Employment Discrimination (3)

Discussion—3 hours. Examine federal laws prohibiting employment discrimination, including Title VII of the Civil Rights Act of 1964, the Equal Pay Act, the Age Discrimination in Employment Act, the Americans with Disabilities Act, the Rehabilitation Act of 1973, and § 1981.

(change in existing course—eff. fall 08)

#### 262. Antitrust (3)

Discussion—3 hours. Focus of the course is the federal antitrust laws, concentrating on basic substantive areas of the Sherman and Clayton Acts.

(change in existing course—eff. fall 08)

#### 264. Water Law (2)

Discussion—2 hours. Property rights in surface waters, including riparian rights, prior appropriation, and public rights use of water bodies; environmental constraints on exercise of water rights; groundwater rights and management; federal allocation and control of water resources; legal aspects of interstate allocation.

(cancelled course—eff. spring 09)

#### 265. Natural Resources Law Seminar (2)

Seminar—2 hours. Topic varies each year. This year, we will take a close look at the challenges of managing the Sacramento-San Joaquin Delta, which is both

the most important estuary on the west coast and the hub of California's water delivery system. Limited enrollment.

*(change in existing course—eff. fall 08)*

**266A. Law of E-Commerce (3)**

Discussion—3 hours. Emerging legal issues crucial to the conduct of business in cyberspace. Discussion of the evolution and current administration of the Internet and the World Wide Web.

*(change in existing course—eff. winter 10)*

**267. Civil Rights Law (3)**

Discussion—4 hours. Civil remedies for civil rights violations under the primary United States civil rights statute. Specifically, covers actions for constitutional and statutory violations under 42 USC §1983, affirmative defenses, and abstention doctrines.

*(change in existing course—eff. fall 08)*

**268. Jewish Law Seminar (2)**

*(cancelled course—eff. spring 10)*

**269C. Corporate Finance (3)**

*(cancelled course—eff. spring 10)*

**269T. Law of Financial Markets (2)**

Discussion—2 hours. Introduction to the legal and regulatory issues presented by contemporary capital markets.

*(new course—eff. spring 10)*

**271. Nonprofit Organizations and Drafting (3)**

Discussion—4 hours. Prerequisite: course 215 or consent of instructor. Legal rules and concepts applicable to nonprofit organizations.

*(change in existing course—eff. winter 10)*

**272. Family Law (3)**

Discussion—3 hours. An introduction to the legal regulation of the family.

*(change in existing course—eff. fall 08)*

**272B. Elder Law (2)**

*(cancelled course—eff. spring 10)*

**273N. Advanced Torts (3)**

*(cancelled course—eff. spring 10)*

**274A. International Intellectual Property (2)**

Discussion—3 hours. Prerequisite: prior or concurrent enrollment in course 274. Surveys the international aspects of copyright, patent and trademark law, including a look at basic international instruments, such as the Paris Convention, the Berne Convention, and Trade Related Aspects of Intellectual Property Rights of the World Trade Organization.

*(change in existing course—eff. fall 08)*

**274C. Intellectual Property in Cyberspace Seminar (2)**

*(cancelled course—eff. spring 10)*

**275. Complex Litigation (2)**

Discussion—3 hours. Issues that frequently arise in large complex litigation involving multiple parties and multiple claims.

*(change in existing course—eff. winter 10)*

**280. Advanced Legal Writing: Analytical & Persuasive Writing (2)**

Seminar—2 hours. Prerequisite: consent of instructor. Develop essay writing skills and performance test drafting typically employed on the bar examination. (S/U grading only.)

*(change in existing course—eff. winter 09)*

**280T. Advanced Legal Writing: Analytical & Persuasive Writing (2)**

*(cancelled course—eff. spring 10)*

**284A. Law and Economic Development (2)**

*(cancelled course—eff. spring 10)*

**285T. California Environmental Issues Seminar (2)**

Seminar—2 hours. The hem atop at ho logy of California has for many years been a national and global leader in environmental law and policy. Survey of key California environmental law and policy issues.

*(change in existing course—eff. winter 10)*

**286. Health Care Law (3)**

Discussion—3 hours. Addresses legal issues raised in three general areas: access to health care, health care financing, and quality of care. Course materials and discussion will focus on both public and private aspects of these issue areas.

*(change in existing course—eff. winter 10)*

**286B. Public Health Law (2)**

Discussion—2 hours. Restricted to 15 students. Public health law, seen broadly, is the government's power and responsibility to ensure the conditions for the population's health.

*(change in existing course—eff. fall 09)*

**286E. Reproductive Rights, Law, and Policy (2)**

Seminar—2 hours. Addresses a variety of laws and practices that affect reproductive health and procreative decision making. Limited enrollment.

*(change in existing course—eff. fall 08)*

**288. Advanced Constitutional Law Seminar (2)**

Seminar—2 hours. Prerequisite: Prior or concurrent enrollment in course 218 or 218A. Explores in-depth selected topics or problems in constitutional law and theory. Current focus is on the interpretation and application of the religion clauses of the First Amendment. Limited enrollment.

*(change in existing course—eff. fall 08)*

**288A. Comparative Constitutional Law Seminar (2)**

*(cancelled course—eff. spring 10)*

**296A. Advanced Copyright and Related Doctrines (2)**

*(cancelled course—eff. spring 10)*

**296C. Fictional Characters and Real People (2)**

*(cancelled course—eff. spring 10)*

**296T. Right of Publicity and Related Doctrines (2)**

*(cancelled course—eff. fall 08)*

**Professional Courses**

**400A. Study Abroad—University College Dublin, Ireland (12)**

Independent study. Students must apply and be accepted into the International Study Abroad Program. Semester away study abroad at the University College Dublin, Ireland. Enhance knowledge of international legal regimes and obtain a global legal educational experience. (S/U grading only.)

*(new course—eff. spring 08)*

**400B. Study Abroad—University of Copenhagen, Denmark (12)**

Independent study. Students must apply and be accepted into the International Study Abroad Program. Semester study abroad at the University of Copenhagen, Denmark. Enhance knowledge of international legal regimes and obtain a global legal educational experience. (S/U grading only.)

*(new course—eff. summer 08)*

**400C. Study Abroad—China University of Political Science and Law (12)**

Independent study. Students must apply and be accepted into the International Study Abroad Program. Semester-away study abroad at the China

University of Political Science and Law. Enhance knowledge of international legal regimes and obtain a global legal educational experience.

*(new course—eff. spring 08)*

**410A. Appellate Advocacy I (2)**

Discussion/laboratory. Basic appellate practice and procedure. Beginning instruction in oral advocacy skills and an opportunity to practice these skills in front of a moot court. Limited enrollment. (S/U grading only.)

*(change in existing course—eff. fall 08)*

**410B. Appellate Advocacy II (Moot Court) (2)**

Practice—2 hours. Continuation of course 410A. Focuses on the development of effective appellate brief writing skills and the refinement of oral advocacy skills. Limited enrollment. (S/U grading only.)

*(change in existing course—eff. fall 08)*

**416. Law Review Writer (1-3)**

The writing of a law review article under the editorial supervision of editors of the UC Davis Law Review. Office hours (including but not limited to Bluebooking and cite-checking) are required. 1 or 2 units, maximum 3 total units. In the spring semester, credit is obtained only upon achieving status as a member of the UC Davis Law Review, which requires that the student has made substantial progress towards completing an editorship article. Credit is awarded only after certification by the editor in chief and approval of the faculty advisors. One unit of credit is earned the first semester. Two units are earned the second semester upon nomination and acceptance of nomination to the Editorial Board. One unit is earned second semester if only a membership draft and office hours are completed. May be repeated for credit. (S/U grading only.)

*(change in existing course—eff. fall 08)*

**420. Civil Rights Clinic (2-6)**

Clinical activity. Prerequisite: prior or concurrent enrollment in course 219; priority given to students enrolled in or have taken course 267. Clinic provides practical experience in providing legal services to indigent clients who have filed civil rights actions in state and federal trial and appellate courts. Students work on clinic cases under the supervision of the clinic director. Limited enrollment. May be repeated for credit. (S/U grading only.)

*(change in existing course—eff. fall 08)*

**465. Intellectual Property Externship (2-6)**

Clinical activity. Prerequisite: course 293 and Comparative Public Services recommended. Opportunity to work for government, academic, and nonprofit entities. (S/U grading only.)

*(new course—eff. winter 10)*

**475. Washington UC-DC Law Program (10)**

Clinical activity—10 hours. Open to 2L and 3L students. Uniquely collaborative externship program in Washington, D.C., combining weekly seminars with full-time field placement offering students an unparalleled opportunity to learn how federal statutes, regulations, and policies are made, changed, and understood in the nation's capital. (S/U grading only.)

*(new course—eff. winter 10)*

**495. Legal Research and Writing I (2)**

Discussion—2 hours. Integrated legal research and writing skills course. Basic legal research resources and strategies are introduced and practiced. (S/U grading only.)

*(new course—eff. summer 08)*

**499C. Joint Degree Student-GSM (10)**

Joint degree course for graduate School of Management students. (S/U grading only.)

*(new course—eff. spring 09)*

## Linguistics

### New and changed courses in Linguistics (LIN)

#### Upper Division Courses

##### 141. Semantics (4)

Lecture—3 hours; term paper. Prerequisite: course 103B. The linguistic study of meanings of words and phrases. Meanings expressed by lexical items and derivational and inflectional morphology. Contribution of argument structure, quantification, and coordination to meaning. GE credit: Wrt.—I. (I.) Ojeda  
(change in existing course—eff. summer 08)

##### 151. Historical Linguistics (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 103A. Description and methods of the historical study of language, including the comparative method and internal reconstruction; sound change, morphological change, syntactic change, semantic change. Offered irregularly.—Benware  
(change in existing course—eff. summer 08)

##### 152. Language Universals and Typology (4)

Lecture—3 hours; term paper. Prerequisite: course 103B. Investigation into common features of all human languages and the classification of languages in terms of their structural features. Theories of universal grammar. Detailed discussion of non-Indo-European languages and comparison with English. GE credit: Wrt.—III. Farrell, Hawkins  
(change in existing course—eff. summer 08)

##### 180. Second Language Learning and Teaching (4)

Lecture/discussion—4 hours; fieldwork; project. Prerequisite: course 1 or equivalent. Psycholinguistic and sociolinguistic theories of second language learning. Connections between theoretical perspectives and pedagogical practices in formal and informal second language settings, with focus on tutoring. Impact of sociocontextual factors (e.g., gender, ethnicity). Fieldwork requirement. GE credit: Div, Wrt.—I. (I.) Menard-Warwick  
(new course—eff. fall 08)

##### 182. Multilingualism (4)

Lecture/discussion—4 hours. Issues in multilingualism from a global perspective: e.g., multilingual communities; multilingualism and identity (gender, ethnicity, nationality); language ideologies and educational and sociopolitical policies surrounding multilingualism; acquisition of multilingualism; discursive practices of multilinguals. Limited enrollment. GE credit: ArtHum or SocSci, Div, Wrt.—III. (III.) Ramanathan, Timm  
(change in existing course—eff. spring 06)

## Management

### New and changed courses in Management (MGB)

#### Graduate Courses

##### 200A. Financial Accounting (3)

Lecture—3 hours. Prerequisite: graduate student in the Graduate School of Management. Introduction to the concepts and objectives underlying the preparation of financial statements. Topics include understanding the accounting cycle, measurement and valuation problems associated with financial statement components, consideration of the usefulness of financial statements in the analysis of a corporation's operations.—I. (I.) Yetman  
(new course—eff. fall 09)

##### 200B. Managerial Accounting (3)

Lecture—3 hours. Prerequisite: graduate student in the Graduate School of Management. Information managers should know to be effective, including: product costing, motivating people, and differential analysis for decision making. Includes team projects and written and oral presentations.—II, IV. (II, IV.) Ramanan  
(new course—eff. fall 09)

##### 201A. The Individual and Group Dynamics (3)

Lecture—3 hours. Prerequisite: graduate student in the Graduate School of Management. Examines basic psychological and social psychological processes shaping human behavior and applies knowledge of these processes to the following organizational problems: motivation, job design, commitment, socialization, culture, individual and group decision making, and team building.—I. (I.) Elsbach  
(new course—eff. fall 09)

##### 201B. Organizational Structure and Strategy (3)

Lecture—3 hours. Prerequisite: graduate student in the Graduate School of Management. Analysis of structural properties of organization including differentiation and vertical and horizontal integration. Alternative structural arrangements including functional, divisionalized, matrix, and hybrid structures. Relationship between environment, structure, and strategic objectives. Organization life cycle and changes.—II. (II.) Biggart, Hsu  
(new course—eff. fall 09)

##### 202A. Markets and the Firm (3)

Lecture—3 hours. Prerequisite: graduate student in the Graduate School of Management. Examines the interaction of consumers, firms and government, and the effect this interaction has on the use of resources and firm profitability. Fundamental economic concepts such as marginal analysis, opportunity cost, pricing, and externalities are introduced and applied.—II. (II.)  
(new course—eff. fall 09)

##### 202B. Business, Government, and the International Economy (3)

Lecture—3 hours. Prerequisite: course 202A. Examines the influence of government and international factors on business. Topics include distribution of income, business cycles, inflation and interest rates, the federal debt, monetary policy and international trade and finance.—II. (II.)  
(new course—eff. fall 09)

##### 203A. Data Analysis for Managers (3)

Lecture—3 hours. Prerequisite: graduate student in the Graduate School of Management MBA program or consent of instructor. Introduction to statistics and data analysis for managerial decision making. Descriptive statistics, principles of data collection, sampling, quality control, statistical inference. Application of data analytic methods to problems in marketing, finance, accounting, production, operations, and public policy.—II. (II.) Tsai  
(new course—eff. fall 09)

##### 203B. Forecasting and Managerial Research Methods (3)

Lecture—3 hours. Prerequisite: course 203A. Practical statistical methods for managerial decision making covers regression analysis, time series analysis and forecasting, design and analysis of experiments in managerial research and contingency table analysis. Application of these methods to marketing, finance, accounting, production, operations, and public policy.—II. (II.) Tsai  
(new course—eff. fall 09)

##### 204. Marketing Management (3)

Lecture—3 hours. Prerequisite: graduate student in the Graduate School of Management. Analysis of market opportunities, elements of market research,

development of marketing strategies, market planning and implementations, and control systems. Consumer and industrial markets, market segmentation, pricing strategies, distribution channels, promotion, and sales.—III. (III.)

(new course—eff. fall 09)

##### 206. Decision Making and Management Science (3)

Lecture—3 hours. Prerequisite: graduate student in the Graduate School of Management MBA program or consent of instructor. Develops decision-making and problem-solving skills in conjunction with a quantitative model-building approach. Emphasizes how structured modeling techniques, probability forecasts, simulations, and computer optimization models are used in the overall process of making decisions in an uncertain environment.—II. (II.)  
(new course—eff. fall 09)

##### 207. Management Information Systems (3)

Lecture—3 hours. Prerequisite: graduate student or consent of instructor. Introduction to computer programming and data handling skills. Use of computer in organizations, emphasis on managerial aspects of computing. Standard and nonstandard uses of data files, centralization versus decentralization of computing, office automation, computer security.—I, II, III. (I, II, III.) Bhargava, Woodruff  
(new course—eff. fall 09)

##### 207A. Advanced Legal Research (2)

Seminar—2 hours. Will introduce students to advanced legal research tools and techniques used in practice, including efficient computer research techniques. Limited enrollment.

(new course—eff. fall 09)

##### 210T. Policing Seminar (2)

Seminar—2 hours. What are the expectations and roles of the police in a democratic society? We need order maintenance and crime control, but to assume these tasks the police sometimes intrude upon interests considered fundamental to free societies. Limited enrollment.

(new course—eff. spring 10)

##### 215. Business Law (3)

Lecture—3 hours. Prerequisite: completion of Administration core requirements or petition with consent of instructor. Introduction to law and legal process in the United States. Sources of law. Structure and operation of courts, federal-state relationships, fundamentals of administrative law, fundamentals of business law. IV. (IV.)

(new course—eff. fall 09)

##### 216. Managing Professionals, Budgets, Controls and Ethics (3)

Lecture—3 hours. Prerequisite: graduate standing. Performance measures, budgetary controls and ethical pressures which occur at middle management levels in service-type operations. Addresses such organizations as engineering, medical groups, law offices, management consultants.—I. (I.) Suran  
(new course—eff. fall 09)

##### 218T. Selected Topics in Constitutional Law (2)

Seminar—2 hours. Examines two core themes of Constitutional Law I and Federal Jurisdiction: federalism and separation of powers. Concentrates on habeas corpus and the Eleventh Amendment as vehicles for examining the constitutional themes in greater depth.

(new course—eff. spring 10)

##### 219. Evidence (4)

Discussion—4 hours. Covers rules regarding the admissibility of testimonial and documentary proof during trial of civil and criminal cases, including rules governing relevancy, hearsay, the examination and impeachment of witnesses, expert opinion, and constitutional and statutory privileges.

(change in existing course—eff. fall 09)

**220. Management of Social Networks (3)**

Lecture/discussion—3 hours. Prerequisite: course 201A; open to MBA students only. Principles and applications of social network theory: coordinating divergent interests to create value for individuals and organizations. Emphasis on conceptual models, web-based diagnostic tools, and practical applications. Offered in alternate years.—(I.)

(new course—eff. fall 09)

**220T. Tax and Distributive (3)**

Discussion—3 hours. Advanced tax course designed to introduce students to issues of tax policy, with particular emphasis on tax distribution (i.e., who or what should pay taxes in society) and tax incidence (i.e., who or what ends up paying taxes in society).

(new course—eff. spring 10)

**223. Power and Influence in Management (3)**

Seminar—3 hours. Prerequisite: consent of instructor. Investigation of the bases of power in organizations and the tactics used to translate power into influence. Topics include the control of resources (including information), social psychological processes (including commitment), the construction of meaning, and ethics.—I. (I.) Palmer

(new course—eff. fall 09)

**224. Managing People in Modern Organizations (3)**

Lecture/discussion—3 hours. Modern systems for managing people. Examination of the changing workforce and workplace, emphasizing high-technology and knowledge-intensive organizations. The impact of firms environment (competition, product market, regulations) on choices for managing people. The consequences of these choices for firms and managers. Open to MBA students only.—II. (II.) Bechky

(new course—eff. fall 09)

**228A. Mergers and Acquisitions Law (3)**

Discussion—2 hours. Prerequisite: course 215. Practical approach to mergers and acquisitions, with an in-depth look at the planning, negotiation, documentation and completion of mergers and acquisitions.

(change in existing course—eff. fall 09)

**228T. Accounting for Lawyers (2)**

Discussion—2 hours. Exposes students to basic principles of accounting, from the perspective of the practicing attorney.

(change in existing course—eff. spring 09)

**236A. Securities Regulation (2)**

Discussion—2 hours. Prerequisite: course 215 or consent of instructor. Legal rules and concepts applicable to business associations, both public and closely held. Corporate form of organization, partnerships and other associational forms.

(change in existing course—eff. fall 09)

**240. Management Policy and Strategy (3)**

Lecture—3 hours. Prerequisite: first-year core courses of M.B.A. program. Examines the scope of missions, objectives strategies, policies, structures, measurements and incentives which bear on the management of an organization. Real client organizations, in the private and public sectors, are assigned to student teams as the subjects of study.—I. (I.) Suran

(new course—eff. fall 09)

**241. New Product Development (3)**

Lecture/discussion—3 hours. Prerequisite: course 249 or consent of instructor. Open to students in the Graduate School of Management. State of the art concepts and methods to enhance the effectiveness of new product development activities. Focus on the understanding of managerial issues and acquiring the ability to solve problems.—III. Naik

(new course—eff. fall 09)

**242. Marketing Communications (3)**

Lecture—3 hours. Issues in designing a marketing communications strategy. Topics include mass and direct communications, institutional aspects of advertising, consumer behavior, evaluating ad effectiveness, determining ad budget, creative strategy, and use and abuse of promotions.—III. (III.) Naik

(new course—eff. fall 09)

**244. New and Small Business Ventures (3)**

Lecture—3 hours. Emphasizes starting a new business venture or managing a small, ongoing business during its formative stages. The business plan. Legal forms, financial considerations, the management team. The entrepreneur. Students develop a detailed business plan.—IV. (IV.)

(new course—eff. fall 09)

**245. Corporate and White Collar Crime (2)**

Discussion—2 hours. The law of conspiracy, corporate criminal liability, mail and wire fraud, RICO, money laundering, and other business and environmental crimes and associated defenses.

(change in existing course—eff. spring 08)

**246. Negotiation and Team Building (3)**

Lecture—3 hours. Prerequisite: courses 202, 205. Teaches basic theory of negotiation; applies theory to process of building teams to achieve business purposes. Covers integrative and distributive strategies of claiming value, how to recognize bargaining tricks, uncovering hidden agendas, brainstorming to extend Pareto frontier.—II. III. (II, III.) Elsbach

(new course—eff. fall 09)

**247. Customer Service as a Marketing Tool (3)**

Lecture—3 hours. Understanding the distinct features of services, how to create value through service, methods of building strong relationships with customers, methods of measuring and building customer satisfaction, and measuring the financial impact of service improvement.—I. (I.)

(new course—eff. fall 09)

**247B. Corporate Tax (3)**

Discussion/laboratory—3 hours. Examination of the federal income tax relationship between corporations and their owners. The class will cover the transfer of funds into a corporation on formation and the re-transfer of money and property from the corporation to its shareholders.

(change in existing course—eff. fall 09)

**248. Marketing Strategies (3)**

Lecture—3 hours. Examines process by which organizations develop strategic marketing plans. Includes definition of activities and products, marketing audits, appraising market opportunities, design of new activities and products, and organizing marketing planning function. Applications to problems in private and public sector marketing.—I. (I.) Rubel

(new course—eff. fall 09)

**248B. International Human Rights & Transitional Justice (3)**

Discussion—3 hours. Study in international law respecting the protection of individuals from harm, both by the state and, increasingly, by other individuals.

(change in existing course—eff. fall 09)

**248T. Is International Law Democratic? (2)**

(cancelled course—eff. spring 07)

**248T. Fundamentals of Public International Law (1)**

Seminar—1 hour. Introduces students to the basic principles of international law as well as basic techniques of international legal research. GE Credit: Wri.

(new course—eff. fall 09)

**249. Marketing Research (3)**

Lecture—3 hours. Course addresses the managerial issues and problems of systematically gathering and analyzing information for making private and public marketing decisions. Covers the cost and value of information, research design, information collection, measuring instruments, data analysis, and marketing research applications.—III. (III.) Bunch

(new course—eff. fall 09)

**250. Technology Management (3)**

Lecture—3 hours. Management of the engineering and technology activity. Functions of design, planning, production, marketing, sales, and maintenance. Technological product life cycle. Research and development activity. Project planning and organization. Manufacturing issues. Case studies.—III. (III.)

(new course—eff. fall 09)

**251. Management of Innovation (3)**

Lecture—3 hours. Managing innovative enterprise in changing and uncertain environments. Covers technology forecasting and assessment, program selection and control, financial management, regulation, and ethics.—I. (I.) Biggert

(new course—eff. fall 09)

**252. Production and Operations Management (3)**

Lecture—3 hours. Explores methods of increasing operational efficiency in production and service organizations through planning and scheduling, materials management, inventory control, quality control, and distribution. Methodologies employed include such techniques as programming, simulation, systems analysis, queuing, and network models.—IV. (IV.) Woodruff

(new course—eff. fall 09)

**254. Housing Law (2)**

Discussion—2 hours. Survey course covers legal and policy issues related to developing, protecting and preserving affordable, safe and accessible housing and sustaining viable, diverse communities.

(change in existing course—eff. fall 09)

**258A. Legal Ethics and Corporate Practice (3)**

Discussion—3 hours. Focus on corporate practice to explore the ethical responsibilities of lawyers.

(new course—eff. fall 09)

**259. Feminist Legal Theory (3)**

Discussion—3 hours. Provides an overview of feminist legal theory and considers how its various strands inform legislative and judicial law making. Satisfies Advanced Writing Requirement.

(change in existing course—eff. fall 09)

**260. Corporate Finance (3)**

Lecture—3 hours. Focuses on planning, acquiring, and managing a company's financial resources. Includes discussion of financial aspects of mergers and other forms of reorganization; analysis of investment, financial, and dividend policy; and theories of optimal capital structure.—III. (III.)

(change in existing course—eff. fall 09)

**261. Investment Analysis (3)**

Lecture—3 hours. Examines asset pricing theories and relevant evidence, including the investment performance of stocks and bonds. Topics include the efficiency of markets, domestic and international portfolio diversification, factors influencing the value of stocks and other investments, and portfolio management and performance.—I. (I.) Chen

(new course—eff. fall 09)

**262. Antitrust (3)**

Discussion—3 hours. The principal focus of the course is the federal antitrust laws, concentrating on basic substantive areas of the Sherman and Clayton Acts.

(change in existing course—eff. fall 09)

Quarter Offered: I=Fall, II=Winter, III=Spring, IV=Summer; 2009-2010 offering in parentheses

General Education (GE) credit: ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Wri=Writing Experience

**263. Derivative Securities (3)**

Lecture/discussion—3 hours. The behavior of options, futures, and other derivative securities markets and how public agencies, business and others use those markets. Trading strategies involving options, swaps, and financial futures contracts. Pricing of derivative securities, primarily by arbitrage methods. Open to students enrolled in the MBA program.—III. Edelen

(new course—eff. fall 09)

**264. Business Taxation (3)**

Lecture—3 hours. Analysis of the impact of business taxation on investment, production, and finance decisions. Discussion of the relationship between business organization and tax liability. Course is not intended for tax specialists.—II. (II.) Yetman

(new course—eff. fall 09)

**266. International Finance (3)**

Lecture—3 hours. Prerequisite: course 207 or the equivalent. Open economy macroeconomics, balance of payments theory, and financial decision making in multinational firms.—II. (II.)

(new course—eff. fall 09)

**267. Teams and Technology (3)**

Lecture/discussion—3 hours. Restricted to working professional MBA students or consent of instructor. Theory and practice of managing teams with primary goals of: providing conceptual guidelines for analyzing and diagnosing group dynamics and determining strategic options as a manager; imparting interpersonal skills for implementing effective strategies; understanding how technological change affects team processes.—III. (III.) Beckhy

(new course—eff. fall 10)

**268. Management Communications (3)**

Lecture—3 hours. The theories, strategies, and skills necessary for effective communication in management. Students will learn to improve their business writing, and will deliver business presentations orally.—II. (II.) Kennedy

(new course—eff. fall 09)

**270. Corporate Financial Reporting (3)**

Lecture—3 hours. Analyzes and evaluates contemporary issues in financial reporting and develops implications of those issues for business decision makers, investment managers, and accounting policymakers.—IV. (IV.) Griffin

(new course—eff. fall 09)

**271. Incentives and Controls (3)**

Lecture/discussion—3 hours. Prerequisite: course 200B. Concepts and techniques of accounting and budgeting for management decision making in the private sector. Topics include strategy, organizational structure, market-based incentives, performance evaluation and ethical issues.—I. (I.) Maher

(change in existing course—eff. fall 09)

**271A. Nonprofit Organizations: State and Local Governance Issues (2)**

Discussion—2 hours. Prerequisite: Prior or concurrent enrollment in course 215, or consent of instructor. Focuses on the state and local laws applicable to nonprofit organizations; i.e., public interest, cultural, religious, educational and other not-for-profit entities.

(change in existing course—eff. fall 09)

**271B. Nonprofit Organizations: Tax Exemptions and Taxation Focus (2)**

Discussion—2 hours. Prerequisite: course 215 or consent of instructor; course 220 recommended. Focuses on the conceptual basis and substantive law criteria for the federal and state income tax exemption of nonprofit organizations.

(change in existing course—eff. spring 09)

**272. Evaluation of Financial Information (3)**

Lecture—3 hours. Studies how investors, creditors, others use accounting and other information in making rational investment, lending decisions. Emphasis

is placed on the analysis of financial information in a variety of contexts. Where applicable, recent research in finance and economics is discussed.—III. (III.) Griffin

(new course—eff. fall 09)

**273. Accounting and Reporting for Government Nonprofit Entities (3)**

Lecture—3 hours. Concepts, methods, and uses of accounting and financial reporting by governmental and nonprofit entities. Introduction to budgeting and performance evaluation, and accounting for entities such as hospitals, universities, and welfare agencies.—III. (III.)

(new course—eff. fall 09)

**274. Corporate Governance (3)**

Lecture—3 hours. Prerequisite: restricted to full-time MBA students or consent of instructor. Discusses how corporations can better operate in the interests of shareholders and public. Directly relevant to managers, consultants in compensation and incentives, staff working on mergers and acquisitions, corporate regulators, shareholder rights activists, and board members. I, III. (I, III.) Maher

(new course—eff. fall 09)

**274A. International Intellectual Property and Development (3)**

Discussion—3 hours. In September 2007 the World Intellectual Property Organization adopted a development agenda that would rewrite that body's mandate, placing the concerns of the poor at the center of international intellectual property law and policy.

(change in existing course—eff. fall 09)

**276. Real Estate, Finance and Development (3)**

Lecture—3 hours. Prerequisite: courses 201A and 207. Focus on single family, attached, detached, multi-family, and light commercial development. Students will study factors which make up successful real estate developments. Course will consider financial aspects involved in land acquisition, land development, construction, and project lending.—II. (II.)

(new course—eff. fall 09)

**285. Time Series Analysis and Forecasting (3)**

Lecture—3 hours. Considers application of time series methods to evaluation and forecasting problems. Covers univariate and multivariate ARIMA models and transfer function models. Applications will be in such areas as economics, finance, budgeting, program evaluation, and industrial process control.—III. (III.) Tsai

(new course—eff. fall 09)

**286B. Public Health Law (2)**

Discussion—2 hours. Addresses legal issues raised in three general areas: access to health care, health care financing, and quality of care.

(change in existing course—eff. fall 09)

**287. Database Systems (3)**

Lecture—3 hours. Prerequisite: course 280. Hierarchical, network, and relational models for database systems. Design and implementation of models. Performance evaluation and benchmarking. Query structures and languages. Data security and integrity. Application to managerial decision making and decision support systems.—II. (II.) Yang

(new course—eff. fall 09)

**290. Topics in General Management (3)**

Seminar—3 hours. Prerequisite: completion of all first-year graduate courses at the Graduate School of Management or the equivalent. Advanced topics in general management. Varied topics to cover more extensively issues discussed in courses 201A and 201B, or current business interest topics in fields of business writing, business communications, development, or workplace processes. May be repeated for credit.—I. (I.)

(new course—eff. spring 09)

**291. Topics in Organizational Behavior (3)**

Seminar—3 hours. Prerequisite: completion of all first-year graduate courses at the Graduate School of Management or the equivalent. Advanced topics in social psychology and sociology of organizations. Varied topics to cover more extensively issues discussed in courses 201A and 201B, or current business interest topics in fields of organization design, strategy, development, or workplace processes. May be repeated for credit.—II. (II.) O'Mahony

(new course—eff. fall 09)

**291A. International Finance (4)**

Discussion—4 hours. Money makes the world go round. We will try to follow that money, learning how a framework of national and international laws and institutions regulates (or perhaps fails to regulate) its flow.

(new course—eff. fall 09)

**292. Topics in Finance (3)**

Seminar—3 hours. Prerequisite: completion of all first-year graduate courses at the Graduate School of Management or the equivalent. Contemporary and emerging issues in finance. Application of modern techniques of finance to business problems. Use of appropriate electronic database and research techniques. May be repeated for credit.—I. (I.)

(new course—eff. fall 09)

**293. Topics in Marketing (3)**

Seminar—3 hours. Prerequisite: completion of all first-year graduate courses at the Graduate School of Management or the equivalent. Advanced topics in marketing, which may include marketing research, new product development, brand management, pricing, distribution management, service marketing, hi-tech marketing, advertising, sales promotions, marketing through the Web. May be repeated for credit.—I. (I.)

(change in existing course—eff. fall 09)

**294. Topics in Accounting (3)**

Seminar—3 hours. Prerequisite: completion of all first-year graduate courses at the Graduate School of Management or the equivalent. Contemporary and emerging issues in financial management accounting. Application of modern techniques of evaluation and analysis of financial information. Use of appropriate electronic database and research techniques. May be repeated for credit.—I. (I.)

(new course—eff. fall 09)

**295. Topics in Information Technology (3)**

Seminar—3 hours. Prerequisite: completion of all first-year graduate courses at the Graduate School of Management or the equivalent. Applications of information technology to management and management of information technology. Adaptation to the dynamic nature of the field. May be repeated for credit.—I. (I.)

(new course—eff. fall 09)

**296. Topics in Technology Management (3)**

Seminar—3 hours. Prerequisite: completion of all first-year graduate courses at the Graduate School of Management or the equivalent. Cyclical nature of innovation and technological change, features of innovative firms and industries, national innovation systems, and impact of information technologies on innovation processes. May be repeated for credit.—III. (III.) Bhargava

(new course—eff. fall 09)

**298. Directed Group Study (1-5)**

Prerequisite: consent of instructor. (S/U grading only.)

(new course—eff. fall 09)

**299. Individual Study (1-12)**

Prerequisite: consent of instructor. (S/U grading only.)

(new course—eff. fall 09)

## New and changed courses in Management (MGP)

### Graduate Courses

#### 260. Corporate Finance (3)

Lecture—3 hours. Focuses on planning, acquiring, and managing a company's financial resources. Includes discussion of financial aspects of mergers and other forms of reorganization; analysis of investment, financial, and dividend policy; and theories of optimal capital structure.—III. (III.) Scherbina  
(change in existing course—eff. fall 09)

#### 267. Teams and Technology (3)

Lecture/discussion—3 hours. Restricted to working professional MBA students or consent of instructor. Theory and practice of managing teams with primary goals of: providing conceptual guidelines for analyzing and diagnosing group dynamics and determining strategic options as a manager; imparting interpersonal skills for implementing effective strategies; understanding how technological change affects team processes.—III. (III.)  
(new course—eff. spring 09)

#### 271. Incentives and Controls (3)

Lecture/discussion—3 hours. Prerequisite: course 200B. Concepts and techniques of accounting and budgeting for management decision making in the private sector. Topics include strategy, organizational structure, market-based incentives, performance evaluation and ethical issues.—I. (I.) Maher  
(new course—eff. fall 09)

#### 274. Corporate Governance (3)

Lecture—3 hours. Prerequisite: restricted to full-time MBA students or consent of instructor. Discusses how corporations can better operate in the interests of shareholders and public. Directly relevant to managers, consultants in compensation and incentives, staff working on mergers and acquisitions, corporate regulators, shareholder rights activists, and board members. II, III. (II, III.)  
(new course—eff. fall 09)

#### 290. Topics in General Management (3)

Seminar—3 hours. Prerequisite: completion of all first-year graduate courses at the Graduate School of Management or the equivalent. Advanced topics in general management Varied topics to cover more extensively issues discussed in courses 201A and 201B, or current business interest topics in fields of business writing, business communications, development, or workplace processes. May be repeated for credit.—I, II, III, IV. (I, II, III, IV.)  
(new course—eff. fall 09)

## New and changed courses in Management (MGT)

### Graduate Courses

#### 205. Financial Theory and Policy (3)

Lecture—3 hours. Prerequisite: graduate student in the Bay Area MBA Program. Corporate financial policy and investment management. Covers capital budgeting, optimal financial structure, cost-of-capital determination, risk measurement. Develops basic valuation principles for investments with long-lived and risky cash-flows, and extends these to derivative securities, asset portfolios, investment management and hedging.—III. (III.) Barber  
(new course—eff. spring 10)

#### 241. New Product Development (3)

Lecture/discussion—3 hours. Prerequisite: course 249 or consent of instructor; restricted to graduate students in the Graduate School of Management. Disseminates state-of-the-art concepts and methods to enhance the effectiveness of new product development activities. Focuses on the understanding of managerial issues and acquiring the ability to solve problems.—III. (III.) Naik  
(new course—eff. fall 10)

#### 260. Corporate Finance (3)

Lecture—3 hours. Focuses on planning, acquiring, and managing a company's financial resources. Includes discussion of financial aspects of mergers and other forms of reorganization; analysis of investment, financial, and dividend policy; and theories of optimal capital structure.—III. (III.) Scherbina  
(change in existing course—eff. fall 09)

#### 267. Teams and Technology (3)

Lecture/discussion—3 hours. Restricted to working professional MBA students or consent of instructor. Theory and practice of managing teams with primary goals of: providing conceptual guidelines for analyzing and diagnosing group dynamics and determining strategic options as a manager; imparting interpersonal skills for implementing effective strategies; understanding how technological change affects team processes.—III. (III.)  
(new course—eff. spring 09)

#### 271. Incentives and Controls (3)

Lecture/discussion—3 hours. Prerequisite: course 200B. Concepts and techniques of accounting and budgeting for management decision making in the private sector. Topics include strategy, organizational structure, market-based incentives, performance evaluation and ethical issues.—I. (I.) Maher  
(new course—eff. fall 09)

#### 274. Corporate Governance (3)

Lecture—3 hours. Prerequisite: restricted to full-time MBA students or consent of instructor. Discusses how corporations can better operate in the interests of shareholders and public. Directly relevant to managers, consultants in compensation and incentives, staff working on mergers and acquisitions, corporate regulators, shareholder rights activists, and board members. II, III. (II, III.)  
(new course—eff. fall 09)

#### 290. Topics in General Management (3)

Seminar—3 hours. Prerequisite: completion of all first-year graduate courses at the Graduate School of Management or the equivalent. Advanced topics in general management Varied topics to cover more extensively issues discussed in courses 201A and 201B, or current business interest topics in fields of business writing, business communications, development, or workplace processes. May be repeated for credit.—I, II, III. (I, II, III.) Woodruff  
(new course—eff. fall 09)

#### 293. Topics in Marketing (3)

Seminar—3 hours. Prerequisite: completion of all first-year graduate courses at the Graduate School of Management or the equivalent. Advanced topics in marketing, which may include marketing research, new product development, brand management, pricing, distribution management, service marketing, hitech marketing, advertising, sales promotions, marketing through the Web. May be repeated for credit.—I. (I.)  
(change in existing course—eff. fall 09)

## Professional Courses

#### 400C. Study Abroad - China University of Political Science and Law (12)

Independent study. Students must apply and be accepted into the International Study Abroad Program. Semester-away study abroad at the China University of Political Science and Law. Enhance knowledge of international legal regimes and obtain a global legal educational experience. (S/U grading only.)  
(new course—eff. spring 09)

#### 420. Civil Rights Clinic (2-6)

Clinical activity—2-6 hours. Prerequisite: prior or concurrent enrollment in course 219. Clinic provides practical experience in providing legal services to indigent clients who have filed civil rights actions in state and federal trial and appellate courts. Students

work on clinic cases under the supervision of the clinic director. Limited enrollment. May be repeated for credit. (S/U grading only.)  
(change in existing course—eff. fall 09)

#### 498. Directed Group Study Management Practicum (3)

Project—3 hours. Prerequisite: consent of instructor; sponsorship of a GSM Academic Senate faculty member, and approval of Graduate Advisor. Provides the opportunity for students to gain experience in applying business methodologies previously acquired in other GSM courses. (S/U grading only.)—I, II, III. (I, II, III.)  
(change in existing course—eff. fall 06)

## Master of Public Health

### New and changed courses in Master of Public Health (MPH)

#### Graduate Course

#### 266. Applied Analytic Epidemiology (3)

(cancelled course—eff. winter 09)

## Mathematics

### New and changed courses in Mathematics (MAT)

#### Upper Division Courses

#### 111. History of Mathematics (4)

Lecture—3 hours; term paper or discussion. Prerequisite: eight units of upper division Mathematics; one of the following: course 25, 67, 108, 114, 115A, 141, or 145. History of mathematics from ancient times through the development of calculus. Mathematics from Arab, Hindu, Chinese and other cultures. Selected topics from the history of modern mathematics.—II. (II.)  
(change in existing course—eff. fall 10)

#### 135B. Stochastic Processes (4)

Laboratory/discussion—4 hours. Prerequisite: courses 135A; 22A or 67. Generating functions, branching processes, characteristic function; Markov chains; convergence of random variables, law of iterated logarithm; random processes, Brownian motion, stationary processes, renewal processes, queueing theory, martingales. Not open for credit to students who have completed former course 132A.—III. (III.)  
(change in existing course—eff. spring 09)

#### 167. Applied Linear Algebra (4)

Lecture—3 hours; extensive problem solving. Prerequisite: course 22A or 67; knowledge of a programming language. Applications of linear algebra; LU and QR matrix factorizations, eigenvalue and singular value matrix decompositions.—I, II, III. (I, II, III.)  
(change in existing course—eff. summer 09)

### Graduate Courses

#### 200A-200B. Problem-Solving in Analysis (1-1)

Lecture—1 hour; extensive problem solving. Prerequisite: courses 201ABC. Problem-solving in graduate analysis: continuous functions, metric spaces, Banach and Hilbert spaces, bounded linear operators, the spectral theorem, distributions, Fourier series and transforms,  $L_p$  spaces, Sobolev spaces. May be repeated two times for credit. (Deferred grading only, pending completion of sequence.)—III, I. (III, I.)  
(new course—eff. spring 10)

**202. Functional Analysis (4)**

Lecture—3 hours; term paper. Prerequisite: courses 201A and 201B. Hahn-Banach, Open mapping, Closed graph, Banach-Steinhaus, and Krein-Milman. Subspaces and quotient spaces. Projections. Weak and weak-star topologies. Compact and adjoint operators in Banach spaces. Fredholm theory. Functions of operators. Spectral theory of self-adjoint operators. Offered in alternate years.—II.  
(change in existing course—eff. winter 09)

**205. Complex Analysis (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 185 or the equivalent, or consent of instructor. Analytic continuation, Riemann surfaces, conformal mappings, Riemann mapping theorem, entire functions, special functions, elliptic functions.—III. (III.)  
(change in existing course—eff. spring 09)

**210A. Topics in Geometry (3)**

(cancelled course—eff. fall 09)

**210AL. Topics in Geometry: Discussion (1)**

(cancelled course—eff. fall 09)

**210B. Topics in Algebra (3)**

(cancelled course—eff. fall 09)

**210BL. Topics in Algebra: Discussion (1)**

(cancelled course—eff. fall 09)

**210C. Topics in Analysis (3)**

(cancelled course—eff. fall 09)

**210CL. Topics in Analysis: Discussion (1)**

(cancelled course—eff. fall 09)

**218A-218B-218C. Partial Differential Equations (4-4-4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: 218A—201ABC; 218B—218A; 218C—218B; or consent of the instructor. A year-long sequence on PDEs which covers linear transport, Laplace, heat, and wave equations, maximum principles, method of characteristics, Sobolev and Hölder space theory, weak derivatives, semilinear, quasilinear, and fully nonlinear elliptic/parabolic equations, nonlinear hyperbolic equations, and compensated compactness. Offered in alternate years.—I-III. (I-II-III.)

(change in existing course—eff. fall 09)

**219. Ordinary Differential Equations (4)**

(cancelled course—eff. fall 09)

**222. Introduction to Biofluid Dynamics (3)**

(cancelled course—eff. fall 09)

**236A. Stochastic Dynamics and Applications (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 201C or course/Statistics 235B; course/Statistics 235A-235B-235C recommended. Stochastic processes, Brownian motion, Stochastic integration, martingales, stochastic differential equations. Diffusions, connections with partial differential equations, mathematical finance. Offered in alternate years.—I.

(change in existing course—eff. fall 09)

**236B. Stochastic Dynamics and Applications (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 201C or course/Statistics 235B; course/Statistics 235A-235B-235C recommended. Stochastic processes, Brownian motion, Stochastic integration, martingales, stochastic differential equations. Diffusions, connections with partial differential equations, mathematical finance. Offered irregularly.

(change in existing course—eff. fall 09)

**240A. Differential Geometry (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 201A and 239; 250AB highly recommended; intended primarily for 2nd-year grad-

uate students. Riemannian metrics, connections, geodesics, Gauss lemma, convex neighborhoods, curvature tensor, Ricci and scalar curvature, connections and curvature on vector bundles.—I. (I.)

(change in existing course—eff. fall 08)

**240B. Differential Geometry (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 240A; intended primarily for 2nd-year graduate students. Jacobi fields, conjugate points, completeness, Hopf-Rinow theorem, Cartan-Hadamard theorem, energy, variation theorems and their applications, Rauch comparison theorem and its applications.—II. (II.)

(change in existing course—eff. winter 09)

**240C. Differential Geometry (4)**

(cancelled course—eff. summer 09)

**248A. Algebraic Geometry (4)**

Lecture—3 hours; extensive problem solving. Prerequisite: courses 250ABC. Affine varieties and radical ideals. Projective varieties. Abstract varieties. Morphisms and rational maps. Smoothness. Algebraic curves and the Riemann-Roch theorem. Special topics. Offered in alternate years.—(I.)

(new course—eff. fall 09)

**248B. Algebraic Geometry (4)**

Lecture—3 hours; extensive problem solving. Prerequisite: course 248A. Complex varieties and the analytic topology. Sheaves and schemes. Fiber products. Separatedness and properness. Applications of scheme theory. Offered in alternate years.—(II.)

(new course—eff. winter 10)

**261A. Lie Groups and Their Representations (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: courses 215A, 240A, 250A-250B or the equivalent or consent of instructor. Lie groups and Lie algebras. Classification of semi-simple Lie groups. Classical and compact Lie groups. Representations of Lie groups and Lie algebras. Root systems, weights, Weil character formula. Kac-Moody and Virasoro algebras. Applications. Offered in alternate years.—(II.)

(change in existing course—eff. fall 09)

**261B. Lie Groups and Their Representations (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: courses 215A, 240A, 250A-250B or the equivalent or consent of instructor. Lie groups and Lie algebras. Classification of semi-simple Lie groups. Classical and compact Lie groups. Representations of Lie groups and Lie algebras. Root systems, weights, Weil character formula. Kac-Moody and Virasoro algebras. Applications. Offered irregularly.

(change in existing course—eff. fall 09)

**266. Mathematical Statistical Mechanics and Quantum Field Theory (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 265 or consent of instructor. Mathematical principles of statistical mechanics and quantum field theory. Topics include classical and quantum lattice systems, variational principles, spontaneous symmetry breaking and phase transitions, second quantization and Fock space, and fundamentals of quantum field theory. May be repeated one time for credit. Offered in alternate years.—(II.)

(change in existing course—eff. spring 10)

**Professional Course****390. Teaching Assistantship Training (3)**

Lecture—3 hours. Prerequisite: graduate standing in the Department of Mathematics. Experience in methods of assisting and teaching of mathematics at the university level. Includes discussion of lecturing techniques, running discussion sessions, holding office hours, preparing and grading of examinations, stu-

dent-teacher interaction, and related topics. Required of departmental teaching assistants. (S/U grading only).—I. (I.)

(change in existing course—eff. fall 08)

## Medical Informatics

**New and changed courses in Medical Informatics (MDI)****Graduate Courses****202. Computer-Based Patient Records (4)**

(cancelled course—eff. summer 09)

**208. Electronic Medical Data (4)**

(cancelled course—eff. summer 09)

**209. Data Acquisition in Medicine and Veterinary Medicine (4)**

(cancelled course—eff. summer 09)

**211. Telemedicine (4)**

(cancelled course—eff. fall 09)

**215. Beginning and Intermediate Programming in M (MUMPS) (3)**

(cancelled course—eff. summer 09)

**290. Seminar in Medical Informatics (1)**

(cancelled course—eff. fall 09)

**299. Research in Medical Informatics (1-12)**

(cancelled course—eff. fall 09)

## Medicine, School of

**New and changed courses in Medical Sciences (MDS)****Professional Courses****400. Application of Medical Principles (1)**

(cancelled course—eff. fall 09)

**400B. Application of Medical Principles (1)**

(cancelled course—eff. spring 10)

**400C. Application of Medical Principles (1.5)**

(cancelled course—eff. summer 09)

**400D. Application of Medical Principles (1)**

(cancelled course—eff. fall 09)

**400F. Application of Medical Principles (1)**

(cancelled course—eff. spring 10)

**400J. Application of Medical Principles (1)**

(cancelled course—eff. spring 10)

**400K. Application of Medical Principles (1)**

(cancelled course—eff. summer 09)

**411C. Doctoring 1 (3)**

(cancelled course—eff. summer 09)

**413. Doctoring (1-2)**

(cancelled course—eff. fall 04)

**430. Applications of Medical Principles (1)**

(cancelled course—eff. winter 11)

**430A. Doctoring 3 (2)**

Discussion—3 hours. Prerequisite: approval by SOM Committee on Student Progress. Restricted to Medical students only. Application of multidisciplinary basic, social and clinical science concepts to clinical cases in small group discussions facilitated by medical school faculty. Evaluation of professional competencies, attitudes and skills needed in the practice of

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clinical medicine. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—IV. (IV.) Wilkes

(change in existing course—eff. summer 10)

#### 430B. Doctoring 3 (2)

Discussion—2 hours. Prerequisite: approval by SOM Committee on Student Progress. Restricted to Medical students only. Application of multidisciplinary basic, social & clinical science concepts to clinical cases in small group discussions facilitated by medical school faculty. Evaluation of professional competencies, attitudes and skills needed in the practice of clinical medicine. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—I. (I.) Wilkes

(change in existing course—eff. summer 10)

#### 430C. Doctoring 3 (2)

Discussion—2 hours. Prerequisite: approval by SOM Committee on Student Progress. Restricted to Medical students only. Application of multidisciplinary basic, social & clinical science concepts to clinical cases in small group discussions facilitated by medical school faculty. Evaluation of professional competencies, attitudes and skills needed in the practice of clinical medicine. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—II. (II.) Wilkes

(change in existing course—eff. summer 10)

#### 430D. Doctoring 3 (2)

Discussion—2 hours. Prerequisite: approval by SOM Committee on Student Progress. Restricted to Medical students only. Application of multidisciplinary basic, social & clinical science concepts to clinical cases in small group discussions facilitated by medical school faculty. Evaluation of professional competencies, attitudes and skills needed in the practice of clinical medicine. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—III. (III.) Wilkes

(change in existing course—eff. summer 10)

#### 440. Doctoring 4 Teaching Fellowship (3)

(cancelled course—eff. summer 10)

#### 440A. Doctoring 4 Teaching Fellowship (1)

Discussion—0.5 hours; seminar—0.25 hours. Prerequisite: courses 430ABCD and approval by Instructor of Record. Restricted to Medical students only. Instruction on teaching methodology and pedagogy. Mentored teaching of junior medical students in seminar, lecture, and bedside. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—IV. (IV.) Wilkes

(new course—eff. summer 10)

#### 440B. Doctoring 4 Teaching Fellowship (1)

Discussion—0.5 hours; seminar—0.25 hours. Prerequisite: courses 430ABCD and approval by Instructor of Record. Restricted to Medical students only. Instruction on teaching methodology and pedagogy. Mentored teaching of junior medical students in seminar, lecture, and bedside. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—I. (I.) Wilkes

(new course—eff. summer 10)

#### 440C. Doctoring 4 Teaching Fellowship (1)

Discussion—0.5 hours; seminar—0.25 hours. Prerequisite: courses 430ABCD and approval by Instructor of Record. Restricted to Medical students only. Instruction on teaching methodology and pedagogy. Mentored teaching of junior medical students in seminar, lecture, and bedside. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—II. (II.) Wilkes

(new course—eff. summer 10)

#### 440D. Doctoring 4 Teaching Fellowship (3)

(cancelled course—eff. summer 10)

#### 440S. Doctoring 4 Teaching Fellowship (Short) (1)

(cancelled course—eff. summer 10)

#### 460CR. Introduction to Clinical Research (2)

Lecture—2 hours; independent study—3 hours. Prerequisite: consent of instructor; completed one of the following degrees: M.D., D.D.S., D.M.D., O.D., N.D., D.O., Pharm.D., D.V.M., Ph.D. or D.N.S. in nursing. Application and acceptance into the Clinical Research Graduate Group, K30 program. Introduction to the CRGG program and overview of major clinical research topics. Overview of basic clinical skills needed to accomplish CRGG mentored research project. (P/F grading only.)—IV. (IV.) Fredrick

(change in existing course—eff. summer 06)

#### 470. Introduction to Dentistry (3-18)

Clinical activity—34 hours; lecture—6 hours. Prerequisite: fourth-year medical student in good standing; consent of instructor. Introduction to Dentistry and basic Oral and Maxillofacial Surgery. Course is offered by the Oral and Maxillofacial Surgery department at UC San Francisco. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Pogrel, Wallach

(new course—eff. fall 10)

#### 489. Directed Studies (1-9)

Prerequisite: consent of instructor; individual directed studies in extended preparation for modified curriculum, USMLE exams, and/or as required by Committee on Student Progress. Independent studies to accommodate modified curriculums, prepare for taking USMLE exams and for remediation course work directed by the Committee on Student Progress. May be repeated for credit. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Nuovo

(change in existing course—eff. winter 09)

#### 493. International Health and Comparative Health Care (6-18)

(cancelled course—eff. summer 10)

#### 493A. International and Comparative Health Care—SSM (6)

Discussion—20 hours; lecture—10 hours. Prerequisite: consent on instructor. Restricted to UC Davis School of Medicine students only. Through a series of lectures, seminars and clinical experiences, all occurring in other nations, students will research how health care systems address critical health issues. In 2007, Chronic Disease is the focal issue. SSM Component. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—II, III. (II, III.) Wilkes

(new course—eff. summer 10)

#### 493B. International and Comparative Health Care—Clinical (6)

Clinical activity—30 hours. Prerequisite: consent on instructor. Restricted to UC Davis School of Medicine students only. Through a series of lectures, seminars and clinical experiences, all occurring in other nations, students will research how health care systems address critical health issues. In 2007, Chronic Disease is the focal issue. Clinical Component. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—II, III. (II, III.) Wilkes

(new course—eff. summer 10)

#### 497. Scholarly Project (6)

(new course—eff. winter 11)

#### 497A. Scholarly Project (2)

Seminar—0.25 hours; independent study—0.5 hours. Prerequisite: project proposal must be accepted by the Scholarly Project Executive Committee (SPEC). Restricted to fourth year medical school students only. Develop a research project on a focused topic area, implements the research, writes a publishable paper, and presents an oral summary of the project. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—IV. (IV.) Schaefer

(new course—eff. winter 10)

#### 497B. Scholarly Project (2)

Seminar—0.25 hours; independent study—0.5 hours. Prerequisite: Project proposal must be accepted by the Scholarly Project Executive Committee (SPEC). Restricted to fourth year medical school students only. Develop a research project on a focused topic area, implements the research, writes a publishable paper, and presents an oral summary of the project. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—I. (I.) Schaefer

(new course—eff. summer 10)

#### 497C. Scholarly Project (2)

Seminar—0.25 hours; independent study—0.5 hours. Prerequisite: Project proposal must be accepted by the Scholarly Project Executive Committee (SPEC). Restricted to fourth year medical school students only. Develop a research project on a focused topic area, implements the research, writes a publishable paper, and presents an oral summary of the project. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—II. (II.) Schaefer

(new course—eff. summer 10)

## Medicine: Anesthesiology and Pain Medicine

### New and changed courses in Anesthesiology and Pain Medicine (ANE)

#### Professional Courses

#### 462. Anesthesiology (3)

(cancelled course—eff. spring 10)

#### 499. Anesthesiology Research (4-18)

Laboratory—12-54 hours. Prerequisite: third- or fourth-year medical students, advanced standing undergraduate and veterinary medicine students; or consent of instructor. Problems in clinical and/or laboratory research. May be repeated for credit. (H/P/F grading only for medical students.)—I, II, III, IV. (I, II, III, IV.)

(change in existing course—eff. spring 09)

## Internal Medicine— Clinical Nutrition and Metabolism (NCM)

### New and changed courses in Clinical Research (CLH)

#### Upper Division Course

#### 192. Internship in Clinical Nutrition (1-12)

(cancelled course—eff. winter 11)

#### Graduate Course

#### 290C. Clinical Nutrition Research Conference (1)

(cancelled course—eff. spring 10)

#### Professional Courses

#### 461. Nutrition Clinical Clerkship (3-18)

(cancelled course—eff. summer 10)

#### 480. Insights in Clinical Nutrition (1-3)

(cancelled course—eff. winter 11)

#### 499. Research in Nutrition (9-18)

(cancelled course—eff. winter 11)

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## Medicine: Clinical Research

### New and changed courses in Clinical Research (CLH)

#### Graduate Courses

#### 230. Congestive Heart Failure, Mechanism of Disease (3)

Lecture/discussion—2 hours; project. Prerequisite: consent of instructor; graduate standing. Underlying mechanisms of cardiomyopathy and heart failure. Presentation of fundamental knowledge of and recent basic research on heart failure. Student team projects: investigation and presentation of a research topic and bench research project to advance research in the same area.—II. (II.) Knowlton

(change in existing course—eff. summer 08)

#### 290D. Literature in Translational Research (1)

Discussion—1 hour. Prerequisite: consent of instructor; graduate standing. Critical presentation and analysis of recent journal articles in translational research by students. May be repeated for credit. (S/U grading only.)—I. (I.) Knowlton

(change in existing course—eff. fall 07)

## Medicine: Clinical Psychology

### New and changed courses in Clinical Psychology (CPS)

#### Graduate Courses

#### 299. Research (1-12)

(cancelled course—eff. winter 11)

## Medicine: Endocrinology

### New and changed courses in Endocrinology (EDO)

#### Graduate Course

#### 218. Mammalian Endocrinology and Homeostasis (4)

(cancelled course—eff. fall 08)

## Medicine: Family and Community Medicine

### New and changed courses in Medicine—Family and Community Medicine (FAP)

#### Graduate Course

#### 290. Health Care to Rural and Urban Underserved Populations (1)

Lecture—1 hour. Prerequisite: Sociology, Political Science, or Applied Behavioral Science background recommended, or registration in Medical School. Discusses sociocultural perspectives of underserved populations impacting health; roles of family/interpersonal relationships in making health care decisions; the nature of ethnic/racial/socioeconomic health care disparities; and clinicians' perspectives in treating people of cultures which are unfamiliar

and/or uncomfortable with Western medicine. May be repeated for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Nesbitt

(change in existing course—eff. fall 09)

### Professional Courses

#### 340. Clinical Preceptorship for FNP/PA Students (19)

(cancelled course—eff. winter 10)

#### 340A. Clinical Preceptorship for FNP/PA Students (1-13)

Clinical activity—3-39 hours. Prerequisite: consent of instructor. Restricted to registered students in the Family Nurse Practitioner/Physician Assistant Program. Hands-on clinical experience including supervised patient care, development of clinical skills, assessment and management of patients in the medical ambulatory care setting. May be repeated two times for credit at instructor's recommendation. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Long

(new course—eff. fall 09)

#### 340B. Clinical Preceptorship for FNP/PA Students (1-13)

Clinical activity—3-39 hours. Prerequisite: consent of instructor. Restricted to registered students in the Family Nurse Practitioner/Physician Assistant Program. Hands-on clinical experience including supervised patient care, development of clinical skills, assessment and management of patients in the medical ambulatory care setting. May be repeated two times for credit at instructor's recommendation. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Long

(new course—eff. fall 09)

#### 340C. Clinical Preceptorship for FNP/PA Students (1-13)

Clinical activity—3-39 hours. Prerequisite: consent of instructor. Restricted to registered students in the Family Nurse Practitioner/Physician Assistant Program. Hands-on clinical experience including supervised patient care, development of clinical skills, assessment and management of patients in the medical ambulatory care setting. May be repeated two times for credit at instructor's recommendation. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Long

(new course—eff. fall 09)

#### 340D. Clinical Preceptorship for FNP/PA Students (1-13)

Clinical activity—3-39 hours. Prerequisite: consent of instructor. Restricted to registered students in the Family Nurse Practitioner/Physician Assistant Program. Hands-on clinical experience including supervised patient care, development of clinical skills, assessment and management of patients in the medical ambulatory care setting. May be repeated two times for credit at instructor's recommendation. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Long

(new course—eff. fall 09)

#### 341. Advanced Clinical Preceptorship for FNP/PA Students (26)

(cancelled course—eff. winter 10)

#### 341A. Advanced Clinical Preceptorship for FNP/PA Students (1-13)

Clinical activity—3-39 hours. Prerequisite: consent of instructor; successful completion of course 340. Restricted to registered students in the Family Nurse Practitioner/Physician Assistant Program. Development of clinical skills learned in course 340 through an approved clinical preceptorship. Assess and manage common medical problems under supervision of preceptor. May be repeated two times for credit. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Long

(new course—eff. fall 09)

#### 341B. Advanced Clinical Preceptorship for FNP/PA Students (1-13)

Clinical activity—3-39 hours. Prerequisite: consent of instructor; successful completion of course 340. Restricted to registered students in the Family Nurse

Practitioner/Physician Assistant Program. Development of clinical skills learned in course 340 through an approved clinical preceptorship. Assess and manage common medical problems under supervision of preceptor. May be repeated two times for credit. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Long

(new course—eff. fall 09)

#### 341C. Advanced Clinical Preceptorship for FNP/PA Students (1-13)

Clinical activity—3-39 hours. Prerequisite: consent of instructor; successful completion of course 340. Restricted to registered students in the Family Nurse Practitioner/Physician Assistant Program. Development of clinical skills learned in course 340 through an approved clinical preceptorship. Assess and manage common medical problems under supervision of preceptor. May be repeated two times for credit. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Long

(new course—eff. fall 09)

#### 341D. Advanced Clinical Preceptorship for FNP/PA Students (1-13)

Clinical activity—3-39 hours. Prerequisite: consent of instructor; successful completion of course 340. Restricted to registered students in the Family Nurse Practitioner/Physician Assistant Program. Development of clinical skills learned in course 340 through an approved clinical preceptorship. Assess and manage common medical problems under supervision of preceptor. May be repeated two times for credit. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Long

(new course—eff. fall 09)

#### 354A-354B-354C. Fundamentals of Primary Health Care for FNP/PAs (3-8)

Lecture/discussion—2 hours; web virtual lecture—1 hour. Prerequisite: enrollment in the Family Nurse Practitioner/Physician Assistant Program. Restricted to students in the Family Nurse Practitioner/Physician Assistant Program only. Anatomy and physiology, pathophysiology, diagnostic criteria, approaches to assess and manage medical problems common in primary care. May be repeated two times for credit.—I, II, III, IV. (I, II, III, IV.) Hass, Milton, Slater, Stewart

(change in existing course—eff. fall 08)

#### 355A. Advanced Principles of Family Health Care (3-8)

Lecture/discussion—2 hours; web virtual lecture—1 hour. Prerequisite: enrollment in the Family Nurse Practitioner/Physician Assistant Program. Restricted to students in the Family Nurse Practitioner/Physician Assistant Program only. Management of infectious disease and reproductive problems in primary health care. Emphasis on comprehensive assessment, appropriate clinical decision making and management of selected medical problems commonly encountered in primary care settings, appropriate consultation and referral. May be repeated two times for credit.—I, II, III, IV. (I, II, III, IV.) DeAmicis

(change in existing course—eff. fall 08)

#### 358. Pharmacology (6)

(cancelled course—eff. winter 10)

#### 358A. Pharmacology (2)

Extensive problem solving—1 hour; tutorial—1 hour. Restricted to registered students in the Family Nurse Practitioner/Physician Assistant Program. Informs about core knowledge in pharmacokinetics and pharmacodynamics, autonomic nervous system principles, genetic variations, regulatory requirements, mechanism of action, adverse effects, contraindications and clinical therapeutics necessary to make rational and optimal therapeutic plans for patients in ambulatory settings. May be repeated two times for credit.—I, II, III, IV. (I, II, III, IV.) DeAmicis

(new course—eff. winter 10)

**358B. Pharmacology (2)**

Extensive problem solving—1 hour; tutorial—1 hour. Restricted to registered students in the Family Nurse Practitioner/Physician Assistant Program. Provides core knowledge in pharmacology to include mechanism of action, dosages, adverse effects, contraindications and clinical therapeutics necessary to make rational and optimal therapeutic plans for patients in ambulatory settings. Specific organ systems (i.e., cardiovascular, gastrointestinal) are reviewed. May be repeated two times for credit.—I, II, III, IV. (I, II, III, IV.) DeAmicis

(new course—eff. winter 10)

**358C. Pharmacology (2)**

Extensive problem solving—1 hour; tutorial—1 hour. Restricted to registered students in the Family Nurse Practitioner/Physician Assistant Program. Provides core knowledge in pharmacology to include mechanism of action, dosages, adverse effects, contraindications and clinical therapeutics necessary to make rational and optimal therapeutic plans for patients in ambulatory settings. Specific organ systems (i.e., cardiovascular, gastrointestinal) are reviewed. May be repeated two times for credit.—I, II, III, IV. (I, II, III, IV.) DeAmicis

(new course—eff. winter 10)

**Professional Courses****405. The Healer's Art (1)**

Lecture—0.6 hours; workshop—3 hours. Prerequisite: consent of instructor. Limited to first-year medical students. Learning to strengthen your humanity and remain open-hearted can make the difference between professional burnout and a fulfilling life. Opportunity to learn tools for self care, healing loss, finding meaning, strengthening commitment and becoming a true physician. (P/F grading only.)—II, III. (II, III.) Eidson-Ton, Neyhart

(new course—eff. winter 10)

**407. Davis Community Clinic (3)**

(cancelled course—eff. winter 11)

**434. Primary Care Clinics—Clínica Tepati (3-12)**

Clinical activity—32-36 hours; seminar—0-2 hours; lecture—1-2 hours. Open to medical students in all four years of medical school. Medical students will learn counseling, diagnosis and treatment of patients with chronic and acute disease under supervision of physician. Provides exposure to special health care needs of various ethnic and poverty-level populations. May be repeated for credit. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Hitzeman

(change in existing course—eff. winter 10)

**435. Primary Care Clinics—Imani Clinic (3-12)**

Clinical activity—32-36 hours; seminar—0-2 hours; lecture—1-2 hours. Open to medical students in all four years of medical school. Learn counseling, diagnosis and treatment of patients with chronic and acute disease under supervision of physician. Provides exposure to special health care needs of various ethnic and poverty-level populations. May be repeated for credit. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Smith

(new course—eff. winter 10)

**436. Continuity Clinic in Primary Care—Shifa Clinic (3-12)**

Clinical activity—32-36 hours; seminar—0-2 hours; lecture—1-2 hours. Open to medical students in all four years of medical school. Learn counseling, diagnosis and treatment of patients with chronic and acute disease under supervision of physician. Provides exposure to special health care needs of various ethnic and poverty-level populations. May be repeated for credit. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Yasmeen

(new course—eff. winter 10)

**490. Health Care to Rural and Underserved Populations (1)**

Lecture—1 hours. Prerequisite: Sociology, Political Science, or Applied Behavioral Science background recommended, or registration in medical school. Discusses sociocultural perspectives of underserved populations impacting health; roles of family/interpersonal relationships in making health care decisions; the nature of ethnic/racial/socioeconomic health care disparities; and clinicians' perspectives in treating people of cultures which are unfamiliar and/or uncomfortable with Western medicine. May be repeated for credit. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Hilty, Nesbitt

(change in existing course—eff. winter 09)

## Medicine: Human Physiology

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**New and changed courses in Human Physiology (HPH)****Graduate Courses****200. Human Physiology (6)**

(cancelled course—eff. spring 10)

**285. Peripheral Circulation (3)**

(cancelled course—eff. spring 10)

**Graduate Course****418. Mammalian Endocrinology and Homeostasis (4)**

(cancelled course—eff. spring 09)

## Medicine: Internal Medicine

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**New and changed courses in Internal Medicine (IMD)****Professional Courses****419. Introduction to Clinical Nutrition (2.5)**

(cancelled course—eff. fall 10)

**420. Hematology (2)**

Lecture/discussion—1 hour; discussion—1.5 hours. Prerequisite: consent of instructor. Restricted to Medical student only. Normal hematopoiesis and basic disorders of blood cells, immunoglobulin disorders, thrombosis and hemostasis. Normal and abnormal blood cells and the interpretation of common laboratory tests. (Deferred grading only, pending completion of sequence.) (P/F grading only.)—IV. (IV.) O'Donnell

(change in existing course—eff. summer 09)

**420A. Hematology (2)**

Lecture/discussion—1 hour; discussion—1 hour. Prerequisite: consent of instructor. Restricted to Medical student only. Malignant disorders of blood cells and transfusion therapy. Covers acute leukemia, myelodysplasia, myeloproliferative disorders, lymphoma, and myeloma. (Deferred grading only, pending completion of sequence.) (P/F grading only.)—I. (I.) O'Donnell

(change in existing course—eff. summer 09)

**420F. Pathophysiology of the Endocrine System (2.5)**

(cancelled course—eff. winter 11)

**450. Medicine and the Law (1-3)**

(cancelled course—eff. summer 10)

**450A. Medicine and the Law (1.5)**

Seminar—2 hours; discussion—2 hours. Prerequisite(s): consent of instructor. Restricted to Medical students only. Legal and bioethical principles and concepts in medicine. Topics include standard of care, informed consent, reproductive medicine, and end-of-life issues. Offered irregularly. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—II. (II.) Rich

(new course—eff. summer 10)

**450B. Medicine and the Law (1.5)**

Seminar—2 hours; discussion—2 hours. Prerequisite(s): consent of instructor. Restricted to Medical students only. Legal and bioethical principles and concepts in medicine. Topics include standard of care, informed consent, reproductive medicine, and end-of-life issues. Offered irregularly. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—III. (III.) Rich

(new course—eff. summer 10)

**462. Externship in Medicine (6)**

Clinical activity—40 hours. Prerequisite(s): Medical Sciences 431; consent of Instructor; demonstrated ability to accept responsibility. Limited enrollment. Assume role of acting intern and be primary physician on medical ward under direction of medical resident and staff. Teams I-IV take call every fifth night. Emphasis on evidence-based inpatient care. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Henderson

(new course—eff. summer 10)

**463. Acting Internship in Medicine Intensive Care Unit (MICU) (9)**

Clinical activity—40 hours. Prerequisite: completion of third year in medical school; consent of Director of MICU. Limited enrollment. At UCDCMC, student functions as acting intern on MICU service under direction of medical resident and staff. Responsibility for patients admitted to MICU. On call in hospital every fourth night. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Albertson

(change in existing course—eff. winter 10)

**464. Bayanihan Primary Care Clinic (3)**

Clinical activity—6 hours. Prerequisite: consent of instructor. Restricted to medical students in all four years of medical school. Under the guidance and supervision of a physician, medical students will learn patient history taking, medical documentation, counseling, diagnosis and treatment of patients with chronic and acute disease. Provides exposure to the special needs of various ethnic and socioeconomic groups. May be repeated for credit. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Guerrero

(new course—eff. spring 09)

**463. Acting Internship in Medicine Intensive Care Unit (MICU) (6)**

Clinical activity—40 hours. Prerequisite: completion of third year in medical school; consent of Director of MICU. Limited enrollment. At UCDCMC, student functions as acting intern on MICU service under direction of medical resident and staff. Responsibility for patients admitted to MICU. On call in hospital every fourth night. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Albertson

(change in existing course—eff. summer 10)

## Medicine: Internal Medicine—Clinical Nutrition and Metabolism

### New and changed courses in Internal Medicine—Clinical Nutrition and Metabolism (NCM) Professional Courses

**461. Nutrition Clinical Clerkship (3-18)**  
(cancelled course—eff. summer 10)

**480. Insights in Clinical Nutrition (1-3)**  
(cancelled course—eff. winter 11)

**499. Research in Nutrition (9-18)**  
(cancelled course—eff. winter 11)

## Medicine: Internal Medicine—Emergency Medicine

### New and changed courses in Internal Medicine—Emergency Medicine (EMR)

#### Upper Division Course

**192. Emergency Medicine Clinical Research Internship (1-4)**

Internship—6-12 hours. Prerequisite: undergraduate student in good academic standing at UC Davis; consent of instructor. Intended to give the upper division undergraduate student an opportunity to conduct “hands-on” clinical research in the Emergency Department. Through the lecture/discussion, students learn the basics of conducting and developing clinical research studies. May be repeated two times for credit. (P/NP grading only.)—I, II, III, IV. (I, II, III, IV.) Panacek

(new course—eff. summer 07)

#### Professional Courses

**430. Introduction to Medical Toxicology (3-6)**

Prerequisite: fourth-year medical student with consent of instructor. Student will become familiar with the resources available to manage exposure and poison cases. Hands-on training in the use of Poisindex® computer database. Additional readings from medical literature required. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Daubert

(change in existing course—eff. fall 08)

**445. Emergency Medicine Ultrasound for Fourth-Year Medical Student (3-6)**

Prerequisite: fourth-year Medical Student in good standing; interest in Emergency Medicine or Critical Care is recommended; course 440 or equivalent is recommended prior to the rotation. Intended for students interested in learning both the technical and cognitive skills of bedside ultrasound. Emphasis will be on the use of ultrasound in emergency medicine as a diagnostic tool and in procedural guidance. Limited enrollment. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Cusick

(change in existing course—eff. fall 08)

**470. Pediatric Emergency Medicine Clerkship (6)**

Clinical activity—36 hours; lecture/discussion—4 hours. Prerequisite: satisfactory completion of Medicine, Surgery, Pediatrics. Restricted to fourth-year medical student in good standing only. See patients

in the Pediatric area of the Emergency Department under the supervision of an Emergency Medicine Attending. Emphasis on recognition and management of the acutely ill pediatric patient and treatment of common pediatric complaints. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Vance  
(new course—eff. winter 10)

**490. Emergency Procedures Elective (3)**

Lecture/discussion—24 hours; web virtual lecture—8 hours; tutorial—4 hours; independent study—4 hours. Prerequisite: current basic life support (BLS) certification. Restricted to fourth-year medical student in good standing only. Simulator-based skills training for emergency procedures. Topics include airway management, central venous access, chest tube placement, and general critical care resuscitation skills. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Bair

(new course—eff. summer 10)

**493A. Cardiac Arrest, Resuscitation and Repfusion SSM (3)**

Lecture—5 hours; lecture/laboratory—10 hours; laboratory—16 hours; clinical activity—4 hours. Prerequisite: consent of instructor. Restricted to UC Davis School of Medicine students only. Special Studies Module, a four week course specific to the topics of Cardiac Arrest, Resuscitation and Repfusion. (H/P/F grading only.) (Deferred grading only, pending completion of sequence.)—I. (I.) Barnes, Laurin  
(new course—eff. summer 10)

**493B. Cardiac Arrest, Resuscitation and Repfusion SSM (3)**

Lecture—5 hours; lecture/laboratory—10 hours; laboratory—16 hours; clinical activity—4 hours. Prerequisite: consent of instructor. Restricted to UC Davis School of Medicine students only. Special Studies Module, a four week course specific to the topics of Cardiac Arrest, Resuscitation and Repfusion. (H/P/F grading only.) (Deferred grading only, pending completion of sequence.)—III. (III.) Barnes, Laurin  
(new course—eff. summer 10)

## Medicine: Internal Medicine—Gastroenterology

### New and changed courses in Internal Medicine—Gastroenterology (GAS)

#### Graduate Course

**290. Basic GI Research (1.5)**

(cancelled course—eff. fall 10)

## Medicine: Internal Medicine—General Medicine

### New and changed courses in Internal Medicine—General Medicine (GMD)

#### Professional Course

**480. Insights in General Medicine (2-5)**

(new course—eff. spring 11)

**493. Ethical, Legal and Social Issues in Clinical Genetics (6)**

(new course—eff. summer 10)

**493A. Teaching the Basic Sciences SSM (2)**

Lecture—6 hours; lecture/laboratory—8 hours; laboratory—30 hours; tutorial—10 hours. Prerequisite: consent on instructor. Restricted to UC Davis School of Medicine students only. Special Studies Module, a yearlong in progress court to teach lecture and discussion education technique and theory. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—IV. (IV.) Wilkes  
(change in existing course—eff. summer 10)

**493B. Teaching the Basic Sciences SSM (2)**

Lecture—6 hours; lecture/laboratory—8 hours; laboratory—30 hours; tutorial—10 hours. Prerequisite: consent on instructor. Restricted to UC Davis School of Medicine students only. Special Studies Module, a yearlong in progress court to teach lecture and discussion education technique and theory. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—I. (I.) Wilkes  
(new course—eff. summer 10)

**493C. Teaching the Basic Sciences SSM (2)**

Lecture—6 hours; lecture/laboratory—8 hours; laboratory—30 hours; tutorial—10 hours. Prerequisite: consent on instructor. Restricted to UC Davis School of Medicine students only. Special Studies Module, a yearlong in progress court to teach lecture and discussion education technique and theory. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—II. (II.) Wilkes  
(new course—eff. summer 10)

**493A. Teaching the Basic Sciences SSM (6)**

Lecture—6 hours; lecture/laboratory—8 hours; laboratory—30 hours; tutorial—10 hours. Prerequisite: consent on instructor; concurrent registration in Medical Sciences 440. Restricted to UC Davis School of Medicine students only. Special Studies Module, a yearlong in progress court to teach lecture and discussion education technique and theory. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Stevenson  
(change in existing course—eff. spring 09)

## Medicine: Internal Medicine—Hematology-Oncology

### New and changed courses in Internal Medicine—Hematology-Oncology (HON)

#### Professional Courses

**420. Oncology (2)**

Lecture—1 hour. Prerequisite: consent of instructor. Restricted to Medical student only. Covers the principles of oncology and the pathophysiology of specific, common cancers correlated with organ systems pathophysiology and systemic pathology courses. (Deferred grading only, pending completion of sequence.) (P/F grading only.)—I. (I.) Welborn  
(change in existing course—eff. summer 09)

**420A. Oncology (2)**

Lecture—1 hour. Prerequisite: consent of instructor. Restricted to Medical student only. Covers the principles of oncology and the pathophysiology of specific, common cancers correlated with organ systems pathophysiology and systemic pathology courses. (Deferred grading only, pending completion of sequence.) (P/F grading only.)—II. (II.) Welborn  
(change in existing course—eff. summer 09)

**490. Practicum in Care for the Terminally Ill (3-6)**

(cancelled course—eff. winter 11)

## Medicine: Internal Medicine—Pulmonary Medicine

### New and changed courses in Internal Medicine—Pulmonary Medicine (PUL)

#### Professional Course

#### 470. Practicum in Care of the Terminally Ill (3-6)

Clinical activity—35 hours; seminar—5 hours. Prerequisite: consent of instructor. Restricted to fourth-year Medical students in good standing. Work with hospice interdisciplinary team. Direct experience in the care of patients with illnesses where no cure is possible. Emphasis on symptom relief, end of life issues, physician assisted suicide. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) McMillian  
(new course—eff. spring 10)

## Medicine: Internal Medicine— Rheumatology-Allergy

### New and changed courses in Internal Medicine—Rheumatology- Allergy (RAL)

#### Professional Courses

#### 460. Rheumatology Clinical Clerkship (1-18)

Clinical activity—240 hours. Prerequisite: Medical Sciences 431 and consent of instructor. Participation with members of the subspecialty service in the diagnosis and therapeutic management of patients with rheumatologic diseases. May be repeated for credit. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.)  
(change in existing course—eff. spring 09)

#### 499. Research (1-12)

Prerequisite: medical student with consent of instructor. Part-time participation in active clinical and basic research projects which can involve both patient care and relevant laboratory procedures. Students can gain experience in clinical medicine and clinical investigation. May be repeated for credit. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.)  
(change in existing course—eff. spring 09)

## Medicine: Medical Microbiology

### New and changed courses in Medical Microbiology (MMI)

#### Graduate Courses

#### 208. Seminars in Microbiology and Immunology (1)

(cancelled course—eff. fall 10)

#### 215. Medical Parasitology (3)

Lecture—1.5 hours; discussion—1.5 hours. Prerequisite: graduate student with consent of instructor. Epidemiology, pathogenesis, diagnostic methods and current literature discussion of protozoa, helminths and arthropods of medical importance.—III. (III.) Dawson, Luckhart  
(change in existing course—eff. spring 11)

#### 220. Current Concepts in Bacterial Ultrastructure (2)

#### Professional Courses

#### 415. Medical Parasitology (5)

(cancelled course—eff. spring 11)

#### 420. Current Concepts in Bacterial Ultrastructure (2)

(cancelled course—eff. fall 10)

## Medicine: Neurology

### New and changed courses in Neurology (NEU)

#### Graduate Courses

#### 201. Human Behavioral Neurobiology (2)

(cancelled course—eff. spring 10)

#### 202. Visuomotor Neurobiology (2)

(cancelled course—eff. spring 10)

#### 290. Seminar in Selected Topics (1)

(cancelled course—eff. winter 11)

#### Professional Courses

#### 451. Clinical Neurology Clerkship (3-6)

(cancelled course—eff. winter 11)

#### 453. Advanced Clinical Neurology (6)

(cancelled course—eff. winter 11)

#### 454. Electroencephalography and Evoked Potentials (3-18)

(cancelled course—eff. winter 11)

#### 456. Cortical Neurology (3-18)

(cancelled course—eff. winter 11)

#### 457. Special Topics in Neurology (3-18)

(cancelled course—eff. winter 11)

#### 458. Introduction to Cognitive and Communication Disorders (3)

(cancelled course—eff. winter 11)

#### 459. Independent Study in Neurogenic Communication Disorders (1-3)

(cancelled course—eff. winter 11)

#### 464. Clinical Neurology (3-18)

(cancelled course—eff. winter 11)

#### 468. Special Clinical Elective in Neurology (6-18)

(cancelled course—eff. winter 11)

#### 480. Insights in Neurology (1-3)

(cancelled course—eff. winter 11)

## Medicine: Obstetrics and Gynecology

### New and changed courses in Medicine: Obstetrics and Gynecology (OBG)

#### Upper Division Courses

#### 190. Seminar in Early Mammalian Development (1)

(cancelled course—eff. winter 11)

#### 194. Shifa Clinic Student Volunteer (1)

Conference—1 hours; clinical activity—6 hours. Prerequisite: consent of instructor; the applications will be available for students. Selection of students will be made by selection committee of medical students coordinators and the IOR. Attend clinic every third

Sunday performing duties of receptionist, intake, translation, monitor. Students attend a meeting immediately after end of clinic. There is a mandatory Monday meeting with Clinic co-directors. Students are expected to participate on various committees. May be repeated three times for credit. (P/NP grading only.)—I, II, III, IV. (I, II, III, IV.) Yasmeen  
(new course—eff. fall 08)

#### Graduate Course

#### 291. Seminar in Early Mammalian Development (1)

(cancelled course—eff. winter 11)

#### Professional Courses

#### 420. Genetics and Reproduction (2)

Lecture—3 hours; conference—2 hours. Prerequisite: approval of Committee on Student Progress. Restricted to Medical students only. Introduction to medical genetics and the clinical consequences of genetic abnormalities. (P/F grading only.)—I. (I.) Towner  
(change in existing course—eff. spring 10)

#### 460. Away Clinical Elective in OBGYN (3-18)

Clinical activity—30 hours. Prerequisite: third- or fourth-year medical student; course 430 or the equivalent; consent of instructor. Active participation in inpatient and/or outpatient care. Attendance at specified conferences; student-faculty member informal conferences. May be repeated for credit. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Dalrymple  
(new course—eff. spring 10)

#### 465. Away Acting Internship in OBGYN (3-18)

Clinical activity—40 hours. Prerequisite: satisfactory completion of course 430 and other third-year core clerkships; consent of instructor. Work at the level of a sub intern in Inpatient and/or Outpatient settings. Students are expected to provide direct patient management. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Dalrymple  
(new course—eff. spring 10)

#### 470. Gynecologic Oncology Acting Internship (3-18)

Clinical activity—40 hours. Prerequisite: satisfactory completion of course 430 and the third-year core clerkships; consent of instructor. Four week elective primarily involves direct inpatient management of women on the UCDCM Gyn/Onc service. Students will be acting at the level of a sub-intern and will work under the supervision of house staff, fellows, and attendings. May be repeated up to 99 units for credit. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Dalrymple  
(new course—eff. spring 10)

#### 475. Labor & Delivery Acting Internship (3-18)

Clinical activity—40 hours. Prerequisite: satisfactory completion of course 430 and the third-year core clerkships; consent of instructor. Four week elective primarily involves direct inpatient management of women on the UCDCM L&D unit. Students will be acting at the level of a sub-intern and will work under the supervision of house staff, fellows, and attendings. May be repeated for credit. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Dalrymple  
(new course—eff. spring 10)

## Medicine: Ophthalmology

### New and changed courses in Medicine: Ophthalmology (OPT)

#### Professional Courses

#### 440. Ophthalmology Required Clerkship (3)

(cancelled course—eff. spring 09)

#### 442. Introduction to Ophthalmology (3)

Clinical activity—40 hours. Prerequisite: third- or fourth-year Medical Student with consent of instructor; consent of advisor; completion of third-year clerkships in Medicine and Surgery; consult Course Coordinator. Ocular disease diagnosis and management relevant to the clinical practice of future primary care physicians and others. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Feiz

(change in existing course—eff. summer 10)

#### 461. Basic Clinical Ophthalmology (4.5)

(cancelled course—eff. spring 09)

#### 465. Advanced Subspecialty Ophthalmology (3-6)

Clinical activity—40 hours. Prerequisite: Medical students who have completed Internal Medicine 430 in third or fourth year; consent of instructor. Participation in disciplines of neuro-ophthalmology/pediatric ophthalmology, diseases of the cornea and external eye, glaucoma and retina. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Feiz

(change in existing course—eff. summer 10)

#### 480. Insights in Ophthalmology (1-3)

(cancelled course—eff. spring 09)

## Medicine: Otolaryngology

### New and changed courses in Otolaryngology (OTO)

#### Upper Division Course

#### 198. Directed Group Study (1-5)

(cancelled course—eff. winter 09)

#### Graduate Course

#### 298. Group Study (1-5)

(cancelled course—eff. winter 09)

## Medicine: Pathology

### New and changed courses in Medicine: Pathology (PMD)

#### Graduate Course

#### 290C. Research Group Conferences (1)

Seminar—1 hour. Prerequisite: graduate level standing. Seminar. Topics on animal models of human disease and infectious diseases. May be repeated for credit. (S/U grading only.)—I, II, III. (I, II, III.)

(new course—eff. spring 08)

#### Professional Course

#### 410A. General and Endocrine Pathology (2.5)

Lecture—4 hours; laboratory/discussion—4.5 hours. Prerequisite: approval of Committee on Student Progress. Restricted to Medical students only. Pathologic mechanisms of human disease. Concepts of general pathologic processes, i.e., cell death, inflammation

and neoplasia. Endocrine pathology in the context of clinical human disease. Emphasis on integration of clinical practice with gross and histologic images. (P/F grading only.)—III. (III.) Gandour-Edwards, Jensen

(change in existing course—eff. spring 10)

#### 410B. Systemic Pathology (1)

Lecture—1 hours; laboratory/discussion—0.5 hours. Prerequisite: Approval by SOM Committee on Student Progress. Restricted to Medical students only. Anatomic and clinical pathology of organ system human disease with an emphasis on integration with clinical medicine. Topics include hematopathology and neuropathology. (Deferred grading only, pending completion of sequence. P/F grading only.)—IV. (IV.) Gandour-Edwards, Jensen

(change in existing course—eff. spring 10)

#### 410C. Systemic Pathology (2)

Lecture—1 hour; discussion—2 hours. Prerequisite: approval by SOM Committee on Student Progress. Restricted to Medical students only. Anatomic and clinical pathology of organ system human disease with an emphasis on integration with clinical medicine. Topics include pulmonary pathology, cardiovascular pathology, hematopathology, oncologic pathology, and nephropathology. (Deferred grading only, pending completion of sequence. P/F grading only.)—I. (I.) Gandour-Edwards, Jensen

(change in existing course—eff. spring 10)

#### 410D. Systemic Pathology (2.5)

Lecture—1 hour; discussion—2 hours. Prerequisite: approval by SOM Committee on Student Progress. Restricted to Medical students only. Anatomic and clinical pathology of organ system human disease with emphasis on integration with clinical medicine. Course content parallels concurrent clinical courses with integration of lectures and discussions. Topics include gastrointestinal and gynecologic pathology, hepatopathology, oncologic pathology and musculoskeletal pathology. (Deferred grading only, pending completion of sequence. P/F grading only.)—II. (II.) Gandour-Edwards, Jensen

(change in existing course—eff. spring 10)

#### 464. Anatomic Pathology (3-6)

Clinical activity—40 hours. Prerequisite: fourth-year Medical Students with consent of instructor. Restricted to Medical Students only. Anatomic pathology with an emphasis on autopsy and surgical pathology with application to clinical practice. Specimen grossing, frozen sections, microscopic sign-out and conferences. Exposure to cytopathology, hematopathology, and clinical pathology is available. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Gandour-Edwards

(change in existing course—eff. winter 10)

#### 474. Anatomic Pathology Acting Internship (6)

Clinical activity—40-80 hours. Prerequisite: fourth-year medical student or consent of instructor. Restricted to medical students only. Anatomic Pathology AI will permit students to gain skills needed for first year Pathology Residency. Students will perform autopsies and take full responsibility for a variety of surgical pathology cases. A mix of outpatient and inpatient cases is expected. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Gandour-Edwards

(new course—eff. spring 09)

#### 493. Interdisciplinary Study of Gastrointestinal Cancer (6)

Lecture—5 hours; clinical activity—12 hours; laboratory—3 hours; discussion/laboratory—20 hours. Prerequisite: consent of instructor. In-depth study of gastrointestinal, hepatic and pancreatic cancer. Emphasis on an integration of basic science and clinical medicine. Participating departments include pathology, surgical oncology, medical oncology,

gastroenterology, radiology and radiotherapy. (Same Course as Surgery 493D.) (H/P/F grading only.)—II, III. (II, III.) Khatri, Ruebner, Saroufeem (new course—eff. summer 09)

## Medicine: Pediatrics

### New and changed courses in Medicine: Pediatrics (PED)

#### Professional Courses

#### 461. Pediatric Inpatient AI in Hematology/Oncology (6)

Clinical activity—37.5 hours; lecture—7.5 hours. Prerequisite: satisfactory completion of course 430; consent of instructor. Inpatient and outpatient experience in diagnosis and management of oncologic and hematologic disorders in children. Laboratory experience and participation in clinical investigation may be arranged. Limited enrollment. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Taylor

(change in existing course—eff. spring 09)

#### 473. Away Acting Internship in Pediatrics (6-18)

Clinical activity—40 hours; lecture—6 hours. Prerequisite: satisfactory completion of Pediatrics Clerkship; consent of instructor. Work at the level of a sub intern in Inpatient and/or Outpatient settings. Expectation is to provide direct patient management. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Butani

(change in existing course—eff. spring 10)

#### 493. Ethical, Legal and Social Issues in Clinical Genetics (6)

Seminar—12 hours; clinical activity—18 hours; autotutorial—8 hours; independent study—2 hours. Prerequisite: consent of instructor. Restricted to UC Davis School of Medicine students only. Develop advanced knowledge, communication skills and attitudes necessary to provide compassionate, knowledgeable, and expert care to patients who may be at increased genetic risk for disease. Seminars cover ethical and legal principles, epidemiology, and genetics. (H/P/F grading only.)—II. (II.) Rich, Wilkes (new course—eff. summer 10)

## Medicine: Pharmacology and Toxicology

### New and changed courses in Medicine: Pharmacology and Toxicology (PHA)

#### Graduate Course

#### 200A. Advanced General Pharmacology (3)

(cancelled course—eff. winter 11)

#### 200B. Advanced General Pharmacology (4)

(cancelled course—eff. spring 10)

#### 225. Gene Therapy (2)

Lecture/discussion—2 hours. Prerequisite: Genetics 201C/Molecular and Cellular Biology 221C or equivalent. Gene therapy from basic concepts to clinical applications. Topics include the human genome and genetic variation, genetic diseases, methods to manipulate gene expression, viral and non-viral delivery vectors, history and progress of gene therapy, case studies, and ethical issues. Offered in alternate years.—II. Segal

(new course—eff. winter 09)

## Professional Courses

### 400B. Pharmacology (1.5)

Lecture—1 hour; discussion—.25 hours. Prerequisite: approval by the School of Medicine Committee on Student Progress; medical students only. Principles in pharmacology, including autonomic pharmacology, general anesthetics, neuropharmacology and sedative/hypnotics. (P/F grading only.)—IV. (I.V.) Fischer

*(change in existing course—eff. fall 08)*

### 400C. Pharmacology (1.5)

Lecture—1 hour; discussion—.25 hours. Prerequisite: approval by the School of Medicine Committee on Student Progress; medical student only. Topics taught include the treatment of respiratory and cardiovascular disease. Specific topics include: asthma, chronic obstructive pulmonary disease, hypertension, congestive heart failure, and the treatment of arrhythmias. (P/F grading only.)—I. (I.) Fischer

*(change in existing course—eff. fall 08)*

## Medicine: Plastic Surgery

### New and changed courses in Medicine: Plastic Surgery (PSU)

#### Professional Course

### 461. Dentistry for Future Physicians and Surgeons (6-8)

*(cancelled course—eff. winter 11)*

## Medicine: Psychiatry

### New and changed courses in Medicine: Psychiatry (PSY)

#### Lower Division Course

### 92. Willow Clinic (1-2)

Clinical activity—2-6 hours; seminar—1-2 hours. Open to lower division undergraduate students. Student run clinic for undergraduate students interested in learning about and meeting the unique health care needs for the homeless population. May be repeated for credit. (P/NP grading only.)—I, II, III, IV. (I, II, III, IV.) Clark, Han, McCarron

*(change in existing course—eff. fall 09)*

#### Professional Courses

### 401. Medicine and the Mind: An Introduction to Psychiatry (2)

*(cancelled course—eff. winter 11)*

### 402. Human Sexuality (1)

*(cancelled course—eff. summer 10)*

### 407. Senior Student Wellness Elective (3)

*(cancelled course—eff. winter 11)*

### 407A. Senior Student Wellness Elective (1)

*(cancelled course—eff. summer 10)*

### 407B. Senior Student Wellness Elective (1)

*(cancelled course—eff. summer 10)*

### 407C. Senior Student Wellness Elective (1)

*(cancelled course—eff. summer 10)*

### 413. Outpatient Psychiatry Clerkship (6)

Clinical activity—36 hours; conference—2 hours; lecture—2 hours. Prerequisite: course 430 and/or consent of coordinator. Experience in clinical management/treatment of adult outpatients with psychiatric and substance abuse disorders; crisis management/intervention, evaluation/development of diagnosis and treatment plan; emphasis on outpa-

tient psychopharmacology/brief psychotherapy; observation of group therapy. Individual supervision by faculty/residents. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.)

*(change in existing course—eff. winter 09)*

### 416. Child Psychiatry Clerkship (6)

Clinical activity—36 hours; lecture/discussion—2 hours; conference—2 hours. Prerequisite: course 430 and/or consent of instructor. Didactic and clinical inpatient, outpatient, and consultation-liaison experiences with children, adolescents and families. Clinical observations, diagnostic assessment, and treatment will be undertaken with close supervision. Literature review and case conferences presented on a regular basis. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.)

*(change in existing course—eff. winter 09)*

### 417. Jail Psychiatric Clerkship (6)

Clinical activity—28 hours; conference—8 hours; lecture—4 hours. Prerequisite: course 430 and/or consent of course coordinator. Students gain experience, under close faculty supervision, assessing acute and chronic mentally ill inmates in both inpatient and clinic settings. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.)

*(change in existing course—eff. winter 09)*

### 419. Group Psychotherapy (6)

*(cancelled course—eff. summer 10)*

### 420. Acting Internship in Psychiatry (62)

Clinical activity—40 hours. Prerequisite: course 430 and/or consent of course coordinator. Acting intern position with close faculty supervision with emphasis on biological psychiatry, psychopharmacology and psychodynamic aspects appropriate to diagnostic and long-term patient management. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.)

*(change in existing course—eff. winter 09)*

### 423. Willow Clinic (3-12)

Prerequisite: open to medical students in all four years of medical school. Student run clinic for medical students interested in learning about and meeting the unique health care needs for the homeless population. May be repeated for credit. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Clark, Han, McCarron

*(change in existing course—eff. spring 09)*

### 424. Functional Genomics (2)

Lecture—1 hour; discussion—1 hour. Prerequisite: graduate standing or consent of the instructor. The theory, methods and principles of functional neurogenomics with emphasis on the relationship to molecular mechanisms involved in development and disease of the nervous system. (H/P/F grading only.)—II. (II.) Choudary

*(new course—eff. winter 10)*

### 465. Community Health Preceptorship (3-18)

Clinical activity—5-40 hours. Prerequisite: fourth-year medical student; consent of instructor. Participate at state or county health department or other public health organization in on-going investigations into current public health problems, e.g., birth defects, cancer control, diabetes, hypertension, injury control, infectious diseases, aging, Alzheimer's disease, and smoking and tobacco use control. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) McCurdy

*(change in existing course—eff. spring 10)*

### 466. Occupational and Environmental Medicine Elective (6-12)

Clinical activity; laboratory. Prerequisite: fourth-year medical student in good academic standing; consent of instructor. Participate in activities of Occupational and Environmental Health Unit. Major activity is involvement in an epidemiologic research project of the University. Participate in Occupational and Envi-

ronmental Medicine Clinic at UC Davis Medical Center and other sites, as arranged. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) McCurdy

*(change in existing course—eff. summer 10)*

### 470. Clinical Selective in Occupational and Environmental Medicine (3-6)

Clinical activity—9-18 hours. Prerequisite: fourth-year medical student in good academic standing; consent of instructor. Outpatient clinical experience in Occupational and Environmental Medicine at UCDMC and other sites, as arranged. Gain experience in evaluating occ/env medical conditions, use of medical literature resources, the worker's compensation system, and toxicological principles. Students may take up to four weeks for six units. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) McCurdy

*(change in existing course—eff. spring 10)*

### 480. Insights in Occupational and Environmental Medicine (1-3)

Clinical activity—3-9 hours. Prerequisite: first- or second-year medical student in good academic standing; consent of instructor. Observe and participate in research and clinical activities in occupational and environmental medicine which include conferences, occupational and environmental medicine clinical activities and field visits. Develop and present small individual research projects. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) McCurdy

*(change in existing course—eff. summer 10)*

### 488. Acting Internship in Inpatient Psychiatry, Away Rotation (6)

Clinical activity—40 hours. Prerequisite: Psychiatry Clerkship and/or consent of course coordinator. Inpatient acting internship at approved non-UCDHS affiliated training program that provides experience and preparation for ambulatory medical care. Students perform as an intern, with a smaller number of patients, greater supervision, and responsibility for the ongoing care of assigned patients. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.)

*(new course—eff. summer 09)*

### 489. Acting Internship in Ambulatory Psychiatry, Away Rotation (6)

Clinical activity—40 hours. Prerequisite: Psychiatry Clerkship and/or consent of course coordinator. Outpatient acting internship at an approved non-UCDHS affiliated training program that provides experience and preparation for ambulatory medical care. Students perform as an intern, with smaller number of patients, greater supervision, and responsibility for the ongoing care of assigned patients. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.)

*(new course—eff. summer 09)*

## Medicine: Public Health Sciences

### New and changed courses in Medicine: Public Health Sciences (SPH)

#### Upper Division Courses

### 132. Health Issues Confronting Asian Americans and Pacific Islanders (4)

Lecture/discussion—4 hours. Health issues confronting Asian Americans and Pacific Islanders. (Same course as Asian American Studies 132.)—II. (II.) Chen

*(new course—eff. winter 09)*

### 175W. Health Policy and Health Politics (4)

Seminar—3 hours; extensive writing or discussion—1 hour. Restricted to students attending UC Washington Center program. Following the model of a Congressional subcommittee, identification of four salient health policy issues for study, research, and

development of model policies to address them. (Same Course as UC Davis Washington Center 175.) GE Credit: SocSci, Wri.—III. (III.) Wintemute (new course—eff. summer 08)

## Graduate Courses

### 210. Public Health Informatics (2)

Lecture—2 hours; laboratory—2 hours. Restricted to upper division or graduate standing. Collection, verification, and utilization of data related to populations; infrastructure, functions, and tools used to generate public health knowledge supporting public health practices and policy development/dissemination. (S/U grading only.)—IV. (IV.) Doebbert, Hogarth

(new course—eff. summer 08)

### 212. Migration and Health (3)

Lecture/discussion—3 hours. Prerequisite: graduate standing. Principles of migration and health. Topics will include demographics, public health invention programs, health care delivery, occupational health, and effects of international migration on the health in communities of origin, transit and destination. Guest presentations by outside experts. Offered in alternate years. (S/U grading only.)—(II.) Schenker

(new course—eff. winter 10)

### 222. Social & Behavioral Aspects of Public Health (3)

Lecture/discussion—3 hours. Prerequisite: consent of instructor required; graduate standing, Statistics 102 and 106. Theories and strategies of health behavior change at the individual, group, community, and environmental levels. Examples include: transtheoretical model, social networks, and social marketing. Theories are applied to solve common public health problems (cancer, obesity, smoking, and HIV/AIDS.—II. (II.) Cassidy

(change in existing course—eff. winter 09)

### 244. Introduction to Medical Statistics (4)

Lecture/discussion—6 hours; laboratory/discussion—3 hours. Introduction to statistical methods and software in clinical, laboratory and population medicine. Graphical and tabular presentation of data, probability, binomial, Poisson, normal, t, F-, and Chi-square distributions, elementary nonparametric methods, simple linear regression and correlation, life tables. Only one unit of credit for students who have completed Statistics 100 or Preventive Veterinary Medicine 402.—IV. (IV.) Beckett

(new course—eff. summer 08)

### 245. Statistical Analysis of Laboratory Data (4)

Lecture—3 hours; laboratory/discussion—1 hour. Prerequisite: consent of instructor required; course 244 or equivalent. Preference to K30 training program students. The analysis of data and design of experiments for laboratory data with an emphasis on gene expression arrays and other high-throughput biological assay technologies.—I. (I.) Rocke

(new course—eff. summer 08)

### 246. Biostatistics for Clinical Research (4)

Lecture—3 hours; laboratory/discussion—1 hour. Prerequisite: courses 244 and 245. Emphasizes critical biostatistics for clinical research and targets biomedical audience. Students will develop understanding for basic planning and analysis of clinical studies and learn to develop collaborations with biostatisticians.—II. (II.)

(new course—eff. summer 08)

### 247. Biostatistics for Epidemiology (4)

Lecture—3 hours; laboratory/discussion—1 hour. Prerequisite: courses 246. Introduction to the principles and methods of statistical inference for categorical data and survival data in epidemiological studies. The major topics include contingency table methods, logistic regression, Kaplan-Meier and log-rank methods, and Cox regression.—III. (III.) Liu

(new course—eff. summer 08)

### 252. Social Epidemiology (2)

Lecture/discussion—2 hours. Prerequisite: Epidemiology 205A; consent of instructor. Social determinants of health; psychosocial and physiological pathways; health and social inequality; gender and racial/ethnic disparities in health; social support, social cohesion and health; social gradient in behavioral risk factors; social ecological approaches to health intervention; interventions addressing social determinants. (Same Course as Epidemiology 252.)—III. (III.) Gibson

(new course—eff. spring 09)

### 255. Human Reproductive Epidemiology (3)

Lecture—3 hours. Prerequisite: Preventative Veterinary Medicine 405, 406, Physics 220, Physiology 222 or equivalents, or consent of instructor. Human reproductive effects and risk of reproductive disorders, examined from macro- and micro-environmental exposures in community and occupational settings, epidemiologic study designs and analyses. Offered in alternate years.—I. Hertz-Picciotto

(new course—eff. spring 09)

### 262. Principles of Environmental Health Science (3)

Lecture—3 hours. Prerequisite: consent of instructor required. Principles, approaches and issues related to environmental health. Recognizing, assessing, understanding and controlling the impact of people on their environment and the impact of the environment on the public.—I. (I.) Bennett

(new course—eff. summer 08)

### 264. Public Health Econometrics (2)

Laboratory/discussion—3 hours. Prerequisite: consent of instructor. Principles of demand and supply; elasticity; benefits and costs; least squares regression; stepwise regression; economic and statistical significance; fixed and random effects; longitudinal data; non-linear relations; continuous and binary variables; instrumental variables; attrition bias; tobit regression; Two-part cost model. (S/U grading only.)—III. (III.) Leigh

(new course—eff. spring 08)

### 266. Applied Analytic Epidemiology (3)

Lecture—2 hours; laboratory—2 hours. Prerequisite: Preventive Veterinary Medicine 404 or consent of instructor. Principles and applications in analysis of epidemiologic data. Methods of analyzing stratified and matched data, logistic regression for cohort and case-control studies, Poisson regression, survival-time methods. (Same course as Population Health and Reproduction 266.)—III. (III.) Kass

(change in existing course—eff. spring 09)

### 273. Health Services Administration (3)

Laboratory—3 hours. Prerequisite: consent of instructor required. Structure and function of public and private medical care. Topics include categories and trends in national medical spending, predictors of patient use, causes of death, managed care, HMOs, Medicare, Medicaid, costs of technology, and medical care in other countries. Limited enrollment.—II. (II.) Leigh

(new course—eff. summer 08)

### 290. Topics in Public Health (1)

Seminar. Prerequisite: consent of instructor. Open to students in Master of Public Health program, or permission of instructor. Seminar on key issues and current topics in public health. Course begins in August SSI. Students must enroll in August, then Fall and Winter. The course is a series but grades and units are given at end of each quarter. May be repeated four times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Leistikow, McCurdy, Schenker

(new course—eff. summer 08)

### 295. International Health (2)

Lecture/discussion—2 hours. Prerequisite: graduate standing or consent of instructor. Forum for learning health issues and health care systems in other countries. Topics include health care for refugees, the

impact of political strife on health, the health care professional in international settings. (S/U grading only.)—III. (III.) Schenker

(new course—eff. winter 10)

### 297. Public Health Practicum (1-16)

Prerequisite: consent of instructor. Open to Master of Public Health students. Practical fieldwork experience in public health. Placement site will vary based on the interest and experience of each student. May be repeated four times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) McCurdy

(new course—eff. summer 08)

### 298. Study in Community and International Health (1-5)

Prerequisite: graduate student in good academic standing; consent of instructor. Study and experience for graduate students in any number of areas in community and international health. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.)

(new course—eff. summer 08)

### 299. Research in Community and International Health (1-12)

Prerequisite: graduate standing; consent of instructor. Student will work with faculty member in areas of research interest, including but not limited to injury control, international health, health policy, occupational and environmental health, health promotion and wellness, women's health, and health demographics. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.)

(new course—eff. summer 08)

## Professional Courses

### 455. Multidisciplinary Clinical Preceptorship (4.5)

(cancelled course—eff. winter 10)

### 471. Health Issues Confronting Asian Americans and Pacific Islanders (4)

(cancelled course—eff. winter 09)

### 495. International Health (2)

Lecture/discussion—2 hours. Prerequisite: medical student in good academic standing; consent of instructor. Forum for learning health issues and health care systems in other countries. Topics include health care for refugees, the impact of political strife on health, the health care professional in international settings. (H/P/F grading only.)—III. (III.) Schenker

(change in existing course—eff. spring 09)

### 498. Study in Public Health Sciences (1-6)

Prerequisite: medical student in good academic standing and consent of instructor. Study and experience for medical students in areas in community and international health. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.)

(change in existing course—eff. spring 09)

### 499. Research in Public Health Sciences (1-9)

Prerequisite: medical students with consent of instructor. Work with faculty member in areas of research interest, including but not limited to public health, injury control, international health, health policy, occupational and environmental health, health promotion and wellness, women's health, and health demographics. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.)

(change in existing course—eff. winter 09)

## Medicine: Radiation Oncology

### New and changed courses in Medicine: Radiation Oncology (RON)

#### Upper Division Course

**199. Special Study for Advanced Undergraduates (1-5)**  
(cancelled course—eff. spring 09)

#### Graduate Course

**211. Introduction to Radiation Oncology Physics (3-6)**

Prerequisite: consent of instructor; restricted to physics and engineering graduate students and senior undergraduate physics majors. Not more than three students total enrolled in course 211 at a time. Introduction to radiation oncology physics. Overview of treatment methodologies. Medical physics equipment. Treatment machine dosimetry, including calibration. Machine quality assurance. Patient dosimetry. Treatment planning. Simulation and treatment. Treatment quality assurance, including calculation checks and chart checks. Brachytherapy. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Stern  
(new course—eff. fall 10)

## Medicine: Radiology—Diagnostic

### New and changed courses in Medicine: Radiology—Diagnostic (RDI)

#### Professional Courses

**461. Clinical Clerkship in Diagnostic Radiology (6)**

Clinical activity—35 hours; conference—4 hours; discussion/laboratory—1 hour. Prerequisite: satisfactory completion of second year medical school curriculum, and of third-year clerkships in Internal Medicine and General Surgery; consent of instructor of record. Restricted to eight students per rotation; open to visiting medical and osteopathic students from accredited programs. Work with clinical Radiologists in image interpretation, fluoroscopy, angiography, image-guided intervention, cardiac stress testing, radionuclide therapy. Daily conferences in Radiology Diagnosis and Therapy, Health Physics, Radiation Safety. Prepare three clinical cases for in-class presentation. Assigned readings. Comprehensive final examination. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Hagge

(change in existing course—eff. summer 09)

**473. Advanced Clinical Clerkship in Neuroradiology (3-6)**

Clinical activity—35 hours; conference—4 hours; independent study—1 hour. Prerequisite: fourth-year medical student with interest in Diagnostic Radiology, Neuroradiology, Neurology, Neurosurgery, Psychiatry, Psychology, or related field; satisfactory completion of course 461, or the equivalent, is strongly encouraged. Restricted to one student per 2/4 week rotation. Work with Neuroradiologists in image interpretation of CT, MRI, and fluoroscopy. Opportunity to participate in assessment of Neurointerventional patients, and to observe Neurointerventional procedures. Daily conferences in Neuroimaging, General Radiology, Health Physics, and Radiology Safety. Assigned readings. Credit limited to 3 units for 2 weeks; 6 units for 4 weeks. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Latchaw

(new course—eff. summer 09)

**474. Advanced Clinical Clerkship in Pediatric Radiology (3-6)**

Clinical activity—30 hours; conference—5 hours; film viewing—3 hours; independent study—2 hours. Prerequisite: fourth-year medical students with interest in Radiology and/or Pediatrics; interested third-year medical students who have successfully completed Pediatrics clinical clerkships may enroll, given availability and consent of the instructor of record; prior completion of course 461, or the equivalent, encouraged. Restricted to two students per two-week or four-week rotation. Participation in the radiological care of Pediatric patients; evaluate the patient receiving the radiographic study, including pertinent historical/physical findings. Student expected to write up case files on interesting cases encountered during their rotation. 3 units for 2 weeks, or 6 units for 4 weeks. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Gorges

(new course—eff. summer 09)

**475. Advanced Clinical Clerkship in Musculoskeletal Radiology (MSK) (3-6)**

Clinical activity—35 hours; conference—4 hours; discussion/laboratory—1 hour. Prerequisite: fourth-year medical student with interest in Musculoskeletal Radiology, Orthopedic Surgery, Sports Medicine, PMNR, or related field; satisfactory completion of course 461, or the equivalent, is strongly encouraged. Restricted to one student per 2/4 week rotation. Work with Musculoskeletal Radiologists in interpretation of CT, MRI, radiography, and fluoroscopy. Opportunity to assess patients for, and to observe image-guided procedures. Daily conferences in Musculoskeletal Imaging, General Radiology, Health Physics, and Radiology Safety. Assigned readings. Credit limited to 3 units for 2 weeks, 6 units for 4 weeks. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Hunter

(new course—eff. summer 09)

**476. Advanced Clinical Clerkship Vascular/Interventional Radiology (IR) (3-6)**

Clinical activity—35 hours; conference—4 hours; discussion/laboratory—1 hour. Prerequisite: fourth-year medical student with interest in Diagnostic Radiology, Vascular/Interventional Radiology, Cardiovascular Imaging, Cardiology, Cardiovascular Surgery, Surgical Oncology, General Surgery, or related field; satisfactory completion of course 461, or the equivalent, is strongly encouraged. Restricted to one student per 2/4 week rotation. Medical student will work with Vascular/Interventional Radiologists in the evaluation of patients for interventional procedures. There will be opportunities to Daily conferences in Neuroimaging, General Radiology, Health Physics, and Radiology Safety. Assigned readings. Credit limited to 3 units for 2 weeks, 6 units for 4 weeks. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Link

(new course—eff. summer 09)

**477. Advanced Clinical Clerkship in Ultrasound Radiology (3-6)**

Clinical activity—30 hours; conference—5 hours; film viewing—3 hours. Prerequisite: fourth-year medical student with interest in Radiology, OB/GYN, or in other medical or surgical subspecialties employing ultrasound in their clinical practice; prior completion of course 461, or the equivalent, is encouraged. Restricted to one student per 2/4 week rotation. Participation as an active team member on a busy clinical ultrasound service. Credit limited to 3 units for 2 weeks, 6 units for 4 weeks. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) McGahan

(new course—eff. summer 09)

**478. Advanced Clinical Clerkship Abdominal Imaging (3-6)**

Clinical activity—35 hours; conference—4 hours; discussion/laboratory—1 hour. Restricted to one student per 2/4 week rotation. Work with clinical Radiologists on abdominal and pelvic CT, MR, ultrasound, digital radiography, gastrointestinal and genitourinary procedures, image-guided intervention. Offered as a 2-week rotation for third-year med-

ical students and a 4-week rotation for fourth-year medical students. Credit limited to 3 units for 2 weeks, 6 units for 4 weeks. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Lamba  
(new course—eff. summer 09)

## Medicine: Surgery

### New and changed courses in Medicine: Surgery (SUR)

#### Professional Courses

**464. General Surgery Clerkship: Kaiser Hospital (6 or 9)**

(cancelled course—eff. fall 08)

**469. Trauma Service: East Bay (6-9)**

(cancelled course—eff. fall 08)

**470. General Surgery: East Bay (6-9)**

(cancelled course—eff. fall 08)

**473. Surgical Intensive Care Unit—East Bay (6-9)**

(cancelled course—eff. winter 09)

**474. Breast Disease (6)**

(cancelled course—eff. fall 09)

**493. Clinically-Oriented Anatomy Special Study Module (6)**

Lecture—5 hours; lecture/laboratory—10 hours; laboratory—16 hours; clinical activity—4 hours. Prerequisite: consent of instructor. Restricted to School of Medicine students only. Reviews aspects of the anatomy of the head and neck, thoracic cavity, abdomen, pelvis, extremities, vascular system, peripheral nervous system and central nervous system. Focus on the understanding of anatomy related to common surgical procedures. (Cell Biology and Human Anatomy 493.) (H/P/F grading only.)—III. (III.) Blankenship, Khatri

(change in existing course—eff. spring 10)

**493D. Interdisciplinary Study of Gastrointestinal Cancer (6)**

Lecture—5 hours; clinical activity—12 hours; laboratory—3 hours; discussion/laboratory—20 hours. Prerequisite: consent of instructor. In-depth study of gastrointestinal, hepatic and pancreatic cancer. Emphasis on an integration of basic science and clinical medicine. Participating departments include pathology, surgical oncology, medical oncology, gastroenterology, radiology and radiotherapy. (Same Course as Pathology 493D.) (H/P/F grading only.)—II, III. (II, III.) Khatri, Ruebner, Saroufeem

(change in existing course—eff. summer 09)

**495. Intense Introduction to Cardiac Surgery (3)**

Clinical activity—16 hours; lecture/discussion—4 hours. Prerequisite: consent of instructor. Restricted to Medical student between first and second year. Close contact with vascular surgeon for two-week period. Includes Sunday mornings. 100% mandatory attendance. Physiology of going on and off cardiopulmonary bypass. Atherosclerotic cardiovascular disease, structural and valvular heart disease and electrical and rhythmic heart disease. May be repeated one time for credit. (P/F grading only.)—IV. (IV.) Jan

(change in existing course—eff. spring 09)



## Medicine: Urology

### New and changed courses in Medicine: Urology (URO)

#### Professional Courses

##### 460. Urology Clinical Clerkship (5-18)

Clinical activity—8-40 hours. Prerequisite: third-year medical student; physical diagnosis or the equivalent; consent of instructor. Limited to two students. Clinical experience in diagnosis and treatment of urologic disease. Student will work closely with house staff, participate in conferences and surgery, and perform initial patient evaluation on new patients. May be repeated for credit. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Low  
(change in existing course—eff. winter 10)

## Medieval Studies

### New and changed courses in Medieval Studies (MST)

#### Upper Division Courses

##### 120A. The Medieval World (4)

(cancelled course—eff. fall 10)

##### 120B. The Medieval World (4)

(cancelled course—eff. fall 10)

##### 120C. The Medieval World (4)

(cancelled course—eff. fall 10)

##### 120D. The Medieval World (4)

(cancelled course—eff. fall 10)

##### 120E. The Medieval World (4)

(cancelled course—eff. fall 10)

##### 121. Jewish/Christian/Islamic Relations 700-1400 (4)

(cancelled course—eff. fall 10)

## Microbiology

### New and changed courses in Microbiology (MIC)

#### Lower Division Course

##### 10. Natural History of Infectious Diseases (3)

Lecture—3 hours. Topics in the natural history of infectious diseases principally affecting humans. Introduction to infectious microbial agents, ecology, epidemiology, and induction of disease. Focus on diseases of a contemporary nature. For students not majoring in the biological sciences. Not open for credit to students who have completed course 101 or course 102. GE credit: SciEng.—III. (III.)  
(change in existing course—eff. all 08)

#### Graduate Course

##### 296. Seminar in Animal Virology (1)

(cancelled course—eff. spring 09)

## Middle East/South Asia Studies

### New and changed courses in Middle East/South Asia Studies (MSA)

#### Upper Division Courses

##### 150. Women and Islamic Discourses (4)

Lecture/discussion—4 hours. Prerequisite: Women's Studies 50 or comparable course. Introduction to the debates/discourses about women and Islam. Transformations in debates/discourses on colonial and postcolonial periods in the Middle East & South Asia. Comparative study of debates/discourses on family, work, law, sexuality, religion, comportment, human rights, feminist and religious movements. Not offered every year. (Same course as Women's Studies 185.)—Joseph  
(new course—eff. fall 08)

##### 194H. Special Study for Honors Students (1-5)

Prerequisite: open only to majors of senior standing who qualify for honors program; consent of instructor. Independent study of a problem in Middle East/South Asian studies involving the writing of an honors thesis.—I, II, III. (I, II, III.)  
(new course—eff. winter 09)

## Military Science

### New and changed courses in Military Studies (MSC)

#### Lower Division Courses

##### 11. Roles and Organization of the U.S. Army (1)

Lecture/discussion—2 hour. Constitutional and legal basis of the Army, organization and strategic roles in time of war and peace. Surveys the duties and responsibilities of junior Army Officers studied in the context of current problem.—IV. (IV.) Hioco  
(change in existing course—eff. summer 06)

##### 12. Introduction to Tactical Military Leadership (1)

Lecture—1 hours. Prerequisite: lower division standing. Military leadership fundamentals to include setting direction, problem-solving, presenting briefs, and using effective writing skills. Basic military tactics, orienteering and land navigation. Dimensions of leadership values, attributes, skills, and actions.—II. (II.) McGovern  
(change in existing course—eff. fall 08)

##### 13. Introduction to Basic Military Operations (1)

Lecture—1 hour. Prerequisite: lower division standing. Basic military tactical theories and their application at the individual and squad level. Military tactical operations and basic military first aid.—III. (III.) McGovern  
(change in existing course—eff. all 08)

##### 14A. Introduction to Military Leadership Skills (0.5)

Laboratory—2 hours. Prerequisite: lower division standing and consent of instructor. Personal and organizational leadership skills introduced in leadership laboratory. Extensive supervised leadership experiences conducted in a military environment. Basic military skills necessary to function in a leadership role. (P/NP grading only.)—I. (I.) McGovern  
(change in existing course—eff. fall 08)

##### 14B. Introduction to Military Leadership Skills (0.5)

Laboratory—2 hours. Prerequisite: lower division standing; consent of instructor. Continuation of development of leadership and military skills introduced in course 14A. Emphasis on the role of the individual, the basic organizational element of the Army, the squad. Supervisory controls reduced as students gain capabilities. (P/NP grading only.)—II. (II.) McGovern  
(change in existing course—eff. fall 08)

##### 14C. Introduction to Military Leadership Skills (0.5)

Laboratory—2 hours. Prerequisite: lower division standing; consent of instructor. Development of skills required for promotion to junior non-commissioned officer level. Chain of command from company through individual levels. Interrelationship of squad and platoon organization. (P/NP grading only.)—III. (III.) McGovern  
(change in existing course—eff. fall 08)

##### 21. Military History, Study of Battles (2)

Lecture—2 hours. Prerequisite: course 22B or consent of instructor. Application of the nine Principles of War to key battles in American and World history. Tactics on a strategic and operational level. Evaluation of leadership and decision-making processes of key leaders.—III. (III.) Williamson  
(change in existing course—eff. fall 08)

##### 22A. Innovative Team Leadership (2)

Lecture—2 hours. Prerequisite: lower division standing or consent of instructor. Leadership values, attributes and theories. Use of basic military skills such as land navigation and squad operations to enhance understanding of the Army. Types of military briefings. Practice in interpersonal skills. Presentation of a briefing.—I. (I.) Williamson  
(change in existing course—eff. fall 08)

##### 22B. Foundations of Tactical Leadership (2)

Lecture—2 hours. Prerequisite: course 22A or consent of instructor. Leadership of tactical teams in complex operating environment. Self-assessment of leadership style. Basic military skills: terrain analysis, patrolling and operations orders. Dynamics of adaptive leadership in the context of military operations.—II. (II.) Williamson  
(change in existing course—eff. fall 08)

##### 24A. Individual Military Leadership Skills (0.5)

Laboratory—2 hours. Prerequisite: courses 14A, B and C, enrolled in course 22A or consent of instructor. Develop and practice personal military leadership skills in extensive supervised leadership labs. Cadets perform basic military skills, improve on troop leading procedures and lead subordinates in tactical situations. Begin with drill and ceremony, land navigation and individual movement techniques. (P/NP grading only.)—I. (I.) Williamson  
(change in existing course—eff. fall 08)

##### 24B. Individual Military Leadership Skills (0.5)

Laboratory—2 hours. Prerequisite: courses 14A, B and C, enrolled in course 22B or consent of instructor. Development and practice of personal military leadership skills in extensive supervised leadership labs. Performance of basic military skills, improvement on troop-leading procedures, leadership of subordinates in tactical situations. (P/NP grading only.)—II. (II.) Williamson  
(change in existing course—eff. fall 08)

##### 24C. Individual Military Leadership Skills (0.5)

Laboratory—2 hours. Prerequisite: courses 14A, B and C, enrolled in course 21 or consent of instructor. Develop and practice personal military leadership skills in extensive supervised leadership labs. Begin with drill and ceremony, land navigation and individual movement techniques. Cadets perform basic

military skills, improve on troop leading procedures and lead subordinates in tactical situations. (P/NP grading only.)—III. (III.) Williamson  
(change in existing course—eff. fall 08)

## Upper Division Courses

### 131. Military Leadership and Management (2)

Lecture—2 hours. Prerequisite: upper division standing and consent of instructor. Leadership and management in organizational context. Team dynamics, leadership styles, professional ethics, development of a leadership framework. Management skills for planning, decision making, and organizing developed through definition of problems, development of courses of action, implementation of solutions.—I. (I.) Heringer

(change in existing course—eff. fall 08)

### 132A. Advanced Military Operations (2)

Lecture—2 hours. Prerequisite: upper division standing, course 131 or consent of instructor. Military small unit tactical theory as the basis for leadership development. Principles of war, contemporary operating environment, Geneva Law of Land Warfare, military offensive and defensive operations. Emphasis on development of critical thinking, problem solving, and communication skills.—II. (II.) Heringer

(change in existing course—eff. fall 08)

### 132B. Applied Leadership (2)

Lecture—2 hours. Prerequisite: upper division standing, course 132A or consent of instructor. Military small unit tactical theory and application as basis for leadership development. Application of leadership styles and skills to complete problem-solving exercises and the development of an adaptable framework applicable to a variety of shifting environments and situations.—III. (III.) Heringer

(change in existing course—eff. fall 08)

### 134A. Adaptive Tactical Leadership (0.5)

Laboratory—2 hours. Prerequisite: upper division standing, course 131 or consent of instructor. Small unit tactical operations serve as the basis for enhancement of leadership performance through tactical application. Assessment of leadership attributes, skills, and actions through participation in a variety of leadership roles in problem-solving exercises. (P/NP grading only.)—I. (I.) Heringer

(change in existing course—eff. fall 08)

### 134B. Adaptive Tactical Leadership (0.5)

Laboratory—2 hours. Prerequisite: upper division standing, course 132A or consent of instructor. Small unit tactical operations as the basis for enhancement of leadership performance through tactical application. Assessment of leadership attributes, skills, and actions through participation in a variety of leadership roles in problem-solving exercises. (P/NP grading only.)—II. (II.) Heringer

(change in existing course—eff. fall 08)

### 134C. Adaptive Tactical Leadership (0.5)

Laboratory—2 hours. Prerequisite: upper division standing, course 132B or consent of instructor. Small unit tactical operations are taught, serve as basis for students exploration, development. Serve in variety of leadership roles in which leadership attributes, skills, actions are closely assessed and developed while they are faced with series of problem solving exercises. (P/NP grading only.)—III. (III.) Heringer

(change in existing course—eff. fall 08)

### 141. Ethical Leadership(2)

Lecture—2 hours. Prerequisite: upper division standing; consent of instructor. Direct influence of leaders on individual motivation and group processes. The complexities of balancing moral, legal, and ethical obligations while applying fundamental business principles in determining the best possible outcome from competing solutions.—I. (I.) Connelly

(change in existing course—eff. fall 08)

### 142. Military Law (2)

Lecture—2 hours. Prerequisite: division standing and course 141, or consent of instructor. The United States Constitution and the Military Justice System. Basic law of war, with an emphasis on issues that might arise on the battlefield or during a national emergency.—II. (II.) Connelly

(change in existing course—eff. fall 08)

### 143. U.S. Army Management Systems (2)

Lecture—2 hours. Prerequisite: division standing and course 142 or consent of instructor. Leadership and management, focusing on four management systems: planning, organizing, leading and controlling. Practical methodologies for assessing management decisions while balancing competing ethical, economic, infrastructure and future growth trade-offs.—III. (III.) Connelly

(change in existing course—eff. fall 08)

### 144A. Military Training Leadership Skills (0.5)

Laboratory—2 hours. Prerequisite: upper division standing, course 141 or consent of instructor. Enhancement of student leadership performance through practical application. Small unit military tactical operations as the basis for the student exploration and development. (P/NP grading only.)—I. (I.) Connelly

(change in existing course—eff. fall 08)

### 144B. Military Training Leadership Skills (0.5)

Laboratory—2 hours. Prerequisite: upper division standing, course 142 or consent of instructor. Enhancement of student leadership performance through practical application. Small unit military tactical operations serve as the basis for student exploration and development. (P/NP grading only.)—II. (II.) Connelly

(change in existing course—eff. fall 08)

### 144C. Military Training Leadership Skills (0.5)

Laboratory—2 hours. Prerequisite: upper division standing, course 143 or consent of instructor. Enhancement of student leadership performance through practical application. Small unit military tactical operations as the basis for student exploration and development. (P/NP grading only.)—III. (III.) Connelly

(change in existing course—eff. fall 08)

## Molecular and Cellular Biology

### New and changed courses in Molecular and Cellular Biology (MCB)

#### Upper Division Course

##### 143. Cell and Molecular Biophysics (3)

Lecture—3 hours. Prerequisite: Biological Sciences 101, 102, 103, 104. Physical chemical principles by which molecules form living, moving, reproducing cells. Physical nature of cytoplasm; molecular structure/bonding in macromolecules, macromolecular assemblies and protein machines. Physical techniques and modeling of cytoskeletal polymer-motor dynamics and function during intracellular transport, mitosis and motility.—I. (I.) Scholey

(change in existing course—eff. fall 08)

#### Graduate Course

##### 210. Molecular Genetics and Genomics (3)

Lecture/discussion—3 hours. Prerequisite: Biological Sciences 101 and Molecular & Cellular Biology 121, or equivalent. Pass one restricted to graduate students. Emphasizes molecular genetic and genomic approaches to address fundamental biolog-

ical questions. Introduces and emphasizes the strengths of prokaryotic and eukaryotic model systems and serves as building block for the BMCDB core courses, which use model systems to develop their themes. May be repeated one time for credit.—I. (I.) Engebrecht

(new course—eff. fall 10)

##### 211. Macromolecular Structure and Interactions (3)

Lecture—3 hours. Prerequisite: Biological Sciences 102, or the equivalent, or consent of instructor. Pass one restricted to graduate students. Conceptual and quantitative basis for macromolecular structure/function relationships. Investigation of the paradigm form follows function. Review of key elements of protein, nucleic acid, and membrane structure. Exploration of specific macromolecular associations by analyzing chemical structure and physical-chemical behavior. No credit for students that have taken course 221A.—I. (I.) Baldwin, Segal, Wilson

(new course—eff. fall 10)

##### 212. Cell Biology (3)

Lecture—3 hours. Prerequisite: Biological Sciences 104, or equivalent, or consent of instructor. Pass one restricted to graduate students. Analysis of basic processes governing cell organization, division, and transport. Study of the integration and regulation of cell behavior in response to changes in cellular environment. No credit for students that have taken course 221D.—II. (II.) McNally

(new course—eff. winter 11)

##### 213. Developmental Biology (3)

Lecture—3 hours. Prerequisite: undergraduate biology course or consent of instructor. Pass one restricted to graduate students. Fundamental principles in embryonic development that guide application of modern cellular and genetic approaches to understand developmental mechanisms. Emphasis on experimental approaches used to critically address scientific questions.—II. (II.) Erickson

(new course—eff. winter 11)

##### 214. Molecular Biology (3)

Lecture—3 hours. Prerequisite: course 211, or equivalent, or consent of instructor. Pass one restricted to graduate students. Investigation of the basic cellular processes in prokaryotes and eukaryotes that govern the central dogma of molecular biology (DNA-RNA-protein). No credit for students that have taken course 221C.—III. (III.) Heyer

(new course—eff. spring 11)

##### 215. Graduate Reading Course (2)

Discussion—10 hours. Prerequisite: graduate standing or consent of instructor. Pass one restricted to graduate students. Development of critical reading skills through study of major paradigm advances in specialized fields of biochemistry, molecular, cell, and developmental biology. Emphasis on active learning and student participation. Guided analysis of literature and major advances in field of study. May be repeated two times for credit if topic differs.—III. (III.) Kaplan

(new course—eff. spring 11)

##### 221A. Physical Biochemistry (4)

(cancelled course—eff. winter 11)

##### 221D. Cellular Biochemistry (4)

(cancelled course—eff. winter 11)

##### 263. Biotechnology Fundamentals and Application (2)

Lecture—2 hours. Prerequisite: Biological Sciences 101, 102 and Microbiology 102 or consent of instructor. Must be a graduate student in good standing. Fundamentals of molecular biology and chemical engineering involved in recombinant DNA technology. Topics: principles of rate processes of biological systems, optimization of bioreactors, and issues related to overexpression and production of

recombinant molecules. Participation in student-directed team projects.—II. (II.) McDonald, Privalsky, Rodriguez, VanderGheynst  
(change in existing course—eff. summer 08)

## Molecular, Cellular, and Integrative Physiology

### New and changed courses in Molecular, Cellular, and Integrative Physiology (MCP)

#### Graduate Courses

##### 200L. Animal Cell Culture Laboratory (4)

Discussion—2 hours; laboratory—6 hours. Prerequisite: courses in undergraduate biochemistry, cell biology, or general physiology, or consent of instructor. Techniques of cell culture, with emphases on cell physiology and the actions of drugs and toxicants on cultured somatic cells. Design, performance and interpretation of experiments with animal cells in vitro.—II. (II.) B. Wilson, R. Wu  
(change in existing course—eff. fall 08)

##### 210L. Physiology Laboratory Rotations (5)

Laboratory—15 hours. One mandatory 10-week rotation and up to two more voluntary rotations. Students will learn techniques and perform experiments related to a particular research problem. At the end of the 10-week period in the laboratory, students will give a short talk and hand in a research paper.—I, III. (I, III.) Widdicombe, Zheng  
(change in existing course—eff. fall 09)

##### 261B. Topics in Vision: Systems, Psychophysics, Computational Models (2)

Lecture/discussion—2 hours. Prerequisite: consent of instructor; course 261A recommended. Functions of the central visual pathways and their underlying mechanisms. Recent research on aspects of anatomy, biochemistry, electrophysiology, psychophysics, development, and genetics of the visual system. (Same course as Neuroscience 261B and Neurobiology, Physiology, and Behavior 261B.) (S/U grading only.) Offered in alternate years.—II. Britton  
(change in existing course—eff. fall 09)

##### 291D. Research Approaches in Physiology (2)

Seminar—2 hours. Prerequisite: graduate standing in Graduate Group in Physiology or consent of instructor. Current research in physiology. Overall design of experiments and particular research areas. (S/U grading only.)—I. (I.) Eiserich, Raybould  
(change in existing course—eff. fall 09)

## Music

### New and changed courses in Music (MUS)

#### Lower Division Courses

##### 2A. Keyboard Competence, Part 1 (2)

Performance—2 hours. Prerequisite: course 6A and 16A concurrently; consent of instructor. Training to meet the minimum piano requirements for the major in music. Scales and simple harmonic progressions in twelve keys, both major and minor. (P/NP grading only.)—I. (I.) Triest  
(change in existing course—eff. summer 08)

##### 2B. Keyboard Competence, Part 2 (2)

Performance—2 hours. Prerequisite: courses 6B and 16B concurrently; successful completion of course 2A or demonstration of required keyboard profi-

ciency level on diagnostic exam; consent of instructor. Training to meet the minimum piano requirements for the major in music. Harmonic progressions, modulations and score reading at the piano. (P/NP grading only.)—II. (II.) Triest  
(change in existing course—eff. summer 08)

##### 2C. Keyboard Competence, Part 3 (2)

Performance—2 hours. Prerequisite: course 6C and 16C concurrently; successful completion of course 2B or demonstration of required keyboard proficiency level on diagnostic exam; consent of instructor. Training to meet the minimum piano requirements for the major in music. Harmonic progressions, figured bass realization, sight reading and keyboard repertory. (P/NP grading only.)—III. (III.) Triest  
(change in existing course—eff. summer 08)

##### 3A. Introduction to Music Theory, Part I (4)

Lecture—1 hour; recital—3 hours. Fundamentals of music theory, ear-training, harmony, counterpoint, and analysis directed toward the development of listening and writing techniques. Intended for the general student.—I, II. (I, II.) Triest  
(change in existing course—eff. fall 08)

##### 3B. Introduction to Music Theory, Part II (4)

Lecture—1 hour; discussion/laboratory—3 hours. Prerequisite: completion of course 3A or permission of the instructor. Development of melodic and harmonic writing skills. Basic analysis training.—II, III. (II, III.) Triest  
(change in existing course—eff. winter 09)

##### 7A. Intermediate Theory, Part 1 (3)

Lecture—3 hours. Prerequisite: course 6C; course 17B concurrently. Homophonic music of the Classical era with a focus on analysis of music by Haydn, Mozart, and Beethoven. Composition of pieces in the homophonic forms such as minuet and trio, theme and variations, rondo and sonata. Intended for music majors.—I. (I.) Frank  
(change in existing course—eff. summer 08)

##### 11. Musics of the World (4)

Lecture—3 hours; listening section—1 hour. Survey of selected art, folk, and popular music cultures from different parts of the world. Emphasis on understanding relationship of musical style, aesthetic principles, and performance practice to wider cultural contexts. GE credit: ArtHum, Div.—I, III. (I, III.) Graham, Spiller  
(new course—eff. fall 08)

##### 54. University Gospel Choir (2)

(cancelled course—eff. fall 10)

#### Upper Division Courses

##### 103. Workshop in Composition (3)

Workshop—3 hours. Prerequisite: course 7C. Workshop in musical composition for undergraduates who are interested in pursuing serious compositional studies and intending to follow the composition track of the major. Course will explore the techniques and materials of musical composition. May be repeated for credit.—I, II, III. (I, II, III.) Ortiz, Rohde, San Martin  
(change in existing course—eff. winter 10)

##### 105. History and Analysis of Jazz (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 10, 3A-3B, or 2. Jazz and the evolution of jazz styles in historical and cultural context. For non-majors. GE credit: ArtHum, Div, Wrt.—I. Bauer  
(change in existing course—eff. fall 08)

##### 106. History of Rock Music (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 3A-3B, 10. Rock and the evolution of rock styles in historical and cultural context. For non-majors. GE credit: ArtHum, Wrt.—Reynolds  
(change in existing course—eff. winter 09)

##### 107C. Computer and Electronic Music (3)

(cancelled course—eff. fall 08)

##### 108A-108B. Orchestration (2-2)

Lecture—2 hours. Prerequisite: 108A—course 7C; 108B—course 108A. Techniques of orchestration from study of basic instrumental techniques to analysis of orchestral scores and scoring for various instrumental combinations.—II-III. (II-III.) Ortiz  
(change in existing course—eff. fall 08)

##### 110G. Music of a Major Composer—Handel (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 10 or 3A-3B. Work of Handel in the context of his time and his contemporaries. Lectures, discussion/guided listening sections, and selected readings. For non-majors. Offered in alternate years. GE credit: ArtHum, Wrt.—III. Thomas  
(change in existing course—eff. spring 10)

##### 115. History of Film Music (4)

Lecture—3 hours; film viewing—3 hours. Prerequisite: courses 3A and 3B, or course 10. Film music from silent films to movies of the past decade. How music supports and shapes film narrative and structure. Use of jazz, rock and classical music in film. Offered in alternate years. Offered irregularly. GE credit: ArtHum, Wrt.—II. Ortiz  
(new course—eff. winter 09)

##### 121. Topics in Music Scholarship (4)

Seminar—4 hours. Prerequisite: courses 7C and 24C, or consent of instructor. Sources and problems of a historical period or musical style selected by the instructor and announced in advance. May be repeated for credit.—I, II, III. (I, II, III.)  
(change in existing course—eff. summer 08)

##### 122. Topics in Analysis and Theory (4)

Seminar—4 hours. Prerequisite: course 7C and course 24C, or consent of instructor. Analysis of works of a composer or musical style selected by the instructor and announced in advance. Consideration of theoretical issues. May be repeated for credit.—I, II, III. (I, II, III.)  
(change in existing course—eff. fall 08)

##### 129A. Musics of the Americas (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 11 or 3A-3B. Survey of music cultures from North, Central, and South America, including the Caribbean, with emphasis on the role of music in society and on the elements of music (instruments, theory, genres and form, etc.). Introduction to ethnomusicological theory, methods, approaches. Offered irregularly. GE credit: ArtHum, Div, Wrt.—II. Graham  
(change in existing course—eff. winter 10)

##### 129B. Musics of Africa, Middle East, Indian Subcontinent (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 11 or 3A-3B. Survey of music cultures with special emphasis on the role of music in society and on the elements of music (instruments, theory, genres and form, etc.). Introduction to ethnomusicological theory, methods, approaches. Offered irregularly. GE credit: ArtHum, Div, Wrt.—Graham  
(change in existing course—eff. fall 10)

##### 129C. Musics of East and Southeast Asia (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 11 or 3A-3B. Survey of music cultures from Japan, China, Korea, Vietnam, and Indonesia, with special emphasis on the role of music in society and on the elements of music (instruments, theory, genres and form, etc.). Introduction to ethnomusicological theory, methods, approaches. Offered irregularly. GE credit: ArtHum, Div, Wrt.—Graham  
(change in existing course—eff. fall 10)

**129D. Folk Musics of Europe (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: course 11 or 3A-3B. Survey of folk musics from all of Europe, with emphasis on the role of music in society and on the elements of music (instruments, genres, form, etc.). Introduction to ethnomusicological theory, methods, approaches. Offered irregularly. GE credit: ArtHum, Div, Wrt.—Graham  
(change in existing course—eff. fall 10)

**149. Indonesian Gamelan Ensemble (2)**

Rehearsal—2 hours. Prerequisite: consent of instructor. Indonesian music practice. Basic instrumental technique and repertory. Focus on two styles of Sundanese gamelan (tuned percussion orchestras): salendro and degung. May be repeated for credit. (P/NP grading only.)—I, II, III. (I, II, III.) Spiller  
(new course—eff. spring 09)

**Graduate Courses****204. Advanced Conducting (3)**

Tutorial—2 hours; practice. Prerequisite: courses 113 and 114 or equivalent; keyboard skills appropriate to graduate standing. Open to graduate students in conducting. This course covers the technical aspects of conducting and the broader issues in music history and analysis that conductors must face before leading a rehearsal or performance. May be repeated for credit.—I, II, III. (I, II, III.) Holoman  
(change in existing course—eff. spring 08)

**207. Advanced Electronic and Computer Music (4)**

Seminar—2 hours. Prerequisite: courses 107A-107B-107C. Advanced composition of computer and electronic music. I. (I.)  
(change in existing course—eff. summer 08)

## Native American Studies

**New and changed courses in Native American Studies (NAS)****Upper Division Courses****110A. Quechua Language and Society, Beginning Level 1 (4)**

Lecture/discussion—4 hours. Introduction to Quechua language and society emphasizing the practical use of the language. Provides the student with some basic Quechua communication skills and with an initial knowledge about contemporary Andean society and the status of Quechua language today. Not available for students who took course 107-02 in the fall quarter of 2007.—I. (I.) Mendoza  
(new course—eff. fall 08)

**110B. Quechua Language and Society, Beginning Level 2 (4)**

Lecture/discussion—4 hours. Prerequisite: course 110A. Second level of the teaching of Quechua language and society. Emphasis on development of conversational and reading skills. Continuation of the study of aspects of contemporary Andean society and the status of Quechua language today.—II. (II.) Mendoza  
(new course—eff. fall 08)

**110C. Quechua Language and Society, Intermediate Level 1 (4)**

Lecture/discussion—4 hours. Prerequisite: courses 110A and B. Third level of the teaching of Quechua language and society. Emphasis on development of conversational and reading skills. Introduction to more complex grammatical structures. Continuing the study of contemporary Andean society and the status of Quechua language today. Offered in alternate years.—II, III. (II, III.) Mendoza  
(new course—eff. fall 08)

**110D. Quechua Language and Society, Intermediate Level 2 (4)**

Lecture/discussion—4 hours. Prerequisite: courses 110A, B and C. Fourth level of the teaching of Quechua language and society. Emphasis on complex structural patterns while emphasizing conversational skills and improving reading competence. Study of different sociopolitical processes that have affected Andean identity and the status of Quechua language. Offered in alternate years.—II, III. (II, III.) Mendoza  
(new course—eff. fall 08)

**133A. Ethnohistory of Native Peoples of Mexico and Central America to 1500 (4)**

Lecture/discussion—3 hours; term paper. Prerequisite: course 1 or course 10 or consent of instructor. Ethnohistorical development of the indigenous peoples of Mexico and Central America up to and including the earliest period of European contact. Focus is on indigenous written historical records of the Maya, Mixtec, and Nahuatl peoples. May be repeated one time for credit. GE credit: Div, SocSci, Wrt.—I, II, III. (I, II, III.) Macri  
(new course—eff. spring 10)

**133B. Ethnohistory of Native Peoples of Mexico and Central America 1500 to 2000 (4)**

Lecture/discussion—3 hours; term paper. Prerequisite: course 1 or course 10, or consent of instructor. Ethnohistory of indigenous peoples of Mexico and Central America from 1500 to contemporary times. Focus on social and cultural dynamics of indigenous peoples. May be repeated one time for credit. GE credit: Div, SocSci, Wri.—I, II, III, IV. (I, II, III, IV.) Varese  
(new course—eff. fall 10)

**Graduate Course****207. Leadership Skills and Strategies in California Language Documentation & Revitalization (4)**

Seminar—3 hours; term paper. Introduction to the indigenous languages of the Americas, with a focus on California; an examination of how contemporary Native communities document and revitalize their heritage languages. Learn to assist and administer language programs.—III. (III.) Macri  
(new course—eff. fall 10)

## Nematology

**New and changed courses in Nematology (NEM)****Lower Division Course****10V. General Biology (4)**

Web virtual lecture—3 hours; web electronic discussion—1 hour. Concepts and issues in biology. Emphasis on composition and structure of organisms; regulation and signaling; heredity, evolution and the interaction and interdependence among life forms and their environments. Significant writing is required. Designed for students not specializing in biology. Not open for credit to students who have completed course Biological Sciences 1A, 1B, 1C, 2A, 2B, 2C, or 10. (Same course as Biological Sciences 10V.) GE credit: SciEng, Wrt.—III. (III.) Westerdahl  
(change in existing course—eff. spring 09)

## Neurobiology, Physiology, and Behavior

**New and changed courses in Neurobiology, Physiology, and Behavior (NPB)****Lower Division Courses****10. Elementary Human Physiology (3)**

Lecture—3 hours. Introduction to physiology for non-science majors. Includes basic cell physiology and survey of major organ systems and how they function in homeostasis and human health. Not open for credit to students who have completed course 101. GE credit: SciEng.—II. (II.) Antognini, Bautista  
(change in existing course—eff. fall 08)

**92. Internship (1-12)**

Internship—3-36 hours. Prerequisite: lower division standing and consent of instructor. Work experience off and on campus in all subject areas offered in the Department of Neurobiology, Physiology, and Behavior. Internships supervised by a member of the faculty. May be repeated once for credit. (P/NP grading only.)—I, II, III. (I, II, III.)  
(change in existing course—eff. fall 08)

**Upper Division Courses****100. Neurobiology (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: Biological Sciences 1AB or 2ABC; Physics 9 ABC or 7ABC. Brains and nervous systems, neurons and neural circuits. Coordination of movement. Development of nervous systems. Vision, hearing, and feature extraction by the central nervous system. The cell biology of learning and memory. Not open for credit to students who have completed course 112, 160, 161 or 162, or Neuroscience 221 or 222.—I, II, III. (I, II, III.) Chapman, Cheng, Mulloney, Sutter  
(change in existing course—eff. fall 08)

**100Q. Quantitative Foundations of Neurobiology (1)**

Autotutorial—0.5 hours; extensive problem solving—0.5 hours. Prerequisite: course 100 (may be taken concurrently). Computational methods and mathematical models used to study phenomena in neurobiology.—I, II, III. (I, II, III.) Chapman, Cheng, Mulloney, Sutter  
(change in existing course—eff. summer 08)

**102Q. Quantitative Topics in Animal Behavior (1)**

Autotutorial—1.5 hours; extensive problem solving—1.5 hours. Prerequisite: Mathematics 16B; course 102 (may be taken concurrently). Study of the quantitative concepts and exemplar models used in animal behavior. Offered irregularly. GE Credit: SciEng.—Hahn  
(new course—eff. spring 09)

**107. Cell Signaling in Health and Disease (3)**

Lecture—3 hours. Prerequisite: Biological Sciences 102 or 105. Basics of cell signaling pathways, their disruption in disease, and their current utility and future potential as therapeutic targets. Focus is on signaling pathways specific to nervous, endocrine and immune systems, and those fundamental to all cells.—II. (II.) Trimmer  
(new course—eff. winter 09)

**111L. Advanced Systemic Physiology Laboratory (4)**

Lecture—1 hour; discussion—2 hours; laboratory—6 hours; term paper. Prerequisite: courses 101 and 101L. Selected comprehensive experiments in the autonomic nervous system and the cardiovascular, respiratory, and neuromuscular systems. Emphasis

on conceptual and methodological approaches in demonstrating the physiology of organ systems. GE credit: Wrt.—I, III. (I, III.) Lies

*(change in existing course—eff. fall 08)*

### 131. Physiological Genomics (3)

*(cancelled course—eff. fall 08)*

### 163. Information Processing Models in Neuroscience and Psychology (4)

*(cancelled course—eff. fall 09)*

### 165. Neurobiology of Speech Perception (3)

Lecture—3 hours. Prerequisite: course 100 or 101, or consent of instructor. Interdisciplinary approach to speech perception with emphasis on functional neuroanatomy and behavior. Topics include auditory processing in time and space, intelligibility in noisy environments, visual speech, evolution of vocal communication, models of speech perception, development, and hearing impairment.—I. (I.) Miller

*(change in existing course—eff. fall 09)*

### 166. Math Tools for Neuroscience (4)

Lecture—4 hours. Prerequisite: course 100 or permission of instructor; Math 16A, B, C or equivalent; Physics 7C strongly recommended. Introduction to mathematics techniques used in neuroscience. Applications to neuroscience of differential equations, linear algebra, Fourier transforms, correlation and convolution, and probability theory. Offered in alternate years.—I. Goldman

*(new course—eff. fall 10)*

### 167. Computational Neuroscience (5)

Lecture—4 hours; lecture/laboratory—3 hours. Prerequisite: course 100 or permission of instructor; Math 16A, B, C or equivalent; Physics 7A, B, C or equivalent strongly recommended. Mathematical models and data analysis techniques used to describe computations performed by nervous systems. Lecture topics include single neuron biophysics, neural coding, network dynamics, memory, plasticity, and learning. Lab topics include programming mathematical models and data analysis techniques in MATLAB. Offered in alternate years.—(I.) Goldman

*(new course—eff. fall 09)*

### 192. Internship (1-12)

Internship—3-36 hours. Prerequisite: completion of 84 units and consent of instructor. Work experience off and on campus in all subject areas offered in neurobiology, physiology, & behavior. May be repeated for credit. (P/NP grading only.)—I, II, III. (I, II, III.)

*(change in existing course—eff. fall 08)*

### 197T. Tutoring in Neurobiology, Physiology, and Behavior (1-5)

Discussion—2-6 hours. Prerequisite: upper division standing and consent of instructor. Assisting the instructor by tutoring students in one of the Department's regular courses. May be repeated for credit. (P/NP grading only.)—I, II, III. (I, II, III.)

*(change in existing course—eff. fall 08)*

## Graduate Courses

### 212. Light and Fluorescence Microscopy (2)

Lecture—2 hours. Prerequisite: consent of instructor. Restricted to maximum 16 students. Theory and practical application of light and fluorescence microscopy in the biological sciences. (S/U grading only.)—II. (II.) Zito

*(new course—eff. spring 09)*

### 217. Advanced Avian Physiology (1)

Project—1 hour. Prerequisite: graduate standing and concurrent enrollment in course 117; consent of instructor. Study in depth of a topic in avian physiology through development of a lecture with associated instructional materials such as lesson plan, readings, presentation, and evaluation aids.—III. (III.) Millam

*(change in existing course—eff. summer 09)*

### 267. Computational Neuroscience (5)

Lecture—4 hours; lecture/laboratory—3 hours. Prerequisite: one course in general neuroscience at the level of course 100; one year college-level Calculus at level of Math 16A, B, C; one year Physics at the level of Physics 7A, B, C, strongly recommended; students from other departments should contact the instructor. Mathematical models and data analysis techniques used to describe computations performed by nervous systems. Lecture topics include single-neuron biophysics, neural coding, network dynamics, memory, plasticity, and learning. Lab topics include programming mathematical models and data analysis techniques in MATLAB. Offered in alternate years. (Same course as Neuroscience 267.)—(I.) Goldman

*(new course—eff. fall 09)*

### 285. Literature in Visual Neuroscience (2)

Seminar—2 hours. Literature in Visual Neuroscience. (Same course as Neuroscience 285.) May be repeated for credit. (S/U grading only.)—I, II, III. (I, II, III.) Britten, Ditterich, Goldman, Usrey

*(change in existing course—eff. fall 08)*

### 287A. Topics in Theoretical Neuroscience (2)

Seminar—2 hours. Prerequisite: consent of instructor. In-depth exploration of topics in theoretical neuroscience. Topic varies each year. Fall quarter (287A): foundational material from books and review articles. Spring quarter (287B): continuation of year's topic through readings of seminal articles from the primary literature. Offered in alternate years. May be repeated for credit. (Same course as Neuroscience 287A.) (S/U grading only.)—(I.) Ditterich, Goldman

*(new course—eff. spring 09)*

### 287B. Topics in Theoretical Neuroscience (2)

Seminar—2 hours. Prerequisite: consent of instructor. In-depth exploration of topics in theoretical neuroscience. Topic varies each year. Fall quarter (287A): foundational material from books and review articles. Spring quarter (287B): continuation of year's topic through readings of seminal articles from the primary literature. May be repeated for credit. (Same course as Neuroscience 287B.) (S/U grading only.)—III. (III.) Ditterich, Goldman

*(new course—eff. spring 09)*

## Neuroscience

### New and changed courses in Neuroscience (NSC)

#### Graduate Courses

### 221. Cellular Neurophysiology (4)

Lecture—4.5 hours. Prerequisite: graduate standing or consent of instructor. Physiological aspects of cellular and subcellular organization of the nervous system. Neuronal cell biology, the structure and function of ion channels, electrical excitability, signaling cascades, sensory transduction and, mechanisms of synaptic transmission, and the cellular basis of learning and memory.—I. (I.) Chen, Trimmer

*(change in existing course—eff. fall 09)*

### 267. Computational Neuroscience (5)

Lecture—4 hours; lecture/laboratory—3 hours. Prerequisite: one course in general neuroscience at the level of course 100; one year college-level Calculus at level of Math 16A, B, C; one year Physics at the level of Physics 7A, B, C, strongly recommended; students from other departments should contact the instructor. Mathematical models and data analysis techniques used to describe computations performed by nervous systems. Lecture topics include single-neuron biophysics, neural coding, network dynamics, memory, plasticity, and learning. Lab topics include programming mathematical models and data analysis

techniques in MATLAB. Offered in alternate years. (Same course as Neurobiology, Physiology & Behavior 267.)—(I.) Goldman

*(new course—eff. fall 09)*

### 287A. Topics in Theoretical Neuroscience (2)

Seminar—2 hours. Prerequisite: consent of instructor. In-depth exploration of topics in theoretical neuroscience. Topic varies each year. Fall quarter (287A): foundational material from books and review articles. Spring quarter (287B): continuation of year's topic through readings of seminal articles from the primary literature. May be repeated for credit. (Same course as Neurobiology, Physiology & Behavior 287A.) (S/U grading only.)—(I.) Ditterich, Goldman

*(new course—eff. spring 09)*

### 287B. Topics in Theoretical Neuroscience (2)

Seminar—2 hours. Prerequisite: consent of instructor. In-depth exploration of topics in theoretical neuroscience. Topic varies each year. Fall quarter (287A): foundational material from books and review articles. Spring quarter (287B): continuation of year's topic through readings of seminal articles from the primary literature. May be repeated for credit. (Same course as Neurobiology, Physiology & Behavior 287B.) (S/U grading only.)—III. (III.) Ditterich, Goldman

*(new course—eff. spring 09)*

## Nursing, School of

### New and changed courses in Nursing (NRS)

#### Graduate Courses

### 201. Health Status and Care Systems (4)

Lecture/discussion—3 hours; laboratory/discussion; project. Prerequisite: current enrollment in the Nursing Science and Health-Care Leadership graduate program or consent of instructor. Comparative health status data, major current health issues globally, nationally, regionally. Theoretical perspectives on social, political, economic determinants of health. Health-care systems examined, linked to data, and evaluated in re outcomes. Aging, rural, ethnic minority populations highlighted.—I. (I.) Ward

*(new course—eff. fall 10)*

### 202. Implementation Science (4)

Lecture/discussion—4 hours. Prerequisite: current enrollment in the Nursing Science and Health-Care Leadership graduate program or consent of instructor. Change processes in health care from political, historic, economic and sociologic frameworks. Historic and current examples of transformative change in the health care system. Skills for system transformation through health policy, practice, research and education are emphasized.—II. (II.)

*(new course—eff. winter 10)*

### 203. Leadership in Health Care (4)

Lecture/discussion—3 hours; fieldwork. Prerequisite: current enrollment in the Nursing Science and Health-Care Leadership graduate program or consent of instructor. Critical examination of leadership from a variety of theoretical and philosophical perspectives and focuses on specific challenges in health care and leadership at various levels, e.g., patient, organizational, and policy levels.—III. (III.) Young

*(new course—eff. fall 10)*

### 204. Quantitative Skills for Change (4)

Lecture/discussion—3 hours; laboratory/discussion—1 hour. Prerequisite: current enrollment in the Nursing Science and Health-Care Leadership graduate program or consent of instructor. Foundation for analyzing research, health, and systems data to answer clinical, systems, or policy questions. Use

and examine multiple sources of data and information as a basis for planned change and transformation in health care.—III. (III.)

(new course—eff. fall 10)

### 205. Research Design in Nursing and Health (4)

Lecture/discussion—4 hours. Prerequisite: current enrollment in the Nursing Science and Health-Care Leadership graduate program or consent of instructor. Major types of quantitative and qualitative research design and their application to nursing and health care research. Implications of choosing alternative research designs and critical analysis of philosophical underpinnings. Evaluation of control and validity, sampling, instruments to measure health concepts.—III. (III.)

(new course—eff. fall 10)

### 206. Community Connections (2-5)

Prerequisite: current enrollment in the Nursing Science and Health-Care Leadership graduate program or consent of instructor. Open to NSHL MS students only. Community-based learning and experiences including community participation, assessment, data collection and analysis using multiple approaches, community health improvement projects, collaborative leadership practice, all with the guidance of community members and nursing faculty. (S/U grading only.)—I, II, III. (I, II, III.)

(new course—eff. fall 10)

### 290. Master's Seminar (2)

Discussion—2 hours. Prerequisite: current enrollment in the Nursing Science and Health-Care Leadership graduate program or consent of instructor. Open to NSHL MS students only or by consent of course instructor of record. Subject varies from quarter to quarter. Current knowledge and issues relevant to one of two fields of emphasis: population health or health systems. May be repeated 10 times for credit.—I, II, III. (I, II, III.)

(new course—eff. fall 10)

### 291. Doctoral Seminar (2)

Discussion—2 hours. Prerequisite: current enrollment in the Nursing Science and Health-Care Leadership graduate program or consent of instructor. Focus on the theory, research and knowledge relevant to one of two fields of emphasis: population health or health systems. Emphasis placed on reading, critique and synthesis of classic and cutting-edge research in nursing and health care. May be repeated 10 times for credit.—I, II, III. (I, II, III.)

(new course—eff. fall 10)

## Professional Courses

### 301. Methods for Teaching Nursing and Health Sciences: Use of Simulation (4)

Lecture/discussion—4 hours. Prerequisite: current enrollment in the Nursing Science and Health-Care Leadership graduate program or consent of instructor. Simulation education reviewed as a teaching tool in nursing and health sciences; explores how to integrate simulation into individual courses. Emphasis placed on simulations that include clinical judgment, teamwork, and interdisciplinary communication. Offered in alternate years.—I.

(new course—eff. fall 10)

### 302. Methods for Teaching Nursing and Health Sciences: Curriculum and Instruction (4)

Lecture/discussion—4 hours. Prerequisite: current enrollment in the Nursing Science and Health-Care Leadership graduate program or consent of instructor. Best practices in adult learning, performance-based curriculum models and instructional design. Experience in planning student-centered learning activities that are engaging and effective in achieving desired student performance. Use of distance technologies, case-based teaching, clinical teaching, role of clinical teacher. Offered in alternate years.—II.

(new course—eff. fall 12)

### 303. Methods for Teaching Nursing and Health Sciences: Assessment/Evaluation of Learning (4)

Lecture/discussion—4 hours. Prerequisite: current enrollment in the Nursing Science and Health-Care Leadership graduate program or consent of instructor. Application of approaches, processes, and tools for assessing adult learning, especially those that assess the student's ability to use knowledge/skills in practical situations. Other topics include: design of performance evaluation tasks, instructional rubrics, use of portfolios, grading, and reporting. Offered in alternate years.—(III.)

(new course—eff. fall 12)

## Nutrition

### New and changed courses in Nutrition (NUT)

#### Lower Division Course

##### 11. Current Topics and Controversies in Nutrition (2)

Discussion—1.5 hours; term paper. Exploration of current applications and controversies in nutrition. Students read scientific journal articles and write summaries, as well as give brief oral presentations. Topics change to reflect current interests and issues. GE credit: SciEng, Wrt.—I, II, III. (I, II, III.) Applegate

(change in existing course—eff. winter 10)

#### Upper Division Courses

##### 120AN. Nutritional Anthropology (4)

Lecture—3 hours, discussion—1 hour. Prerequisite: course 2 or Geography 2 recommended. Nutritional anthropology from historical and contemporary perspectives; the anthropological approach to food and diet; field work methods; case histories that explore food patterns and their nutritional implications. GE Credit: Div, SciEng or SocSci.—IV. (IV.)

(change in existing course—eff. spring 05)

##### 120BN. Nutritional Geography (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: Geography 2 recommended. Nutritional geography from historical and contemporary perspectives; the geographical approach to food and diet; cultural and environmental factors that influence dietary practices; food-related landscapes and patterns. GE Credit: Div, SciEng or SocSci.

(change in existing course—eff. spring 05)

## Philosophy

### New and changed courses in Philosophy (PHI)

#### Lower Division Course

##### 16. Philosophical Foundations of American Democracy (4)

Lecture—3 hours; discussion—1 hour. The philosophical underpinnings of democratic government and the tension between the goals of providing security and of preserving democracy and civil liberties. Illustration of the tension through focus on issues related to war and terrorism. Offered in alternate years.—I. Copp

(new course—eff. fall 10)

#### Upper Division Courses

##### 137. Philosophy of Language (4)

(cancelled course—eff. winter 09)

##### 141. Socrates and the Socratic Dialogue (4)

Lecture/discussion—3 hours; term paper. Prerequisite: course 21 recommended, or one course in philosophy, or consent of instructor. The philosophy of

Socrates as found in the Socratic dialogues of Plato. Topics include the Socratic practice of refutation, its method, epistemological foundation, and moral purpose; Socratic eudaimonism and Socratic virtue theory; the paradoxes of Socratic intellectualism.

Offered in alternate years.—Szaif

(new course—eff. winter 10)

##### 143. Hellenistic Philosophy (4)

Lecture/discussion—3 hours; term paper. Prerequisite: course 21 recommended, or other course in philosophy. Positions and arguments of the major philosophical schools of the Hellenistic period: Stoicism, Epicureanism, and Scepticism. Focus is on ethical, epistemological and metaphysical questions and their interconnectedness. Offered in alternate years.—Szaif

(change in existing course—eff. fall 10)

##### 145. Medieval Philosophy (4)

Lecture/discussion—4 hours. Prerequisite: course 21 or other course in ancient philosophy. Major philosophers in the medieval Christian, Islamic, and Jewish traditions. Offered in alternate years.—Szaif

(change in existing course—eff. fall 10)

##### 178. Frege (4)

Lecture/discussion—3 hours; extensive writing. Prerequisite: one upper-division course in philosophy or permission of instructor. Development of Gottlob Frege's views about language and logic. Formulation of his grand mathematical idea known as logicism and how it led to the philosophy of language.

Offered in alternate years.—II. May

(new course—eff. winter 10)

## Physical Education

### New and changed courses in Physical Education (PHE)

#### Upper Division Course

##### 120. Sport in American Society (3)

Lecture—3 hours. Sociological approaches to the study of sport and contemporary American culture, including sport interaction with politics, economics, religion, gender, race, media and ethics. Socialization factors involving youth, scholastic, collegiate, and Olympic sport. (Same course as Exercise Biology 120.) GE credit: SocSci, Div.—II, IV. (II, IV.) Salitsky

(change in existing course—eff. summer 09)

## Physics

### New and changed courses in Physics (PHY)

#### Lower Division Course

##### 7A. General Physics (4)

Lecture—1.5 hours; discussion/laboratory—5 hours. Prerequisite: completion or concurrent enrollment in Mathematics 16B, 17B, or 21B. Introduction to general principles and analytical methods used in physics for students majoring in a biological science.

Only two units of credit allowed to students who have completed course 1B or 9B.—I, II, III. (I, II, III.)

(change in existing course—eff. winter 10)

##### 30. Fractals, Chaos and Complexity (3)

Lecture/discussion—3 hours. Prerequisite: Mathematics 16A or 21A. Modern ideas about the unifying ideas of fractal geometry, chaos and complexity. Basic theory and applications with examples from physics, earth sciences, mathematics, population dynamics, ecology, history, economics, biology,

computer science, art and architecture. Offered in alternate years. (Same course as Geology 30.) GE Credit: SciEng.—(II.) Rundle

(change in existing course—eff. winter 10)

### Upper Division Courses

#### 102. Computational Laboratory in Physics (1)

Laboratory—4 hours. Prerequisite: Mathematics 21D, 22AB; Computer Science Engineering 30; course 9D or 9HD; course 104A concurrently. Introduction to computational physics and to the computational resources in the physics department.

Preparation for brief programming assignments required in other upper division physics classes. Not open to students who have completed course 104B or 105AL.—I. (I.) Fong

(change in existing course—eff. summer 08)

#### 122. Advanced Physics Laboratory (4)

(cancelled course—eff. fall 09)

#### 126. Introduction to Cosmology (4)

(cancelled course—eff. fall 08)

#### 127. Introduction to Astrophysics (4)

(cancelled course—eff. fall 08)

### Graduate Courses

#### 252C. Statistics and Data Analysis for Particle Physics (3)

Lecture—3 hours. Introduction to statistical data analysis methods in particle physics. Theoretical lectures combined with practical computer laboratory work.—III. (III.)

(new course—eff. spring 07)

#### 253. Signals and Noise in Physics (3)

Lecture—3 hours. Techniques for extracting signals from noise, systematic error.—II. (II.)

(new course—eff. winter 07)

#### 256. Natural Computation and Self-Organization: The Physics of Information Processing in Complex Systems (3)

Lecture—3 hours. Prerequisite: course 200A or Mathematics 119A/B or Mathematics 219; course 204A or Mathematics 119A/B or Mathematics 219; course 219A or Mathematics 135A/B or Mathematics 235A. Explores intrinsic unpredictability (deterministic chaos) and the emergence of structure in natural complex systems. Using statistical mechanics, information theory, and computation theory, the course develops a systematic framework for analyzing dynamical and stochastic processes in terms of their causal architecture.—II. (II.) Crutchfield

(new course—eff. winter 07)

#### 292A. Seminar in Elementary Particle Physics (1)

Seminar—1 hour. Prerequisite: graduate standing in Physics or consent of instructor. Presentation and discussion of topics of current research interest in elementary particle physics. May be repeated for credit. (S/U grading only.)—I, II, III. (I, II, III.)

(new course—eff. fall 08)

#### 292B. High Energy Frontier Initiative and Cosmology Theory Seminar (1)

Seminar—1 hour. Prerequisite: Physics graduate students. May be repeated five times for credit. (S/U grading only.)—I, II, III. (I, II, III.)

(new course—eff. fall 07)

### Professional Course

#### 371. Teaching in an Active-Engagement Physics Discussion/Lab Setting (1)

Lecture/discussion—1 hour. Prerequisite: course 9D or equivalent; consent of instructor; open to graduate students only. Analysis of recent research on science/physics teaching and learning and its implications for teaching labs, discussions, and discussion/labs with an emphasis on differences between conventional and active-engagement

instructional settings. The appropriate role of the instructor in specific instructional settings. May be repeated two times for credit. I, II, III. (I, II, III.)

(change in existing course—eff. summer 08)

## Plant Biology

### New and changed courses in Plant Biology (PLB)

#### Upper Division Courses

##### 192. Internship (1-12)

Internship—3-36 hours. Prerequisite: completion of 84 units and consent of instructor. Technical and/or professional experience on or off campus. Supervised by a member of the Plant Biology Department faculty. May be repeated for credit. (P/NP grading only.)—I, II, III, IV. (I, II, III, IV.)

(change in existing course—eff. fall 08)

##### 197T. Tutoring in Plant Biology (1-5)

Discussion—2-6 hours. Prerequisite: upper division standing and consent of instructor. Assisting the instructor by tutoring students in one of the Department's regular courses. May be repeated for credit. (P/NP grading only.)—I, II, III. (I, II, III.)

(change in existing course—eff. fall 08)

## Plant Biology (A Graduate Group)

### New and changed courses in Plant Biology (A Graduate Group) (PBI)

#### Graduate Courses

##### 224. Water in Physiology and Ecology of Plants (4)

(cancelled course—eff. fall 09)

## Plant Pathology

### New and changed courses in Plant Pathology (PLP)

#### Graduate Courses

##### 201A. Impacts, Mechanisms and Control of Plant Disease (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 120, graduate student status in the Plant Pathology Graduate Program, or consent of instructor. A case-studies approach to analysis of plant diseases caused by bacteria, fungi, oomycetes, and viruses, including impacts, etiology, pathogen taxonomy and epidemiology, biochemical and genetic aspects of pathogen-host interactions, virulence and resistance, and approaches to disease control.—II. (II.) Gordon

(new course—eff. winter 09)

##### 201B. Impacts, Mechanisms and Control of Plant Disease (3)

Lecture—2 hours; discussion—1 hour. Prerequisite: course 120, course 201A, and graduate student status in the Plant Pathology Graduate Program, or consent of instructor. A case-studies approach to analysis of plant diseases, including emerging diseases, caused by bacteria, fungi, nematodes, and oomycetes: impacts, etiology, pathogen taxonomy, epidemiology, biochemical and genetic aspects of pathogen-host interactions, virulence, resistance, disease control and statistical analysis.—III. (III.) Bostock

(new course—eff. spring 09)

## Plant Sciences

### New and changed courses in Plant Sciences (PLS)

#### Lower Division Courses

##### 5. Plants for Garden, Orchard and Landscape (2)

Lecture—1 hour; laboratory—3 hours. Prerequisite: for non-majors. Hands-on experience with plants cultivated for food, environmental enhancement and personal satisfaction. Topics include establishing a vegetable garden, pruning and propagation activities, growing flowers and ornamental plants, and the role of plants in human health and well-being. Not open for credit to students who have completed Plant Biology 1 or Plant Sciences 2. (Former course Plant Biology 1.)—I, III. (I, III.) Marrush

(change in existing course—eff. fall 08)

##### 6. Flower Power--Art and Science of Flowers and Their Uses (2)

Lecture/discussion—2 hours. Prerequisite: high school biology. Introduction to the art and science of using and growing flowers to harness the power that is represented by their aesthetic beauty. Handling, production, arranging, breeding and marketing of flowers. Emphasis on potted plants and cut-flowers. (P/NP grading only.)—III. (III.) Lieth

(new course—eff. spring 10)

##### 12. Plants and Society (4)

Lecture—3 hours; extensive writing—3 hours. Prerequisite: high school biology. Dependence of human societies on plant and plant products. Plants as resources for food, fiber, health, enjoyment and environmental services. Sustainable uses of plants for food production, raw materials, bioenergy, and environmental conservation. Global population growth and future food supplies. Not open for credit to students who have complete Plant Biology 12. (Former course Plant Biology 12.) (Same course as Science and Society 12.) GE Credit: Div, SciEng or SocSci, Wri.—I, II, III. (I, II, III.) Fischer, Jasieniuk, Nevins

(new course—eff. fall 07)

##### 15. Introduction to Sustainable Agriculture (4)

Lecture—3 hours; laboratory—3 hours. Multidisciplinary introduction to agricultural sustainability with a natural sciences emphasis. Sustainability concepts and perspectives. Agricultural evolution, history, resources and functions. Diverse agricultural systems and practices and their relative sustainability. Laboratories provide direct experience with selected agricultural practices and systems.—III. (III.) Van Horn

(new course—eff. spring 09)

##### 21. Application of Computers in Technology (3)

Lecture—2 hours; laboratory/discussion—2 hours. Prerequisite: high school algebra. Concepts of computing and applications using personal computers, spreadsheets, database management, word processing and communications. Not open for students who have completed Agricultural Management and Rangeland Resources 21. (Former course Agricultural Management and Rangeland Resources 21.)—I, II, III. (I, II, III.) Laca, Lieth, Saltveit

(change in existing course—eff. winter 09)

### Upper Division Courses

#### 121. Systems Analysis in Agriculture and Resource Management (4)

(cancelled course—eff. fall 09)

#### 134. Comparative Ecology of Major Rangeland Systems (3)

(cancelled course—eff. fall 09)

**141. Ethnobotany (4)**

Lecture—3 hours; laboratory/discussion—2 hours. Prerequisite: course 2, Biological Sciences 1C or 2C. Relationships and interactions between plants and people, including human perceptions, management, and uses of plants, influences of plants on human cultures, and effects of human activity on plant ecology and evolution. Concepts, questions, methods, and ethical considerations in ethnobotanical research. Not open for credit to students who have completed Plant Biology 141. (Former course Plant Biology 141.) Offered in alternate years. GE Credit: SciEng or SocSci, Wrt.—II. Potter  
(change in existing course—eff. winter 08)

**146. Rhizosphere Ecology (3)**

(cancelled course—eff. spring 09)

**151. Plant Natural Product Chemistry (3)**

(cancelled course—eff. spring 10)

**163. Ecosystem and Landscape Ecology (4)**

Lecture/discussion—4 hours. Prerequisite: course in general, plant, or soil ecology; Evolution and Ecology 117, Plant Biology 117, Environmental Science and Policy 100, Evolution and Ecology 101, Soil Science 112. Integration of concepts to understand and manage ecosystems in a complex and changing world. Emphasis on interactions among biotic, abiotic and human factors and changes over space/time. Local to global controls over water, carbon and nutrients across ecosystems/landscapes. Not open for credit to students who have completed Ecology 201.—II. (II.) Cadenasso, Eviner  
(new course—eff. winter 10)

**173. Molecular and Cellular Aspects of Postharvest Biology (3)**

Lecture/discussion—3 hours. Prerequisite: course 2, Biological Sciences 1C, 2C or equivalent. Basic concepts and current knowledge of issues relevant to postharvest biology. Mechanisms of fruit ripening, senescence, programmed cell death. Metabolism and functions of phytohormones, carbohydrates, lipids, pigments, flavor compounds, and phytonutrients at molecular and cellular levels.—III. (III.) Inoue, Negre-Zakharov  
(change in existing course—eff. winter 10)

**Graduate Courses****205. Experimental Design and Analysis (5)**

Lecture—3 hours; discussion/laboratory—2 hours. Prerequisite: course 120 or equivalent. Introduction to the research process and statistical methods to plan, conduct and interpret experiments. Not open for credit to students who have completed Agronomy 205. (Former course Agronomy 205.)—II. (II.) Dubcovsky  
(change in existing course—eff. winter 10)

**213. Postharvest Physiology of Vegetables (3)**

Lecture—2 hours; discussion—1 hour. Prerequisite: course 172 or course 100B or Plant Biology 112. Comparative physiology of harvest vegetables; emphasis on maturation, senescence, compositional changes, physiological disorders and effects of environmental factors. Concepts and research procedures. Not open for credit to students who have completed Vegetable Crops 212. (Former course Vegetable Crops 212.) Offered in alternate years.—(III.) Salveit  
(change in existing course—eff. spring 10)

## Political Science

**New and changed courses in Political Science (POL)****Upper Division Courses****100. Local Government and Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1 and upper division standing or consent of instructor. Politics and government of local communities in the United States, including cities, counties and special districts. Emphasizes sources and varieties of community conflict, legislative and executive patterns, expertise, decision making and the politics of structure. Observation of local governing boards. Offered irregularly. GE credit: SocSci, Wrt.—Huckfeldt  
(change in existing course—eff. fall 08)

**102. Urban Public Policy (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1, upper division standing in Political Science or consent of instructor. Political and economic relationships among central cities, suburbs, and regional, state, and federal governments. Focuses upon policy areas such as poverty, transportation, welfare, and housing, and upon who governs and who benefits from the policies in these areas. GE credit: SocSci, Wrt.  
(change in existing course—eff. fall 08)

**104. California State Government and Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1 and upper division standing or consent of instructor. The California political system. Political culture, constitution, elections and parties, direct democracy, legislature, governor, executive branch, courts, finances, state-local relations and policy issues. Offered irregularly. GE credit: SocSci, Wrt.—Huckfeldt  
(change in existing course—eff. fall 08)

**105. The Legislative Process (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1. The legislative process with emphasis on the United States Congress; legislative organization and procedures, legislative leadership and policy making, legislators and constituents, relations between Congress and other agencies. GE credit: SocSci, Wrt.  
(change in existing course—eff. fall 08)

**106. The Presidency (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1. The American presidencies origins and development; presidential power and influence as manifest in relationships with Congress, courts, parties, and the public in the formulation and administration of foreign and domestic policy; nominations, campaigns, and elections. GE credit: SocSci, Wrt.  
(change in existing course—eff. fall 08)

**108. Policy Making in the Public Sector (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1 and upper division standing or consent of instructor. Theoretical rationale for governmental activity, program evaluation, PPBS, positive theories of policy making, the quantitative study of policy determinants, implementation, and proposals for improved decision making. Offered irregularly. GE credit: SocSci, Wrt.—Huckfeldt  
(change in existing course—eff. fall 08)

**109. Public Policy and the Governmental Process (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1. The processes of formulating public policy, including individual and collective decision making, political exchange, competition,

bargaining, coalition formation and the allocation of public goods, resources and opportunities. GE credit: SocSci, Wrt.

(change in existing course—eff. fall 08)

**110. The Strategy of Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Introduction to game theory. Explanation of the behavior of individuals in strategic interaction. Rational and behavioral approaches. Applications to political science and other fields. GE Credit: SocSci, Wrt.—Huckfeldt

(change in existing course—eff. summer 09)

**111. Systematic Political Science (4)**

(cancelled course—eff. summer 09)

**112. Contemporary Democratic Theory (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 4. Major contemporary attempts to reformulate traditional democratic theory, attempts to replace traditional theory by conceptual models derived from modern social science findings. Offered in alternate years. GE credit: SocSci, Wrt.—Huckfeldt

(change in existing course—eff. summer 09)

**113. American Political Thought (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 4. Origins and nature of American political thought. Principles of American thought as they emerge from the founding period to the present. GE credit: SocSci, Wrt.—Scott

(change in existing course—eff. fall 09)

**114. Quantitative Analysis of Political Data (4)**

Lecture—3 hours; term paper or discussion—1 hour. Logic and methods of analyzing quantitative political data. Topics covered include central tendency, probability, correlation, and non-parametric statistics. Particular emphasis will be placed on understanding the use of statistics in political science research. Offered in alternate years. GE credit: SocSci, Wrt.  
(change in existing course—eff. fall 09)

**116. Foundations of Political Thought (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 4. Analysis and evaluation of the seminal works of a major political philosopher or of a major problem in political philosophy. May be repeated one time for credit when topic differs. Offered in alternate years. GE credit: SocSci, Wrt.—Peterman

(change in existing course—eff. fall 09)

**117. Marxism (4)**

(cancelled course—eff. fall 08)

**117. Topics in the History of Political Thought (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 4. The political thought of a specific historical period. Topics may include: Ancient Athens, the Italian Renaissance, the Enlightenment, or Nineteenth Century Germany. May be repeated once for credit. GE credit: Wrt.  
(new course—eff. fall 08)

**118A. History of Political Theory: Ancient (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 4. Critical analyses of classical and medieval political philosophers such as Plato, Aristotle, Cicero and St. Thomas. GE credit: SocSci, Wrt.—Peterman

(change in existing course—eff. fall 09)



**118B. History of Political Theory: Early Modern (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 4. Critical analyses of the works of early modern political philosophers such as Machiavelli, Montaigne, Hobbes, Locke and Hume. GE credit: SocSci, Wrt.—Scott

*(change in existing course—eff. fall 09)*

**118C. History of Political Theory: Late Modern (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 4. Critical analyses of the works of late modern political philosophers such as Rousseau, Kant, Hegel, Tocqueville, Mill, Marx and Nietzsche. GE credit: SocSci, Wrt.—Scott

*(change in existing course—eff. fall 09)*

**119. Contemporary Political Thought (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 4. Contemporary political thought from the end of the nineteenth century to the present. Emphasis upon an individual philosopher, concept, or philosophical movement; e.g., Nietzsche, Continental political thought, Rawls and critics, theories of distributive justice, feminist theory. Offered irregularly. GE credit: SocSci, Wrt.—Peterman

*(change in existing course—eff. fall 09)*

**120. Theories of International Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 3, upper division standing or consent of instructor. Major contemporary approaches to the study of international politics, including balance of power, game theory, Marxist-Leninist theory, systems theory, and decision-making analysis. GE credit: SocSci, Wrt.

*(change in existing course—eff. fall 09)*

**121. Scientific Study of War (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 3; course 51 or Statistics 13 with upper division standing. Restricted to upper division standing. An analysis of political processes involved in the initiation, conduct and termination of modern interstate warfare. GE credit: SocSci, Wrt.—Gartner

*(change in existing course—eff. fall 09)*

**122. International Law (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 3. Selected topics in international law; territory, sovereign immunity, responsibility, the peaceful settlement or nonsettlement of international disputes. GE credit: SocSci, Wrt.

*(change in existing course—eff. fall 09)*

**123. The Politics of Interdependence (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 3, upper division standing or consent of instructor. In the past several decades, growing economic interdependence has generated new problems in international relations. Course deals with difficulties in managing complex interdependence and its implication on national policies and politics. GE credit: SocSci, Wrt.

*(change in existing course—eff. fall 09)*

**126. Ethnic Self-Determination and International Conflict (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 3. Compares the claims of the state and ethnic peoples in countries undergoing internal conflicts; e.g., South Africa, Northern Ireland. Analyzes the role of the international community in facilitating the peaceful resolution of conflicts. GE credit: SocSci, Div, Wrt.

*(change in existing course—eff. fall 09)*

**130. Recent U.S. Foreign Policy (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 3, upper division standing or consent of instructor. Broad survey of the development of U.S. foreign policy in twentieth century with

emphasis on transformation of policy during and after World War II, and the introduction to analytic tools and concepts useful for understanding of current foreign policy issues. GE credit: SocSci, Wrt.  
*(change in existing course—eff. fall 09)*

**132. National Security Policy (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 3, upper division standing. Development of national security policies since 1945. Analysis of deterrence and assumptions upon which it is based. Effects of nuclear weapons upon conduct of war, alliance systems, and the international system. Prospects of security and stability through arms control. GE credit: SocSci, Wrt.

*(change in existing course—eff. fall 09)*

**135. International Politics of the Middle East (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 3 or consent of instructor. Restricted to upper division standing. International politics of the Middle East as a microcosm of world politics. The Middle East as a regional system. Domestic and International Politics in the Middle East. Changing Political Structures in the Middle East. Superpower involvement in the Middle East. GE credit: SocSci, Wrt.—Maoz

*(change in existing course—eff. fall 09)*

**136. The Arab-Israeli Conflict (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 3 or International Relations 1. Restricted to upper division standing. Causes, course, and implications of Arab-Israeli conflict. Competing Israeli and Arab narratives, politics of force, diplomacy. Domestic politics and A-I conflict, the superpowers and the A-I conflict, A-I conflict and world politics, potential solutions. GE credit: SocSci, Wrt.—Maoz

*(change in existing course—eff. summer 09)*

**137. International Relations in Western Europe (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 3, upper division standing. Analysis of European unity, problems of the Atlantic alliance, Atlantic political economy, East-West relations, communism in Western Europe and the relationship between domestic politics and foreign policy. GE Credit: SocSci, Wrt.

*(change in existing course—eff. fall 09)*

**140A. Comparative Political Institutions: Electoral Systems (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2. Workings of electoral institutions, focusing on systems used to elect presidents and assemblies, pass laws, and generally make decisions. Examples from systems throughout the world, including cases from both the advanced industrial and developing worlds. Offered in alternate years. GE Credit: SocSci, Wrt.—Scheiner

*(change in existing course—eff. fall 08)*

**140B. Comparative Political Institutions: Parties (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor. Restricted to upper division standing. The factors shaping political parties and their role in democratic representation. Offered in alternate years. GE Credit: Div, SocSci, Wrt.—Adams, Andrews

*(change in existing course—eff. summer 09)*

**140C. Comparative Political Institutions: Legislatures (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; upper division standing. Examination of legislatures from a comparative perspective. GE Credit: SocSci, Wrt. Offered in alternate years.—Andrews

*(change in existing course—eff. fall 08)*

**142A. Comparative Development: Political Development in Modernizing Societies (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; upper division standing. Nature and sequence of political development; its economic and social concomitants; role of elites, military, bureaucracy, and party systems; social stratification and group politics; social mobilization and political participation; instability, violence, and the politics of integration. Offered in alternate years. GE Credit: SocSci, Wrt.—Jackman

*(change in existing course—eff. fall 08)*

**142B. Comparative Development: Politics and Inequality (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; upper division standing. Linkages between politics and the distribution of social and economic goods. Impact of civil rights legislation, the politics of welfare states, and the effects of political participation on the distribution of goods. Offered in alternate years. GE Credit: SocSci, Wrt.—Jackman

*(change in existing course—eff. fall 08)*

**143. Latin American Politics (4)**

*(cancelled course—eff. winter 08)*

**143A. Latin American Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2. Issues related to democratic consolidation in Latin America, with a regional focus on South America. Topics include transitions to democracy, the role of the military, political economy, and political behavior. GE Credit: Div, SocSci, Wrt.—Huckfeldt

*(change in existing course—eff. fall 08)*

**143B. Mexican Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2. Introduction to the politics of contemporary Mexico. Focus on rise, fall, and aftermath of Mexico's one-party dominant system. GE credit: Div, SocSci, Wrt.—Huckfeldt

*(change in existing course—eff. fall 08)*

**144. Russian Politics and Policy (4)**

*(cancelled course—eff. spring 09)*

**144A. Politics of Post-Communist Countries: East European Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; restricted to upper division standing. Post-war democratization, state-building and economic reform in East European states. GE Credit: SocSci, Wrt.—Andrews

*(change in existing course—eff. fall 08)*

**144B. Politics of Post-Communist Countries: Russia (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; restricted to upper division standing. Democratization, state-building and economic reform; creation of new institutions; impacts of Soviet rule. GE Credit: SocSci, Wrt.—Andrews

*(change in existing course—eff. fall 08)*

**146A. Politics of Africa: Issues in Contemporary African Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; course 134 recommended; upper division standing. African politics since the end of the Cold War. Topics include: Strategic Security Approach, Democratization, Human Rights, HIV/AIDS, African Peacekeeping, Terrorism, Religious and Ethnic Conflict, Debt and Stalled Development. Offered in alternate years. GE Credit: Div, SocSci, Wrt.—Huckfeldt

*(change in existing course—eff. fall 08)*

Quarter Offered: I=Fall, II=Winter, III=Spring, IV=Summer; 2009-2010 offering in parentheses

General Education (GE) credit: ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Wrt=Writing Experience

**146B. Politics of Africa: Development in Africa (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; course 134 recommended; upper division standing. Political and economic development within Sub-Saharan Africa. States and institutions, democracy, party systems, military coups/rule, bureaucracy/corruption, race/ethnicity, national/regional integrations, trade unions, economic development strategies, class formation, and women's roles and ideology. Offered in alternate years. GE Credit: Div, SocSci, Wrt.—Huckfeldt

*(change in existing course—eff. fall 08)*

**147A. West European Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; upper division standing. The evolution, politics, and contemporary problems of selected political systems of Western Europe. Offered in alternate years. GE credit: SocSci, Wrt.—Money

*(change in existing course—eff. fall 08)*

**147B. West European Politics: British Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; upper division standing. The evolution, politics, and contemporary problems of Britain's political system. GE credit: SocSci, Wrt.—Adams

*(change in existing course—eff. fall 08)*

**147C. West European Politics: French Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; upper division standing. The evolution, politics and contemporary problems of France's political system. Offered in alternate years. GE Credit: SocSci, Wrt.—Adams

*(change in existing course—eff. fall 08)*

**147D. West European Politics: German Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; open to upper division Political Science & International Relations Majors. Evolution, politics and contemporary problems of Germany's political system. GE Credit: SocSci, Wrt.—Adams

*(change in existing course—eff. fall 08)*

**148A. Government and Politics of East Asia: China (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; upper division standing. Evolution of political institutions and political culture in China with emphasis on the post-1949 period. Primary attention to nationalism, modernization and political efficacy. Offered in alternate years. GE credit: SocSci, Wrt.—Montinola

*(change in existing course—eff. fall 08)*

**148B. Government and Politics in East Asia: Japan (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; upper division standing. Japanese politics, with an emphasis on the postwar period. Particular emphasis on political parties, elections, political economy, and social problems. Offered in alternate years. GE Credit: Div, SocSci, Wrt.—Scheiner

*(change in existing course—eff. fall 08)*

**148C. Government and Politics in East Asia: Southeast Asia (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 2 or consent of instructor; upper division standing. Evolution of political institutions and economy of selected nations in Southeast Asia. Emphasis on imperialist legacy, nation building in

multi-ethnic communities, and contrasts in economic performance. Offered in alternate years. GE Credit: Div, SocSci, Wrt.—Montinola

*(change in existing course—eff. fall 08)*

**149. Politics of Development in Africa (4)**

*(cancelled course—eff. winter 08)*

**150. Judicial Politics and Constitutional Interpretation (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1 and upper division standing or consent of instructor. Politics of judicial policy making, issues surrounding constitutional interpretation and decision making, prerequisite for courses on the politics of constitutional law. GE credit: SocSci, Wrt.—Gates

*(change in existing course—eff. fall 08)*

**151. The Constitutional Politics of the First Amendment and the Right to Privacy (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: courses 1 and 150 with upper division standing or consent of instructor. The constitutional politics surrounding such issues as the right to free expression, associational rights, the right to free exercise of religious beliefs and the right to privacy. GE credit: SocSci, Wrt.—Gates

*(change in existing course—eff. fall 08)*

**152. The Constitutional Politics of Equality (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: courses 1 and 150 with upper division standing or consent of instructor. Constitutional politics of equality in the American political system; issues surrounding constitutional doctrine and judicial policymaking; special attention on racial and sexual equality. Offered in alternate years. GE credit: SocSci, Wrt.—Gates

*(change in existing course—eff. fall 08)*

**153. The Constitutional Politics of the Justice System (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 150 with upper division standing or consent of instructor. Constitutional politics of the American criminal justice system. Issues surrounding constitutional doctrine and judicial policymaking on issues such as search and seizure. Arrest, trial, incarceration and other issues of due process. Offered in alternate years. GE credit: SocSci, Wrt.—Huckfeldt

*(change in existing course—eff. fall 08)*

**154. Legal Philosophy (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1 or 4, upper division standing or consent of instructor. Analysis of the behavior of judges and courts in the political process. Techniques of judicial decision making. Relationships among courts and other decision making bodies. Offered irregularly. GE credit: SocSci, Wrt.—Huckfeldt

*(change in existing course—eff. fall 08)*

**155. Judicial Process and Behavior (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1, upper division standing. Analysis of the behavior of judges and courts in the political process. Techniques of judicial decision making. Relationships among courts and other decision making bodies. Offered in alternate years. GE credit: SocSci, Wrt.

*(change in existing course—eff. fall 08)*

**160. American Political Parties (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1, upper division standing or consent of instructor. Analysis of the structured operations of the party system in the United States; party functions and organizations, nomination processes, campaigns and elections, party trends and reforms. GE credit: SocSci, Wrt.—Huckfeldt

*(change in existing course—eff. fall 08)*

**161. Comparative Political Parties (4)**

*(cancelled course—eff. fall 08)*

**162. Elections and Voting Behavior (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1, upper division standing or consent of instructor. Analysis of American elections and partisan behavior; political socialization, political participation, partisanship and individual and group determinants of voting. Offered irregularly. GE credit: SocSci, Wrt.—Huckfeldt

*(change in existing course—eff. fall 08)*

**163. Group Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1, upper division standing or consent of instructor. Groups, institutions and individuals, especially in American politics. Historical and analytical treatment of group theories as applied to interest groups (especially labor, business, agriculture, science, military); to racial, ethnic and sectional groups; to parties, public and legislative groups, bureaucracies. GE credit: SocSci, Wrt.—Huckfeldt

*(change in existing course—eff. fall 08)*

**164. Public Opinion (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: upper division standing and course 1 or 5, or consent of instructor. Nature of public opinion in America as it is supposed to be and as it is. Distribution of opinions among different publics and the significance of that distribution for system stability and institutions. Opinion polling and its problems. GE credit: SocSci, Wrt.

*(change in existing course—eff. fall 08)*

**165. Mass Media and Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1. Organization of and decision making within the media; media audiences and the effect of the media on attitudes and behavior; the relationship of the government to the media (censorship, secrecy, freedom of the press, government regulation); the media in election campaigns. GE credit: SocSci, Wrt.

*(change in existing course—eff. fall 08)*

**168. Chicano Politics (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1. Political aspects of Chicano life in America; examines the Chicanos political role as it has been historically defined by different groups in society and the Chicanos responses to his/her political environment. GE credit: Div, SocSci, Wrt.

*(change in existing course—eff. fall 08)*

**170. Political Psychology (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 51 or consent of instructor; upper division standing. Overview to the growing literature on political psychology. Introduction to how psychological concepts (personality, attitudes, stereotypes, heuristics, affect, identity, group dynamics) help us understand how citizens think about politics. GE credit: SocSci, Wrt.

*(change in existing course—eff. fall 08)*

**171. The Politics of Energy (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1, upper division standing. Nature and performance of political processes for making energy choices at the international, national and state levels. Interaction of energy policy with other political goals and the ability of governmental institutions to overcome constraints on policy innovation. GE credit: SocSci, Wrt.

*(change in existing course—eff. fall 08)*

**172. American Political Development (4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 1, some background in American politics is strongly recommended. Systematic analysis of contemporary issues in American political development: historical determinants of political

change; the timing and character of institutional development; conditions for successful political action. Democratization, cultural change, party formation, state-building, constitutionalism, race relations. GE credit: SocSci, Wrt.

(change in existing course—eff. fall 08)

#### 174. Government and the Economy (4)

Lecture—3 hours; term paper or discussion —1 hour. Prerequisite: course 1, upper division standing in Political Science or consent of instructor. Political basis of economic policy (taxation, spending and regulation); impact of prices, employment and growth on political demands; elite responses to economic conditions; policy alternatives and the public interest. GE credit: SocSci, Wrt.—III. (III.)

(change in existing course—eff. fall 08)

#### 175. Science, Technology, and Policy (4)

Lecture—3 hours; term paper or discussion —1 hour. Prerequisite: course 1; consent of instructor. Analysis of policymaking for science and the use of scientific expertise for making decisions about technology. Topics include funding of basic research, relationship of science to technological development, science and military policy, technological risks, technology assessment and scientists and politics. GE credit: SocSci, Wrt.

(change in existing course—eff. fall 08)

#### 176. Racial Politics (4)

Lecture—3 hours; term paper or discussion —1 hour. Prerequisite: course 1. Race, racial attitudes and racial policies in the United States with a specific emphasis on African Americans. GE credit: Div, SocSci, Wrt.

(change in existing course—eff. fall 08)

#### 179. Special Studies in Comparative Politics (4)

Lecture—3 hours; term paper or discussion —1 hour. Prerequisite: course 2, consent of instructor and upper division standing. Intensive examination of one or more special problems appropriate to comparative politics. Coverage is given to formal and informal political institutions, economically developing and developed countries, and non-democratic, democratic, and democratizing countries. May be repeated once for credit. GE credit: SocSci, Wrt.

(change in existing course—eff. fall 08)

#### 180. Bureaucracy in Modern Society (4)

Lecture—3 hours; term paper or discussion —1 hour. Prerequisite: course 1 or 2, upper division standing in Political Science or consent of instructor. Role of bureaucracy in a complex society, with emphasis upon changing relationships between government and the economy; consequences of rapid technological and social change for bureaucratic structures and processes; the problems of reconciling expertise and democracy and increasing the responsiveness of public bureaucracy. GE credit: SocSci, Wrt.

(change in existing course—eff. fall 08)

#### 183. Administrative Behavior (4)

Lecture—3 hours; term paper or discussion —1 hour. Prerequisite: course 1 and upper division standing or consent of instructor. The implications for American public administration of evolving concepts about behavior in organizations. Offered irregularly. GE credit: SocSci, Wrt.—Huckfeldt

(change in existing course—eff. fall 08)

#### 187. Administrative Theory (4)

Lecture—3 hours; term paper or discussion —1 hour. Prerequisite: course 1 and upper division standing or consent of instructor. Historical and critical analysis of the principal theories of organization and management of public agencies in light of such concepts as decision making, bureaucracy, authority and power, communication and control; examination of role of government bureaucracies in the total society. GE credit: SocSci, Wrt.—III. (III.) Hill

(change in existing course—eff. fall 08)

#### 190. International Relations (4)

Lecture—3 hours; term paper or discussion—1 hour. Open to majors in International Relations, or consent of instructor. Analysis and evaluation of substantive issues in contemporary international relations. Readings drawn from current academic and non-academic periodicals. GE credit: SocSci, Wrt.

(change in existing course—eff. fall 09)

### Graduate Courses

#### 290B. Research in Political Theory (4)

Lecture—3 hours; term paper. Restricted to graduate students only. Special research seminar on problems and issues in the study of political theory. May be repeated six times for credit if topic varies.—I, II, III. (I, II, III.)

(change in existing course—eff. spring 10)

#### 290C. Research in International Relations (4)

Lecture—3 hours; term paper. Restricted to graduate students only. Special research seminar on select problems and issues in the study of international relations. May be repeated six times for credit if topic varies.—I, II, III. (I, II, III.)

(change in existing course—eff. spring 10)

#### 290F. Research in Comparative Government and Policy (4)

Lecture—3 hours; term paper. Restricted to graduate students only. Special research seminar on select problems and issues in the study of comparative government and policy. May be repeated six times for credit if topic varies.—I, II, III. (I, II, III.)

(change in existing course—eff. spring 10)

## Portuguese

### New and changed courses in Portuguese (POR)

#### Lower Division Courses

##### 1. Elementary Portuguese (5)

Lecture/discussion—5 hours; laboratory—1 hour. Introduction to Portuguese grammar and development of all language skills in a cultural context with special emphasis on communication. Students who have successfully completed Portuguese 2 or 3 in the 10th or higher grade of high school may receive unit credit for this course on a P/NP grading basis only. Although a passing grade will be charged to the student's P/NP option, no petition is required. All other students will receive a letter grade unless a P/NP petition is filed.—I. (I.)

(new course—eff. all 08)

##### 2. Elementary Portuguese (5)

Lecture/discussion—5 hours; laboratory—1 hour. Prerequisite: course 1. Continuation of course 1 in the areas of grammar and development of all basic language skills in cultural context with special emphasis on communication.—II. (II.)

(new course—eff. winter 09)

##### 3. Elementary Portuguese (5)

Lecture/discussion—5 hours; laboratory—1 hour. Prerequisite: course 2. Continuation of course 2 in the areas of grammar and development of all basic language skills in cultural context with special emphasis on communication.—III. (III.)

(new course—eff. spring 09)

##### 21. Intermediate Portuguese (5)

Lecture/discussion—5 hours; laboratory—1 hour. Prerequisite: course 3. Review and develop the grammar, vocabulary, and composition acquired in first year Portuguese through exercises and reading of modern texts.—I. (I.) Bernucci

(new course—eff. spring 09)

##### 22. Intermediate Portuguese (5)

Lecture/discussion—5 hours; laboratory—1 hour. Prerequisite: course 21. Continuation of course 21. Focus on more difficult grammar concepts and further composition practice. Development of all language skills through exercises and reading of modern texts.—II. (II.) Bernucci

(new course—eff. spring 09)

##### 23. Portuguese Composition I (4)

Lecture—3 hours; extensive writing. Prerequisite: course 22. Development of writing skills by way of reading, discussion, and analysis of authentic materials, literary texts, and videos. Selective review of grammar. Class activities include composition, journals, letters, individual and group projects.—III. (III.)

(new course—eff. spring 09)

##### 31. Intermediate Portuguese for Spanish Speakers (4)

Lecture/discussion—3 hours; laboratory—1 hour. Prerequisite: course 3 or the equivalent, or consent of instructor. Development of linguistic and learning skills required for Spanish-speaking students in upper-division courses in Portuguese.—II. (II.)

(new course—eff. winter 09)

### Upper Division Courses

#### 100. Principles of Luso-Brazilian Literature and Criticism (4)

Lecture—3 hours; term paper. Prerequisite: course 3 or Spanish 24, 24S or 33. Principles of literary criticism applied to the study of fiction, poetry, and essays of major literary writers of the Luso-Brazilian world.—I. (I.) Bernucci

(new course—eff. spring 09)

#### 159. Special Topics in Luso-Brazilian Literature and Culture (4)

Lecture—3 hours; term paper. Prerequisite: course 3 or Spanish 24, 24S or 33. Special Topics in Luso-Brazilian Literature and Culture. May be repeated one time for credit.—I, II. (I, II.) Bernucci

(new course—eff. spring 09)

#### 198. Directed Group Study (1-5)

Prerequisite: consent of instructor and Department Chairperson. (P/NP grading only.)—I, II. (I, II.) Bernucci

(new course—eff. fall 08)

## Psychology

### New and changed courses in Psychology (PSC)

#### Lower Division Course

##### 1. General Psychology (4)

Lecture—4 hours. Introduction emphasizing empirical approaches. Focus on perception, cognition, personality and social psychology, and biological aspects of behavior. Only two units allowed to those who have taken course 15 or 16; no credit allowed to those who have taken both courses 15 and 16. GE credit: SocSci.—I, II, III. (I, II, III.) Shaver, Johnson, Capitanio, Thompson, Tavano-Hall, Traxler

(change in existing course—eff. fall 02)

### Upper Division Courses

#### 109. Interactive Computer Programming for Psychological Experiments (4)

(cancelled course—eff. spring 08)

#### 128. Information Processing Models in Neuroscience and Psychology (4)

(cancelled course—eff. spring 08)

## Graduate Courses

### 205C. Structural Equation Modeling (4)

Lecture—3 hours; term paper. Prerequisite: graduate standing; course 204A and 204B or the equivalent or consent of instructor. Theory and methods of structural equation modeling, including path analysis, confirmatory factor analysis, multiple-group modeling and latent growth curve modeling. Offered in alternate years.—Ferrer, Grimm, Widaman  
(change in existing course—eff. fall 08)

### 206A. Theoretical Foundations: Research Methods in Psychology (4)

Lecture/discussion—3 hours; term paper. Restricted to graduate student status. Examines the philosophy and research practices underlying experimental psychology. Topics to be covered include philosophy of science/epistemology, research design, inference and bias in research, theory development, validity, the social context of research, and critical thinking about research. Offered irregularly.—III. (III.) Pickett, Sherman

(new course—eff. spring 10)

### 206B. Research Methods in Psychology: Applications in Social-Personality Research (4)

Lecture/discussion—3 hours; term paper. Restricted to graduate student status. Overview of the research designs, assessment methods, and statistical procedure used by social-personality psychologists. Focus on the practical issues that arise when using each method in specific research contexts. Offered in alternate years.—(II.) Robins

(new course—eff. fall 10)

### 217. Behavioral Genetics (4)

Lecture—3 hours; laboratory/discussion—1 hour; term paper. Prerequisite: graduate standing. Restricted to 20 students. Review basic principles in genetics and select topics in molecular genetics with emphasis on behavior. Use of modern molecular methods to outline complex relationships between genes, environment, and behavior. Not open for credit to students who have completed course 251.—II, III. (II, III.) Trainor

(new course—eff. spring 08)

### 265. Topics in Psychology of Consciousness (4)

(cancelled course—eff. spring 09)

### 289A. Current Research in Psychology (2)

Seminar—2 hours. Prerequisite: graduate standing in Psychology or consent of instructor. Contemporary theory and empirical research in specialized topics in psychology. Topics include developmental attachment, social neuroscience, mental health, emotion, sexual orientation and identity. May be repeated for credit if topic differs. (Deferred grading only, pending completion of sequence.)—I, II. (I, II.)

(change in existing course—eff. winter 07)

### 289B. Current Research in Psychology (2)

Discussion—2 hours. Prerequisite: course 289A; graduate standing in Psychology or consent of instructor. Intensive examination of contemporary theory and empirical research on a specialized topic in psychology. Sample topics include developmental attachment, social neuroscience, culture and mental health, electrophysiology and cognitive neuroscience, emotion, implicit cognitive processes, sexual orientation and identity, and attention. May be repeated for credit if content differs. (Deferred grading only, pending completion of sequence.)—II, III. (II, III.)

(change in existing course—eff. winter 07)

## Religious Studies

### New and changed courses in Religious Studies (RST)

#### Lower Division Courses

##### 1A-F. Topics in Comparative Religion (4)

Lecture—3 hours; discussion—1 hour. Introduction to comparative religion, focusing on a particular theme in a number of religious traditions: (A) Pilgrimage; (B) Death and After-life; (C) Sacrifice; (D) Conversion; (E) Fundamentalism; (F) Contemporary Religion. Not available to those who have taken course 3A. GE credit: ArtHum, Div, Wrt.—I, II, III, IV. (I, II, III, IV.)

(new course—eff. summer 08)

##### 1G. Myth, Ritual, and Symbolism (4)

Lecture—3 hours; discussion—1 hour. Myths, rituals and religious symbols found in a variety of religious traditions including examples from ancient and contemporary religious life. Variety of religious phenomena; validity of different approaches to the study of religion. Not open to students who have taken Religious Studies 2 and received unit credit. GE credit: ArtHum, Div, Wrt.—I, III. (I, III.) Janowitz, Lai

(new course—eff. fall 09)

##### 2. Myth, Ritual, and Symbolism (4)

(cancelled course—eff. winter 09)

##### 3A. Topics in Comparative Religion (4)

(cancelled course—eff. fall 09)

##### 3B. Topics in Comparative Religion (4)

(cancelled course—eff. fall 09)

##### 3C. Topics in Comparative Religion (4)

(cancelled course—eff. fall 09)

##### 3D. Topics in Comparative Religion (4)

(cancelled course—eff. fall 09)

##### 3E. Topics in Comparative Religion (4)

(cancelled course—eff. fall 09)

##### 30. Religions of South Asia (4)

Lecture—3 hours; term paper. Introduction to South Asian religions, including Hinduism, Buddhism, Islam, Jainism and Sikhism. Traces historical developments from Vedic texts and their ascetic reformulation by sages such as Yajñavalkya, Siddhartha Gautama, and Mahavira into our global present. GE credit: ArtHum, Div, Wrt.—I, II. (I, II.) Elmore, Venkatesan

(new course—eff. winter 09)

##### 42. Religion and Science Fiction (4)

Lecture—3 hours; term paper. Representations of actual and fictional religious movements in science fiction and fantasy writing and film. Examination of: the characteristics of religion and religiosity in fictional religious movements; the relationship between religion, science, and technology in modern speculative fiction. Offered irregularly. GE credit: ArtHum, Div, Wrt.—I, II, III, IV. (I, II, III, IV.) Chin

(new course—eff. spring 10)

##### 45. Christianity (4)

Lecture/discussion—3 hours; term paper. Major concepts and practices in the Christian tradition. Survey of the history of Christianity and Christian expansion from antiquity to modern times. Offered in alternate years.—(I, II.) Chin

(new course—eff. fall 09)

##### 60. Introduction to Islam (4)

Lecture/discussion—3 hours; extensive writing. Introduction to topics central to the Islamic tradition. Muhammad, the Qur'an, Islamic law, theology, philosophy, cosmology, worship, and mysticism. Race and gender in Islam, Islamic revival, and varying

experiences of Islam in different historical and cultural settings. Offered in alternate years. GE credit: ArtHum or SocSci, Div, Wrt.—(I.) Tezcan

(change in existing course—eff. spring 05)

##### 80. Religion, Gender, Sexuality (4)

Lecture/discussion—3 hours; term paper. Constructions of gender and sexuality within one or more religious traditions, pre-modern and modern. Emphasis on the interaction between religious, medical, and ethical definitions of the human body and sexual behavior. Offered in alternate years. GE credit: Div, Wrt.—II. Chin

(new course—eff. winter 09)

### Upper Division Courses

#### 103. Medieval and Byzantine Christianity (4)

Lecture/discussion—3 hours; term paper. Prerequisite: courses 40 or 45. Christianity in Europe and the Near East from the year 600 to 1450. Focus on the development of Catholic and Orthodox traditions in ritual, art, and thought, with attention to interactions between regional groups, and Christian interaction with Islam. Offered irregularly. GE Credit: ArtHum, Div, Wrt.—I, II. Chin

(change in existing course—eff. fall 10)

#### 104. Christianity 1450-1700 (4)

Lecture/discussion—3 hours; term paper. History of Reformation conflicts over the authority of scripture, the nature of man and the universe, and the basis of morality with the goal of understanding how these conflicts laid the foundation for the modern world. Offered irregularly. GE credit: ArtHum, Div, Wrt.—Coudert

(new course—eff. spring 10)

#### 106. Christianity in the Modern World (4)

Lecture—3 hours; term paper. Christianity in the 20th and 21st centuries. Relationship of Christianity to globalization, industrialization, mass media, and the contemporary secular state. Focus on Christianity in developing nations and on the relationship of established Christian institutions to new Christian movements. Offered irregularly. GE Credit: ArtHum, Div, Wrt.—I, II, III. (I, II, III.) Chin, Coudert

(new course—eff. spring 10)

#### 131. Genocide (4)

Lecture/discussion—3 hours; term paper. Prerequisite: one course from courses 1, 2, 3A, 3B, 3C, 3E or permission of instructor. Comparative and critical study of the modern phenomenon of genocide from religious, ethical and historical perspectives. Offered in alternate years. GE credit: ArtHum, Div.—(I.) Watenpaugh

(new course—eff. fall 07)

#### 144. History of the Bible (4)

Lecture—3 hours; term paper. Prerequisite: course 23 or 40. History of the formation of the Christian biblical canon, with emphasis on differences between Christian traditions; survey of translations and adaptations of the Bible in and outside of Western Christianity; and brief history of issues in biblical interpretation. Offered irregularly. GE credit: ArtHum, Div, Wrt.—I, II, III. (I, II, III.) Chin

(new course—eff. fall 09)

#### 163. The Social Life of Islam (4)

Lecture—3 hours; term paper. Introduction to culture and social life in Muslim societies. Focus on the plurality of traditions in Muslim faith, reason, and everyday practice. Special attention to Muslim rituals, ethical values, verbal genres, family life, sexuality and veiling, and youth culture. Offered in alternate years.—II. Miller

(new course—eff. winter 09)

## Graduate Courses

### 205. Religion and Media (4)

Lecture/discussion—3 hours; term paper. Many communities are finding global media technologies useful for religious practice. This course examines how religious revitalization is historically situated. A phenomenological approach will enable students to situate media and religion within the social and material world of practitioners.—IV. (IV.) Miller (new course—eff. winter 09)

### 210. Religion and Postcoloniality, or Savages, Civilization, and Spirituality (4)

Seminar—3 hours; term paper. Prerequisite: graduate standing. This course examines relations between religion and colonialisms. Using specific historical situations it explores some of our thorniest theoretical problems. Students acquire a solid understanding of postcolonial theory and the historical tools to critically engage religion in the present.—III. (III.) Elmore (new course—eff. fall 07)

### 215. Topics in the History of Christianity (4)

Seminar—3 hours; term paper. Prerequisite: graduate standing. Selected topics in the history of Christianity. Intended for graduate students seeking to do advanced work in the study of Christianity. May cover issues in Christian thought from antiquity, the middle ages, the early modern or modern period. May be repeated for credit when topic differs. Offered irregularly.—I, II, III. (I, II, III.) Chin, Coudert (new course—eff. fall 10)

## Professional Course

### 396. Teaching Assistant Training Practicum (1-4)

Prerequisite: graduate standing. May be repeated for credit. (S/U grading only.)—I, II, III. (I, II, III.) (new course—eff. winter 09)

## Russian

### New and changed courses in Russian (RUS)

#### Lower Division Courses

##### 10. Elementary Conversation (2)

(cancelled course—eff. fall 08)

##### 15. Russia Today and Tomorrow (4)

(cancelled course—eff. summer 08)

##### 41. Survey of Nineteenth-Century Russian Literature (in English) (4)

(cancelled course—eff. summer 08)

##### 42. Survey of Twentieth-Century Russian Literature (in English) (4)

(cancelled course—eff. spring 09)

##### 44. Children's Literature in Russia (4)

(cancelled course—eff. summer 08)

#### Upper Division Courses

##### 101B. Advanced Russian (4)

Lecture/discussion—3 hours; extensive writing. Prerequisite: course 101A or consent of instructor. Continuation of course 101A. Topics in Russian grammar for the advanced student. Reading and discussion of journalistic texts and classic and contemporary literature. Conversational exercises utilizing literary and colloquial variants of current Russian speech.—II. (II.) (change in existing course—eff. winter 11)

##### 101C. Advanced Russian (4)

Lecture/discussion—3 hours; extensive writing. Prerequisite: course 101B. Continuation of course 101B. Topics in Russian grammar for the advanced student. Reading and discussion of journalistic texts

and classic and contemporary literature. Conversational exercises utilizing literary and colloquial variants of current Russian speech.—III. (III.) (change in existing course—eff. spring 11)

##### 104. Russian Through Literature (4)

(cancelled course—eff. winter 08)

##### 105. Advanced Russian Conversation (4)

Recitation—3 hours; practice—1 hour. Prerequisite: course 6. Intensive conversational practice and discussion based on current events and contemporary texts. Offered in alternate years.—I. Druzhnikov (new course—eff. winter 97)

##### 121. Nineteenth-Century Russian Prose (4)

Lecture—3 hours; term paper. Prerequisite: course 101C or consent of instructor. Development of prose from Pushkin and Gogol, through Dostoevsky and Tolstoy, to Maxim Gorky. Other writers are selected sequentially: Turgenev, Goncharov, Pisemsky, Saltykov, Chekhov. Romanticism, the Natural School, critical realism, and psychological realism are covered. Conducted in Russian. Offered in alternate years. GE credit: ArtHum.—I. (change in existing course—eff. fall 08)

##### 123. Twentieth-Century Russian Prose (4)

Lecture—3 hours; term paper. Prerequisite: course 101C or consent of instructor. Examination of various trends including Symbolism, Neorealism, and Socialist Realism in development of prose. Readings from such writers as Bely, Gorky, Sholokhov, Pasternak, Solzhenitsyn and others. Conducted in Russian. Offered in alternate years. GE credit: ArtHum.—II. (change in existing course—eff. fall 08)

##### 126. The Russian Theater (4)

Lecture—3 hours; term paper. Prerequisite: course 101C or consent of instructor. The main works of Russian dramatists from Fonvizin to the present, including Gogol, Turgenev, Tolstoy, Ostrovsky, Chekhov, Blok, Mayakovsky, Kharmis. Conducted in Russian. Offered in alternate years. GE credit: ArtHum. (change in existing course—eff. fall 08)

##### 127. Nineteenth-Century Russian Poetry (4)

Discussion—3 hours; term paper. Prerequisite: course 101C or consent of instructor. Introduction to the principles of Russian versification followed by historical and poetic analysis of the following figures: Derzhavin, Zhukovsky, Pushkin, Delvig, Baratynsky, Lermontov, Nekrasov, Tjutchev, and Fet. Conducted in Russian. Offered in alternate years. GE credit: ArtHum.—III. (change in existing course—eff. fall 08)

##### 128. Twentieth-Century Russian Poetry (4)

Discussion—3 hours; term paper. Prerequisite: course 101C or consent of instructor. Introduction to principles of Russian versification followed by historical and poetic analysis of the following figures: Brijusov, Blok, Akhmatova, Mandelstam, Esenin, Mayakovsky, Khlebnikov, Pasternak, Evtushenko, Voznesensky, and Brodsky. Conducted in Russian. Offered in alternate years. GE credit: ArtHum.—III. (change in existing course—eff. fall 08)

##### 129. Russian Film (4)

Lecture/discussion—3 hours; film viewing—3 hours. Prerequisite: completion of Subject A requirement. History of Russian film; film and social revolution, the cult of Stalin, dissident visions; film and the collapse of the Soviet empire; gender and the nation in Russian film. Course taught in English; films are in Russian with English subtitles. Offered in alternate years. (Same course as Film Studies 129.) GE credit: ArtHum, Div, Wrt.—(III.) (new course—eff. fall 09)

##### 130. Contemporary Russian Culture (4)

Lecture—3 hours; term paper. Current trends in Russian culture and the relationship between artists and the government. Topics include recent changes in the

cultural scene, postmodernist trends in literature, visual art, film, and theater. Offered in alternate years. GE credit: ArtHum.—(III.) (change in existing course—eff. fall 09)

##### 131. Literature of Revolution (4)

(cancelled course—eff. summer 08)

##### 132. Nature and Culture in Russia (4)

(cancelled course—eff. spring 08)

##### 138. Pushkin's Eugene Onegin (4)

(cancelled course—eff. fall 10)

##### 139. Pushkin (4)

Lecture/discussion—3 hours; term paper. Prerequisite: course 101C or consent of instructor. The course covers three major periods of Pushkin's poetical works: his early Lyceum verse; his poetry of the early 1820s; and the mature period. The course also includes Pushkin's prose fiction, drama, and journalism. GE credit: ArtHum, Div.—I. (I.) (change in existing course—eff. fall 08)

##### 143. Alexander Solzhenitsyn (4)

(cancelled course—eff. spring 09)

##### 144. Christ and Literature (4)

(cancelled course—eff. summer 08)

##### 151. Writers and Censorship in Russia and the Soviet Union (4)

(cancelled course—eff. summer 08)

##### 154. Russian Folklore (4)

(cancelled course—eff. summer 08)

##### 159. Yiddish Literature in Translation (4)

(cancelled course—eff. summer 08)

##### 166. Representations of Sexuality in Russian Literature (4)

(cancelled course—eff. summer 08)

## Science and Society

### New and changed courses in Science and Society (SAS)

#### Lower Division Courses

##### 4. Water in Popular Culture (3)

Film viewing—2 hours; discussion—1 hour; lecture—1 hour. Importance of water in many aspects of society as revealed through a survey of its depictions in film. GE credit: SciEng or SocSci, Wrt.—I. (I.) Pasternack (change in existing course—eff. fall 08)

##### 7. Terrorism and War (4)

Lecture—3 hours; discussion—1 hour; term paper. Exploration of terrorism and war from science and social sciences perspectives. Terrorist cells and groups; biological, chemical, nuclear, and environmental terrorism; intelligence gathering and espionage; military strategy; genocide; epochal wars; clash of civilizations; nation building; and future global scenarios. GE credit: Div, SciEng or SocSci, Wrt.—III. (III.) Carey (change in existing course—eff. winter 04)

##### 8. Water Quality at Risk (3)

Lecture—2 hours; discussion—1 hour. Natural and human threats to water quality. Balance of science and policy in all aspects of attaining, maintaining, and managing water quality, water contamination. Decoding popular media coverage of water quality and water contamination. GE credit: SciEng or SocSci, Wrt. (Same course as Environmental and Resource Sciences 8.)—II. (II.) Hernes (change in existing course—eff. winter 06)

**9. Crisis in the Environment (3)**

Lecture—3 hours. Explores contemporary environmental issues by examining the causes, effects and solutions to a wide range of environmental problems facing the global ecosystem. Integrated discussion of political, societal and economic impact linkages with environmental problems. GE Credit: SciEng or SocSci, Wri.—III. (III.) Dahlgren

*(change in existing course—eff. winter 06)*

**10. Water, Power, Society (3)**

Lecture—2 hours; discussion—1 hour. Water resources issues. How water has been used to gain and wield socio-political power. Water resources development in California as related to current and future sustainability of water quantity and quality. Roles of science and policy in solving water problems. (Same course as Hydrologic Science 10.) GE credit: SciEng or SocSci, Wri.—III. (III.) Fogg

*(change in existing course—eff. winter 06)*

**12. Plants and Society (4)**

Lecture—3 hours; extensive writing—3 hours. Prerequisite: high school biology. Dependence of human societies on plant and plant products. Plants as resources for food, fiber, health, enjoyment and environmental services. Sustainable uses of plants for food production, raw materials, bioenergy, and environmental conservation. Global population growth and future food supplies. Not open for credit to students who have complete Plant Biology 12. (Former course Plant Biology 12.) (Same course as Plant Sciences 12.) GE Credit: Div, SciEng or SocSci, Wri.—I, II, III. (I, II, III.) Fischer, Jasieniuk, Nevins

*(new course—eff. fall 07)*

**18. GIS and Society (3)**

Lecture—2 hours; Laboratory—3 hours; term paper or discussion—0.3 hours. Geographic Information Systems (GIS) as a spatial technology and a tool for change in society. Evaluate physical, biological and social impact of GIS in the context of case studies such as land, water and community planning. GE Credit: SciEng or SocSci, Wri.—III. (III.) Wallender

*(change in existing course—eff. spring 07)*

**25. Global Climate Change: Convergence of Biological, Geophysical, & Social Sciences (3)**

Lecture—2 hours; discussion—1 hour. Causes of global climate change and the biological, geophysical, and social consequences of such change. Methods used by different scientists for predicting future events. Complexity of global affairs. Decision making under uncertainty. GE Credit: Div, SciEng or SocSci, Wri.—II. (II.) Bloom

*(change in existing course—eff. winter 06)*

**40. Photography: Bridging Art and Science (3)**

Lecture/discussion—2 hours; studio—3 hours. Photography is used to explore the common ground between art and science. Photographic processes, creativity and aesthetics, chaos and order, principles of space, time and light. Photographic interpretation and documentation of the natural world. GE Credit: ArtHum or SciEng or SocSci, Div, Wri.—III. (III.) Nathan

*(change in existing course—eff. spring 08)*

**42. Earth, Water, Science, Song (3)**

Lecture—2 hours; studio—3 hours. Fusion of water and soil science with performing arts. Creative communication of scientific concepts and facts through exercises in song writing and poetry. Design, discuss and conduct public performances related to the functioning of the natural world. GE Credit: ArtHum or SciEng.—II. (II.) Silk

*(change in existing course—eff. summer 09)*

**70A. Genetic Engineering in Medicine, Agriculture, and Law (5)**

Lecture—5 hours. Historical and scientific study of the impact of genetic engineering in medicine, agriculture, and law, including examination of social,

ethical, and legal issues raised. Offered in a distance-learning format. Not open to students who have taken Biological Sciences 1A, Biological Sciences 2A or equivalent, or course 20. Concurrent enrollment in a two unit seminar course, Plant Biology 98, is required. GE Credit: SciEng or SocSci.—II. (II.) Harada

*(change in existing course—eff. winter 09)*

**Upper Division Courses****105. Organismal Interactions in Everyday Life (3)**

*(cancelled course—eff. fall 08)*

**135S. Biodiversity and Society in South Africa (4)**

Lecture/discussion—3 hours; term paper or discussion—2 hours; fieldwork—2 hours. Prerequisite: acceptance into the Quarter Abroad Program "Biodiversity & Conservation in South Africa" and attendance in South Africa. Biodiversity in social context of South Africa; race, politics and conservation; use of indigenous plants and animals; weeds; water issues; ecotourism. Weekend and other field trips. Not offered every year. GE credit: Div, SciEng or SocSci, Wri.—II. Cranston, Gullan

*(change in existing course—eff. winter 07)*

## Science and Technology Studies

**New and changed courses in Science and Technology Studies (STS)****Lower Division Courses****32. Drugs, Science and Culture (4)**

Lecture—3 hours; discussion—1 hour. Drugs, politics, science, society in a cultural perspective: emphasis on roles of science, government and the media in shifting attitudes toward alcohol, marijuana, Prozac and other pharmaceuticals; drug laws, war on drugs and global trade in sugar, opium, cocaine. (Same course as Anthropology 32.) GE Credit: Div, SocSci, Wri.—I. (I.) Dumit

*(change in existing course—eff. fall 08)*

**92. Internship (1-12)**

Internship—3-36 hours. Prerequisite: consent of instructor. Work experience off and on campus in all subject areas offered in the program in Science & Technology Studies under the supervision of a member of the faculty. May be repeated up to 12 units for credit. (P/NP grading only.)—I, II, III, IV. (I, II, III, IV.)

*(new course—eff. fall 06)*

**Upper Division Courses****129. Health and Medicine in a Global Context (4)**

Lecture/discussion—4 hours; term paper. Prerequisite: course 1 or Anthropology 2. Recent works in medical anthropology and the science studies of medicine dealing with global health issues such as AIDS, pandemics, clinical trials, cultural differences in illnesses, diabetes, organ trafficking, medical technology and delivery, illness narratives, and others. (Same course as Anthropology 129.) GE credit: Div, SocSci, Wri.—II. (II.) Dumit

*(new course—eff. fall 09)*

**192. Internship (1-12)**

Internship—3-36 hours. Prerequisite: consent of instructor. Work experience off and on campus in all subject areas offered in the program in Science & Technology Studies under the supervision of a mem-

ber of the faculty. May be repeated three times for up to 12 units for credit. (P/NP grading only.)—I, II, III, IV. (I, II, III, IV.)

*(new course—eff. fall 06)*

## Sociology

**New and changed courses in Sociology (SOC)****Upper Division Courses****157. Social Conflict (4)**

Lecture-3 hours; discussion-1 hour or term paper or project. Analysis of the causes, dynamics, and regulation of social conflict within and between various kinds of social groupings with particular reference to nonviolent methods of waging and regulating conflict.—III. (III.)

*(change in existing course—eff. fall 08)*

**158. Women's Social Movements in Latin America (4)**

Lecture—3 hours; term paper. Restricted to upper division standing. Contemporary women's social movements in Latin America, focusing on Honduras, El Salvador, Brazil, and Nicaragua. Examination of exploitation and oppression in Latin America.—I. (I.) Deeb-Sossa

*(new course—eff. fall 08)*

**159. Sociology of Work and Employment (4)**

Lecture—3 hours; term paper or discussion—1 hour. Pass 1 restricted to upper division majors and graduate students. Historical and contemporary overview of employment, work, and occupations in American society. Study of authority and power relations, labor markets, control systems, stratification, and corporate structures, and how these factors shape work in diverse or organizational and employment setting.—I, III. (I, III.) Smith

*(change in existing course—eff. fall 08)*

## Soil Science

**New and changed courses in Soil Science (SSC)****Graduate Course****222. Global Carbon Cycle (3)**

Lecture—3 hours. Prerequisite: Chemistry 8A, 8B, Mathematics 16A, 16B, course 100 or the equivalent. Global carbon cycle from Phanerozoic epoch to modern times. Examination of long and short-term carbon cycles. Transfer of carbon among ocean, land and life with emphasis on humic substance formation, methods of characterization, reactions with organics and soil carbon stabilization. Offered in alternate years.—II. Horwath

*(change in existing course—eff. summer 08)*

**290. Special Topics in Soil Science (1-4)**

Seminar—1-4 hours. Prerequisite: graduate standing. Seminars and critical review of problems, issues, and research in soil science. May be repeated for credit. (S/U grading only.)—I, II, III. (I, II, III.)

*(change in existing course—eff. fall 10)*

# Spanish

## New and changed courses in Spanish (SPA)

### Lower Division Courses

#### 2V. Elementary Spanish (5)

Lecture/discussion—3 hours; web electronic discussion—2 hours. Prerequisite: course 1 or 1S. Continuation of course 1 or 1S in the areas of grammar and basic language skills. Hybrid format combining classroom instruction with technologically based materials. Not open to students who have taken course 2 or 2S.—I, II, III, IV. (I, II, III, IV.)

(change in existing course—eff. summer 10)

#### 3V. Elementary Spanish (5)

Lecture/discussion—3 hours; web electronic discussion—2 hours. Prerequisite: course 2, 2S, or 2V. Completion of grammar sequence and continuing practice of all language skills using cultural texts. Hybrid format combining classroom instruction with technologically based materials. Not open to students who have taken course 3 or 3S.—I, II, III, IV. (I, II, III, IV.)

(change in existing course—eff. summer 10)

### Upper Division Courses

#### 117. Teaching Spanish as a Native Tongue in the U.S.: Praxis and Theory (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: Linguistics 1 and course 24, 24S or 33 or consent of the instructor. Designed for students interested in teaching Spanish to native speakers. Focus on cultural diversity of the Spanish speaking population in the United States; applied language teaching methodologies in the context of teaching Spanish to native speakers at different levels. Offered in alternate years.—I, II, III. Colombi

(change in existing course—eff. fall 08)

#### 130. Survey of Spanish Literature to 1700 (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Survey of Spanish literature (narrative, poetry and drama) to 1700, Emphasis on the multicultural birth of the Spanish culture, the formation and growth of the Spanish language and letters through its written records and the literature of the early period.—I. (I.) Armistead, Martín

(change in existing course—eff. summer 08)

#### 131N. Survey of Spanish Literature: 1700 to Present (4)

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Survey of modern Spanish literature, providing an overview of main literary movements (romanticism, realism, naturalism, modernism, avant-garde). Emphasis on the philosophical and historical background and on the European context for modern Spanish literature. (Part of former courses 104A and 104B.)—II. (II.) Altisent

(change in existing course—eff. summer 08)

#### 132. Golden Age Drama and Performance (4)

Lecture—1.5 hours; performance instruction—1.5 hours. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Golden Age drama: text and performance. Study of Spanish Baroque drama as performance art. Close reading of plays and related aspects of seventeenth-century theater: theatrical spaces, staging, performance, actors, public, language, costumes. Final project is performance of a play. May be repeated two times for credit. Limited enrollment. Offered in alternate years.—II, III. Martín

(change in existing course—eff. winter 07)

#### 133N. Golden Age Literature of Spain (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Introduction to the study of the principal authors and literary movements of 16th- and 17th-century Spain and Spanish American colonial literature. May be repeated three times for credit with consent of instructor.—II. (II.) Martín

(change in existing course—eff. summer 08)

#### 134A. Don Quijote I (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Critical interpretation of Don Quijote Part One by Cervantes. Focused study of key elements within the socio-cultural context of Golden Age Spain. Don Quijote as prototype for the modern novel. Offered in alternate years.—(I, II.) Martín

(new course—eff. fall 07)

#### 134B. Don Quijote II (4)

Lecture—3 hours; term paper. Prerequisite: course 134A. Critical interpretation of Don Quijote Part Two by Cervantes. Focused study of key elements within the socio-cultural context of Golden Age Spain. Don Quijote as prototype for the modern novel. Offered in alternate years.—II, III. Martín

(change in existing course—eff. winter 06)

#### 135N. Spanish Romanticism (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Romanticism as a philosophical concept, and as a literary movement in Spain, with emphasis on its distinctive, specific "romantic" qualities and its literary expression in five leading authors of the early nineteenth century. (Former course 114.)—III. (III.) Altisent

(change in existing course—eff. summer 08)

#### 136N. The Spanish Novel of the 19th Century (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Literary realism in Spain, focusing on Leopoldo Alas (Clarín), Emilia Pardo Bazán and Benito Pérez Galdós unique characteristics of Spanish realism and its historical roots in Cervantes and the picaresque.—II. (II.) Altisent

(change in existing course—eff. summer 08)

#### 137N. Twentieth-Century Spanish Fiction (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Study of the main literary trends and authors of the modern Spanish novel and short story. Selected works by Unamuno, Valle-Inclán, Sender, Cela, Matute, Ayala and others.—III. (III.) Altisent

(change in existing course—eff. summer 08)

#### 138N. Modern and Contemporary Spanish Poetry (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Study of the main literary trends and authors of modern and contemporary Spanish poetry. Selected works by Machado, Juan Ramón Jiménez, García Lorca, Guillén, Alexandre, Hernández Hierro and others. (Former course 120C.) Offered in alternate years.—(III.) Altisent

(change in existing course—eff. summer 08)

#### 139. Modern Spanish Theater (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Study of the main dramatic trends and playwrights of modern Spanish theater. Selected works by Valle Inclán, García-Lorca, Mihura, Buero-Vallejo, Arrabal and others. Offered in alternate years. GE credit: ArtHum, Div.—I. (I.) Altisent

(change in existing course—eff. summer 08)

#### 140N. Modern Spanish Essay (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Ortega, Unamuno and the modern Spanish essay. Their concept of Spain and their relations with other movements and thinkers.—II. (II.) Altisent

(change in existing course—eff. summer 08)

#### 142. Special Topics in Spanish Cultural and Literary Studies (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Special topics in the study of Spanish literature and culture. May be repeated two times for credit.—I, II, III. (I, II, III.) Altisent, Armistead, González, Martín, Martínez-Carazo

(change in existing course—eff. summer 08)

#### 147. Anglos, Latinos and the Spanish Black Legend: The Origins and Educational Implications of Anti-Hispanic Prejudice (4)

Lecture—3 hours; field work; term paper. Prerequisite: upper-division standing or consent of instructor. Examination of Anti-Hispanic prejudice in the United States focusing on the "Black Legend," a 16th century anti-Spanish myth underpinning the doctrine of "Manifest Destiny." Exploration of the Legend's presence in contemporary American society through interviews and analysis of school textbooks. (Same course as Education 147.) GE credit: ArtHum, Div, Wri.—González

(new course—eff. fall 09)

#### 150N. Survey of Latin American Literature to 1900 (4)

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Latin American literature from pre-conquest texts and the chronicles of the Conquest to romanticism and modernism. Reading selections include fiction, poetry, drama and essays.—I. (I.) Bernucci, Egan

(change in existing course—eff. summer 08)

#### 151. Survey of Latin American Literature 1900 to Present (4)

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Latin American literature from 1900 to the present. Reading selections include fiction, poetry, drama, essays, testimonio, etc.—II. (II.) Bejel, Irwin, Egan, Lazzara, Peluffo

(change in existing course—eff. fall 08)

#### 153. Latin American Short Story (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. The evolution of the Latin American short story from the 19th century to the present. Emphasis on the contemporary period. Offered in alternate years.—(I.) Egan, Peluffo

(change in existing course—eff. summer 08)

#### 154. Latin American Novel (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Evolution of the Latin American novel from the 19th century to the present. Emphasis on significant contemporary works. Offered in alternate years.—(II.) Bejel, Bernucci, Egan

(change in existing course—eff. summer 08)

#### 155. Mexican Novel (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Evolution of the Mexican novel from the 19th century to the present. Emphasis on the narrative of the Revolution and significant contemporary works.—II. (II.) Egan

(change in existing course—eff. summer 08)

#### 156. Latin American Literature of the Turn of the 20th Century (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Modernism as an authentic expression of Latin American litera-

ture and its influence on 20th-century poetry and prose. In depth analysis of the works of Darío and other major writers of the era. Offered in alternate years.—(II.) Egan, Peluffo

*(change in existing course—eff. summer 08)*

#### 157. Great Works of Latin American Literature/Culture (4)

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Study of major works of Latin American literature/culture and their cultural and literary milieus. May include novels, poetry, film, etc. Works may be analyzed in terms of style, influence, cultural significance, political importance, and/or commercial success. Offered in alternate years.—III. Bejel, Bernucci, Egan, Irwin, Lazzara, Peluffo

*(change in existing course—eff. fall 08)*

#### 158. Latin American Poetry: From Vanguardism to Surrealism and Beyond (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Study of vanguardism, surrealism, and more recent movements of Latin American poetry. An in-depth analysis of the works of such major poets as Neruda, Vallejo, and Paz. Offered in alternate years.—(II.) Bejel, Bernucci, Egan

*(change in existing course—eff. summer 08)*

#### 159. Special Topics in Latin American Literature and Culture (4)

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Special topics in the study of Latin American literature and culture. May be repeated two times for credit when topic differs. Offered in alternate years.—I, II, III, IV. (I, II, III, IV.) Bejel, Bernucci, Egan, Irwin, Lazzara, Peluffo

*(change in existing course—eff. fall 08)*

#### 159S. Special Topics in Latin American Literature and Culture (4)

Lecture—3 hours; term paper. Prerequisite: course 100, 100S, 141, 141S, 170 or 170S. Special topics in the study of Latin American literature and culture. Offered in a Spanish speaking country under the supervision of UC Davis faculty. May be repeated two times for credit when topic differs.—III. (III.) Lazzara, Peluffo

*(change in existing course—eff. fall 08)*

#### 170. Introduction to Latin American Culture (4)

Lecture—3 hours; term paper. Prerequisite: course 24, 24S or 33. Introduction to history, geography and culture of Latin America. Multiple genres of cultural production and representation, with a focus on cultural diversity and regional difference. Introduction to critical reading and textual analysis. Not open for credit for students who have completed course 170S. GE credit: ArtHum, Div.—III. (III.) Bejel, Irwin, Lazzara, Peluffo

*(change in existing course—eff. summer 08)*

#### 170S. Introduction to Latin American Culture (4)

Lecture—3 hours; project. Prerequisite: course 24, 24S or 33. Introduction to history, geography and culture of Latin America. Multiple genres of cultural production and representation, with a focus on cultural diversity and regional difference. Introduction to critical reading and textual analysis. Not open for credit for students who have completed course 170. GE credit: ArtHum, Div.—III. (III.) Colombi, Lazzara, Peluffo

*(change in existing course—eff. summer 08)*

#### 172. Mexican Culture (4)

Lecture—3 hours; term paper or discussion—1 hour or term paper. Prerequisite: course 24, 24S or 33. Study of Mexican culture through a diversity of cultural expression, including elite, popular and mass media culture. Focus on national icons and arche-

types, multiculturalism, transnationalism. May be repeated once for credit. GE credit: ArtHum, Div.—III. (III.) Egan, Irwin

*(change in existing course—eff. fall 08)*

#### 175. Topics in Spanish American Cultural Studies (4)

Lecture—3 hours; project—1 hour. Prerequisite: course 24, 24S, or 33. Specific historical tendencies and issues in Latin American culture(s) from pre-Columbian times to present. Studies of literature, film, art, journalism and performance. Focus on issues of aesthetics, politics, identity, and globalization. May be repeated once for credit if content differs. GE credit: ArtHum, Div.—III. (III.) Bejel, Irwin, Lazzara, Peluffo

*(change in existing course—eff. fall 08)*

#### 177. California and Latin America (4)

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 24, 24S or 33. Interdisciplinary survey on the relationship between California and Latin America (1500s-present). Latin American representations of California and Californian representations of Latin America, as well as borderlands texts, with a special focus on Mexican-American perspectives. Conducted in Spanish.—Irwin

*(new course—eff. fall 08)*

### Graduate Courses

#### 203. Research Methodologies (1)

Seminar—1 hour. Introduction to the range of scholarly research methodologies currently being realized in Spanish linguistics, literary and cultural studies: archival research, textual analysis, discourse analysis, statistics for linguistics, etc.; introduction to scholarly writing (MLA style) and scholarly publishing.—II. (II.) Altisent, Bejel, Bernucci, Blake, Colombi, Egan, Irwin, Lazzara, Martin, Martínez-Carazo, Newcomb, Peluffo

*(new course—eff. fall 10)*

#### 272. Critical Approaches to Latin American Literature: Narrative (4)

Seminar—3 hours; term paper. Prerequisite: graduate standing or consent of instructor. Development of Latin American literary periods and currents in narrative (novel, short story, and essay), from early colonial times to the present. May be repeated two times for credit. If material changes. Offered in alternate years.—I. Bejel, Bernucci, Egan, Lazzara, Peluffo

*(change in existing course—eff. summer 08)*

#### 273. Critical Approaches to Latin American Literature: Poetry and Drama (4)

Seminar—3 hours; term paper. Prerequisite: graduate standing or consent of instructor. Development of Latin American literary periods and currents in poetry and drama, from early Colonial times to the present. May be repeated two times for credit when topic differs. Offered in alternate years.—I. Bejel, Bernucci, Egan

*(change in existing course—eff. summer 08)*

#### 274. Studies of a Major Writer, Period, or Genre in Latin American Literature (4)

Seminar—3 hours; term paper. Prerequisite: graduate standing or consent of instructor. Artistic development of a major Latin American writer and his/her intellectual and literary milieu or study of a special topic, period, or genre. May be repeated for credit.—I. (I.) Bejel, Bernucci, Egan, Irwin, Lazzara, Peluffo

*(change in existing course—eff. summer 08)*

#### 276. Twentieth-Century Latin American Drama (4)

Seminar—4 hours. Prerequisite: graduate standing or consent of instructor. Major Latin American dramatists from Florencio Sánchez to the present. Offered in alternate years. (Former course 240.)—(III.) Egan

*(change in existing course—eff. summer 08)*

#### 277. Latin American Novel, 1900-1950 (4)

Seminar—3 hours; term paper. Prerequisite: graduate standing or consent of instructor. Study of main trends and key authors in Latin America in the first half of the 20th century. Offered in alternate years. (Former course 241A.)—(I.) Bernucci, Egan

*(change in existing course—eff. summer 08)*

#### 278. New Trends in Latin American Fiction (4)

Seminar—3 hours; term paper. Prerequisite: graduate standing or consent of instructor. Recent developments in Latin American narrative. Emphasis on innovative language and structure. Offered in alternate years. (Former course 241B.)—(II.) Egan, Lazzara

*(change in existing course—eff. summer 08)*

#### 280. Latin American Short Story (4)

Seminar—3 hours; term paper. Works by major writers with emphasis on 20th-century authors such as Quiroga, Borges, García Márquez, Cortázar, and Rulfo. (Former course 243.)—III. (III.) Bernucci, Egan

*(change in existing course—eff. summer 08)*

#### 281. Latin American Women Writers (4)

Seminar—3 hours; term paper. Prerequisite: graduate standing or consent of instructor. Study of feminist critical theories, gender construction, and self-representation within the history of socio-cultural changes in Latin America.—I. (I.) Peluffo

*(change in existing course—eff. summer 08)*

#### 283. New Directions in Latin American Poetry (4)

Seminar—3 hours; term paper. New trends in Latin American poetry. Offered in alternate years.—(III.) Egan

*(change in existing course—eff. summer 08)*

#### 284. The Latin American Essay (4)

Seminar—3 hours; term paper. Major Latin American essayists from Sarmiento to contemporary essayists. Offered in alternate years.—(II.) Irwin

*(change in existing course—eff. summer 08)*

## Statistics

### New and changed courses in Statistics (STA)

#### Upper Division Courses

#### 100. Applied Statistics for Biological Sciences (4)

Lecture—3 hours; laboratory—1 hour. Prerequisite: Mathematics 16B or the equivalent. Descriptive statistics, probability, sampling distributions, estimation, hypothesis testing, contingency tables, ANOVA, regression; implementation of statistical methods using computer package. Only two units credit allowed to students who have taken course 13, 32 or 103. Not open for credit to students who have taken course 102. GE credit: SciEng.—I, II, III. (I, II, III.)

*(change in existing course—eff. fall 08)*

#### 141. Statistical Computing (4)

Lecture—3 hours; laboratory—1 hour. Prerequisite: one introductory class in Statistics (such as 13, 32, 100, or 102), or the equivalent. Organization of computations to access, transform, explore, analyze data and produce results. Concepts and vocabulary of statistical/scientific computing.—I. (I.)

*(change in existing course—eff. fall 09)*

### Graduate Courses

#### 205. Statistical Methods for Research with SAS (4)

Lecture—3 hours; laboratory—1 hour. Prerequisite: An introductory upper division statistics course and some knowledge of vectors and matrices; suggested



courses are 100, or 102, or 103, or the equivalent. Focus on linear statistical models widely used in scientific research. Emphasis on concepts, methods and data analysis using SAS. Topics include simple and multiple linear regression, polynomial regression, diagnostics, model selection, variable transformation, factorial designs and ANCOVA.—III. (III.)

(change in existing course—eff. fall 08)

#### 231A. Mathematical Statistics I (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 131A-C, Mathematics 25 and Mathematics 125 A or equivalent. First part of three-quarter sequence on mathematical statistics. Emphasizes foundations. Topics include basic concepts in asymptotic theory, decision theory, and an overview of methods of point estimation.—I. (I.)

(change in existing course—eff. summer 08)

#### 231B. Mathematical Statistics II (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 231A. Second part of a three-quarter sequence on mathematical statistics. Emphasizes: hypothesis testing (including multiple testing) as well as theory for linear models.—II. (II.)

(change in existing course—eff. summer 08)

#### 231C. Mathematical Statistics III (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 231A, 231B. Third part of three-quarter sequence on mathematical statistics. Emphasizes large sample theory and their applications. Topics include statistical functionals, smoothing methods and optimization techniques relevant for statistics.—III. (III.)

(change in existing course—eff. summer 08)

#### 232A. Applied Statistics I (4)

Lecture—3 hours; laboratory—1 hour. Prerequisite: course 106, 108, 131A, 131B, 131C, and Mathematics 167. Estimation and testing for the general linear model, regression, analysis of designed experiments, and missing data techniques.—I. (I.)

(change in existing course—eff. summer 08)

#### 232B. Applied Statistics II (4)

Lecture—3 hours; laboratory—1 hour. Prerequisite: course 106, 108, 131A, 131B, 131C, 232A and Mathematics 167. Alternative approaches to regression, model selection, nonparametric methods amenable to linear model framework and their applications.—II. (II.)

(change in existing course—eff. summer 08)

#### 232C. Applied Statistics III (4)

Lecture—3 hours; laboratory—1 hour. Prerequisite: course 106, 108, 131C, 232B and Mathematics 167. Multivariate analysis: multivariate distributions, multivariate linear models, data analytic methods including principal component, factor, discriminant, canonical correlation and cluster analysis.—III. (III.)

(change in existing course—eff. summer 08)

#### 242. Introduction to Statistical Programming (4)

Lecture—3 hours; laboratory—1 hour. Prerequisite: courses 130A and 130B or equivalent. Essentials of statistical computing using a general-purpose statistical language. Topics include algorithms; design; debugging and efficiency; object-oriented concepts; model specification and fitting; statistical visualization; data and text processing; databases; computer systems and platforms; comparison of scientific programming languages. Offered in alternate years.—II.

(new course—eff. winter 09)

#### 243. Computational Statistics (4)

Lecture—3 hours; laboratory—1 hour. Prerequisite: courses 130A and 130B or equivalent, and Mathematics 167 or Mathematics 67 or equivalent. Numerical analysis; random number generation; computer experiments and resampling techniques (bootstrap, cross validation); numerical optimization; matrix decompositions and linear algebra computa-

tions; algorithms (markov chain monte carlo, expectation-maximization); algorithm design and efficiency; parallel and distributed computing. Offered in alternate years.—II.

(new course—eff. winter 09)

## Technocultural Studies

### New and changed courses in Technocultural Studies (TCS)

#### Upper Division Courses

##### 125. Advanced Sound: Performance and Improvisation (4)

Workshop—3 hours; practice—3 hours. Prerequisite: courses 121 and 122 or consent of instructor. Culmination of TCS sound courses. Class will focus on performance and improvisation, culminating in a final public performance. Students will be expected to do extensive reading and rehearsal outside of class time.—III. (III.) Ostertag

(new course—eff. spring 08)

##### 130. Fundamentals of 3D Computer Graphics (4)

Lecture—3 hours; laboratory—3 hours. A foundation course that teaches students the theory of three dimensional computer graphics, including modeling, rendering and animation. Development of practical skills through the use of professional software to create computer graphics.—I. (I.) Neff

(new course—eff. spring 08)

##### 131. Character Animation (4)

Lecture—3 hours; laboratory—3 hours. Prerequisite: course 130 or consent of instructor. The art of character animation in three dimensional computer animation. Movement theory, principles of animation, animation timing. Development of technical and practical skills.—III. (III.) Neff

(new course—eff. spring 08)

## UC Davis Washington Center

### New and changed courses in UC Davis Washington Center (WAS)

#### Upper Division Course

##### 175W. Health Policy and Health Politics (4)

Seminar—3 hours; extensive writing or discussion—1 hour. Restricted to students attending UC Washington Center program. Following the model of a Congressional subcommittee, identification of four salient health policy issues for study, research, and development of model policies to address them. (Same Course as Public Health Sciences 175.) GE Credit: SocSci, Wri.—III. (III.) Wintemute

(new course—eff. winter 09)

## University Writing Program

### New and changed courses in University Writing Program (UWP)

#### Upper Division Courses

##### 102L. Writing in the Disciplines: Film Studies (4)

Lecture/discussion—3 hours; extensive writing. Prerequisite: course 1 or English 3 or the equivalent and upper division standing. Open to majors and minors or to students concurrently enrolled in an upper division course in Film Studies, Technocultural Studies, English, American Studies, or any other upper division course that includes the analysis and understanding of film as a medium. Advanced instruction in writing about film and practice in effective styles of communication. Not open for credit to students who have completed course 102A in the same academic field. GE credit: Wrt.—II. (II.)

(change in existing course—eff. fall 09)

##### 111A. Specialized Topics in Journalism (4)

Lecture/discussion—3 hours; extensive writing. Prerequisite: satisfaction of the upper-division writing requirement. Restricted to upper-division students with a strong interest in journalism. Counts toward the writing minor. Instruction in the elements and practices of advanced journalism. May be repeated one time for credit if specialized journalism topic for each course differs. Offered irregularly. GE credit: Wrt.

(new course—eff. fall 09)

##### 111B. Specialized Topics in Journalism: Investigative Journalism (4)

Lecture/discussion—3 hours; extensive writing. Prerequisite: satisfaction of the upper-division writing requirement. Restricted to upper-division students with a strong interest in journalism; counts toward the writing minor. Instruction in the elements and practices of in-depth investigative journalism. Offered in alternate years. GE credit: Wrt.—(III.)

(new course—eff. fall 09)

##### 111C. Specialized Topics in Journalism: Science Journalism (4)

Lecture/discussion—3 hours; extensive writing. Prerequisite: satisfaction of the upper-division writing requirement. Restricted to upper-division students with a strong interest in journalism. Counts toward the writing minor. Instruction in the elements and practices of science journalism. Offered in alternate years. GE credit: Wrt.—(II.)

(change in existing course—eff. fall 09)

## Veterinary Medicine

### New and changed courses in Veterinary Medicine (VMD)

#### Professional Courses

##### 402. Structure and Function of the Cardiovascular and Respiratory Systems (4.5)

(cancelled course—eff. fall 08)

##### 402A. Cardiovascular Anatomy (0.7)

Lecture—4 sessions; laboratory—3 sessions. Prerequisite: first-year standing in the School of Veterinary Medicine. Cardiovascular anatomy.—I. (I.) Pinkerton

(new course—eff. fall 08)

**402B. Cardiovascular Physiology (1.7)**

Lecture—13 sessions; laboratory—4 sessions. Prerequisite: first-year standing in the School of Veterinary Medicine. Integrated view of cardiovascular physiology.—II. (II.) Jones

(new course—eff. fall 08)

**402C. Respiratory Anatomy and Physiology (2.0)**

Lecture—15 sessions; laboratory—5 sessions. Prerequisite: first-year standing in the School of Veterinary Medicine. Integrated view of respiratory anatomy and physiology.—II. (II.) Barter

(new course—eff. fall 08)

**403. Physiological Chemistry (5.1)**

Lecture—44 sessions; discussion—7 sessions. Prerequisite: first-year standing in the School of Veterinary Medicine. Biochemical principles used to analyze problems and to evaluate metabolic relationships important in animal health and pathophysiology. Integrative approach, emphasizing controls of major metabolic pathways, molecular basis of gene expression, tumorigenesis and signal transduction.—I. (I.) Cortopassi

(change in existing course—eff. fall 09)

**432. Normal Gastrointestinal System (2.9)**

Lecture—20 sessions; laboratory—9 sessions. Prerequisite: first-year standing in the School of Veterinary Medicine. Basic understanding and correlation of the structure and function of the gastrointestinal system. Multiple species' differences examined.—II. (II.) Lloyd

(change in existing course—eff. winter 09)

**436. Veterinary Ethics and Law (1.2)**

Discussion—12 sessions. Prerequisite: first-year standing in the School of Veterinary Medicine. Ethical and legal issues critical to successful and ethical veterinary practice. Processes through which ethical and legal questions are approached and resolved. Background reading materials and discussions are supplemented with problem-based learning. (Deferred grading only, pending completion of sequence.)—I, II. (I, II.) Tannenbaum

(change in existing course—eff. fall 08)

**437. Veterinary Ethics and Law (2)**

Lecture—16 sessions; discussion—4 sessions. Prerequisite: third-year standing in the School of Veterinary Medicine. Ethical and legal issues critical to successful and ethical veterinary practice. Processes through which ethical and legal questions are approached and resolved. Reading and discussions supplemented with problem-based learning.—III. (III.) Tannenbaum

(change in existing course—eff. spring 10)

**446. Veterinary Reproduction (4.2)**

Lecture—32 sessions; laboratory—10 sessions. Prerequisite: second-year standing in the School of Veterinary Medicine. Structural, functional, pathological, and clinical aspects of reproduction in animals.—II. (II.) Conley

(change in existing course—eff. winter 09)

**459. Systemic Pathology (5.4)**

Lecture—44 sessions; laboratory—10 sessions. Prerequisite: second-year standing in the School of Veterinary Medicine or consent of instructor; approved for graduate degree credit. Basic understanding of the pathobiology of major organ systems relevant to a variety of animal species. Emphasis on mechanisms of injury, patterns of response to injury, and balance between damage and repair.—II. (II.) Murphy

(change in existing course—eff. winter 10)

**480. Senior Clinic (15)**

(cancelled course—eff. winter 11)

## Veterinary Medicine: Anatomy, Physiology and Cell Biology

### New and changed courses in Anatomy, Physiology and Cell Biology (APC)

#### Graduate Courses

**284. Ruminant Nutrition and Physiology (3)**

(cancelled course—eff. fall 09)

**292. Topics in Neuroscience Research (1)**

(cancelled course—eff. spring 09)

## Veterinary Medicine: Doctor of Veterinary Medicine

### New and changed courses in Doctor of Veterinary Medicine (DVM)

#### Professional Courses

**449. Externship (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Approved program of study to receive training and experience outside the School of Veterinary Medicine. Opportunities include private practice and provide students with first-hand experiences in diagnostic and therapeutic capabilities and management and business methods in the private sector.—I, II, III, IV. (I, II, III, IV.) Ilkiw

(new course—eff. summer 10)

**450. Cardiology (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Diagnostic techniques of history taking, cardiac physical examination, electrocardiography, radiography, echocardiography, and cardiac catheterization and medical, interventional, and surgical therapy of cardiac disorders will be taught along with the etiology and pathophysiology of various cardiac disorders.—I, II, III, IV. (I, II, III, IV.) Kittleson

(new course—eff. summer 10)

**451. Clinical Pathology (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Focus on the practical use and application of laboratory testing in a practice setting to facilitate optimal management of patients.—I, II, III, IV. (I, II, III, IV.) Borjesson

(new course—eff. summer 10)

**452. Small Animal Community Practice (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Opportunity to practice wellness care in pediatric and adult patients, address medical management of geriatric patients, and develop a practical, problem-oriented approach to routine medical issues presenting in general practice.—I, II, III, IV. (I, II, III, IV.) Meadows

(new course—eff. summer 10)

**453. Small Animal Community Surgery—Gourley (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. General surgery service to include instruction in physical exams, basic anesthesia, pain management and routine surgeries. Sample surgeries include routine spays and neuters, cystotomy, mass removal, digit amputation, enucleation, etc.—I, II, III, IV. (I, II, III, IV.) Montgomery

(new course—eff. summer 10)

**454. Companion Avian and Exotic Pet Medicine (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Basic components of husbandry, nutrition, handling, diseases, medical and surgical treatment of companion exotics including avian (companion and wildlife), small exotic mammal, reptilian, amphibian and aquatic animal patients.—I, II, III, IV. (I, II, III, IV.) Hawkins

(new course—eff. summer 10)

**455. Dentistry (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Examination, diagnosis and treatment of small animals presenting with oral or dental diseases.—I, II, III, IV. (I, II, III, IV.) Verstraete

(new course—eff. summer 10)

**456. Dermatology (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Exposure to veterinary dermatology. Learn the importance of obtaining a good history, performing a good physical examination and characterizing lesions. The use of various diagnostic and therapeutic techniques specific to dermatology will be demonstrated.—I, II, III, IV. (I, II, III, IV.) Ihrke

(new course—eff. summer 10)

**457. Equine Surgery ICU (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Understanding the diagnosis and medical and surgical treatment of the horse with abdominal pain. Understanding the diagnosis and treatment of orthopedic emergencies. Management of horses at the Intensive Care Unit.—I, II, III, IV. (I, II, III, IV.) Nieto

(new course—eff. summer 10)

**458. Equine Emergency Nights (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Provide service for emergency surgical and medical management for all equine and camelid emergencies; i.e., colic, wounds, musculoskeletal injuries, septic foals, dystocia, and neurologic and ophthalmologic emergencies.—I, II, III, IV. (I, II, III, IV.) Dechant

(new course—eff. summer 10)

**459. Equine Field Service (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. On-farm practical experience in the diagnosis, treatment and prevention of equine disease problems.—I, II, III, IV. (I, II, III, IV.) Spier

(new course—eff. summer 10)

**460. Equine Medicine—General (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Learn and practice the highest level of equine internal medicine with the goal to generate or implement a problem-oriented approach to clinical problems, determine a diagnostic work-up, prognosis and treatment plan for patients.—I, II, III, IV. (I, II, III, IV.) Pusterla

(new course—eff. summer 10)

**461. Equine Reproduction (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Routine reproductive management of the horse on local brood mare farms as part of a field service program and of stallion and mare infertility in a tertiary referral setting at the VMTH. Participate in weekly clinical and endocrinology rounds.—I, II, III, IV. (I, II, III, IV.) Ball

(new course—eff. summer 10)

**462. Equine Surgery and Lameness I (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Advanced training and experience in equine surgery services to manage all orthopedic and non-orthopedic elective surgical disorders as well as equine lameness disorders.—I, II, III, IV. (I, II, III, IV.) Galuppo

(new course—eff. summer 10)

Quarter Offered: I=Fall, II=Winter, III=Spring, IV=Summer; 2009-2010 offering in parentheses

General Education (GE) credit: ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Wrt=Writing Experience

**463. Farrier Shop (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Introduction to the normal structure and function of the equine foot. Principles of corrective shoeing for many lameness disorders.—I, II, III, IV. (I, II, III, IV.) Galuppo, MacDonald  
(new course—eff. summer 10)

**464. Small Animal Community Surgery—CCAH I (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. General surgery service to include instruction in physical exams, basic anesthesia, pain management and routine surgeries. Surgeries include routine spays and neuters and other minor procedures such as simple mass removals.—I, II, III, IV. (I, II, III, IV.) Montgomery  
(new course—eff. summer 10)

**465. Equine Surgery and Lameness II (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Advanced training and experience in equine surgery services to manage all orthopedic and non-orthopedic elective surgical disorders as well as equine lameness disorders.—I, II, III, IV. (I, II, III, IV.) Galuppo  
(new course—eff. summer 10)

**466. Small Animal Medicine B (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Improve clinical skills required to manage cases in the Small Animal Service including comprehensive histories, performing complete physical examinations, obtaining samples, interpreting results, conducting special procedures and assisting faculty and residents in the diagnosis, prevention, management and treatment of disease.—I, II, III, IV. (I, II, III, IV.) Johnson  
(new course—eff. summer 10)

**469. California Animal Health and Food Safety Laboratory (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Overview of how CAHFS interfaces with the production animal industry and practitioners. Understanding of the laboratory approach to the diagnosis of predominately production animal diseases.—I, II, III, IV. (I, II, III, IV.) Kinde  
(new course—eff. summer 10)

**470. Food Animal Preceptorship (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Individual animal medicine and surgery as well as herd reproductive programs on the farm. A regular client base with a variety of species is served: dairy cattle, beef cattle, goats and sheep.—I, II, III, IV. (I, II, III, IV.) Lane  
(new course—eff. summer 10)

**471. Food Animal Medicine (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Hands on clinical experience diagnosing, treating, and managing medical and surgical diseases of primary care and referral cases involving dairy cattle, beef cattle, sheep, dairy goats, meat goats, and pigs.—I, II, III, IV. (I, II, III, IV.) Angelos  
(new course—eff. summer 10)

**472. Food Animal Reproduction/Herd Health (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Provide exposure to individual animal medicine and surgery as well as herd reproductive programs on the farm. A regular client base with a variety of species is served: dairy cattle, beef cattle, goats and sheep.—I, II, III, IV. (I, II, III, IV.) Lane  
(new course—eff. summer 10)

**473. Dairy Production Medicine—Tulare (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Advanced training and experience in a clinical dairy health and production medicine delivery system. Exposure to contemporary dairy production and population medicine programs. Develop ability to communicate with producers and farm employees.—I, II, III, IV. (I, II, III, IV.) Cullor  
(new course—eff. summer 10)

**474. Equine Medicine Intensive Care Unit (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Emergency and critical care for equine and camelid patients including critically ill neonates, acute respiratory distress, acute diarrhea, acute neurologic disease, pleuropneumonia among others.—I, II, III, IV. (I, II, III, IV.) Magdesian  
(new course—eff. summer 10)

**475. Lab Animal Medicine (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Provide exposure to various management activities and techniques used by laboratory animal veterinarians both antemortem & post-mortem to support animal research primarily involving rodents but may include many vertebrates from fish to non-human primates.—I, II, III, IV. (I, II, III, IV.) Hewett  
(new course—eff. summer 10)

**476. Large Animal Anesthesia (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Advanced training and experience in anesthetic management, acute care problem-solving and decision-making of healthy and physiologically stressed large animal patients.—I, II, III, IV. (I, II, III, IV.) Brosnan  
(new course—eff. summer 10)

**477. Large Animal Radiology (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Training in the art of making quality radiographs of large animal patients and interpreting radiographic studies.—I, II, III, IV. (I, II, III, IV.) Puchalski  
(new course—eff. summer 10)

**478. Large Animal Ultrasonography (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Hands-on experience in the ultrasonographic diagnosis of primarily musculoskeletal injuries and abdominal disorders in horses and the occasional non-equine patient.—I, II, III, IV. (I, II, III, IV.) Whitcomb  
(new course—eff. summer 10)

**479. Small Animal Emergency—Nights (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Emergency practice includes the immediate recognition, evaluation, and care of patients with acute illness and injury.—I, II, III, IV. (I, II, III, IV.) Aldrich  
(new course—eff. summer 10)

**480. Neurology/Neurosurgery (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Provide specialized veterinary care for animals with neurological diseases; i.e., disorders of the brain, inner ear, spinal cord, and vertebrae and diseases affecting muscles, nerves and the neuromuscular junction.—I, II, III, IV. (I, II, III, IV.) Dickinson  
(new course—eff. summer 10)

**481. Nutrition (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Advanced training and experience in the principles and practice of small animal clinical nutrition.—I, II, III, IV. (I, II, III, IV.) Fascetti  
(new course—eff. summer 10)

**482. Oncology (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Advanced training and experience in diagnosis, staging, medical management, and prognostication of cancer in animal patients.—I, II, III, IV. (I, II, III, IV.) Skorupski  
(new course—eff. summer 10)

**483. Ophthalmology (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Ongoing education, training, and experience in an ophthalmic specialty practice dealing with companion and exotic species. Learn to take histories related to ocular problems, to competently examine an eye, and to perform basic diagnostic procedures.—I, II, III, IV. (I, II, III, IV.) Hollingsworth  
(new course—eff. summer 10)

**484. Small Animal Orthopedic Surgery (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Lameness examinations and treatments for all orthopedic diseases to include osteoarthritis, developmental diseases, trauma-induced injuries and cancer. Both medical and surgical treatments are used and presented to owners in an evidenced based fashion.—I, II, III, IV. (I, II, III, IV.) Kapatkin  
(new course—eff. summer 10)

**485. Anatomic Pathology (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Advanced training and experience to develop a general understanding of the nature of common pathologic lesions and their interpretation in light of clinical history. Postmortem techniques and practice in writing descriptions of gross lesions.—I, II, III, IV. (I, II, III, IV.) Munson  
(new course—eff. summer 10)

**485. Primate Medicine (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Acquire skills to perform physical examinations, blood collection, cystocentesis, catheter placement, fluid therapy, basic wound care, bandaging, suturing, amputations, and orogastric tube feedings.—I, II, III, IV. (I, II, III, IV.) Christe  
(new course—eff. summer 10)

**487. Radiation Oncology (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Staging and treatment of patients with cancer and use of radiation therapy in the treatment of cancer in companion animals. Management of clinical patients, the indications for radiation therapy and technical aspects treatment planning and dose calculations.—I, II, III, IV. (I, II, III, IV.) Theon  
(new course—eff. summer 10)

**488. Shelter Medicine (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Exposure to all areas in a variety of shelters in the Sacramento and Bay Area. Accompany Shelter Medicine Program personnel on consultations; depending on schedule.—I, II, III, IV. (I, II, III, IV.) Hurley  
(new course—eff. summer 10)

**489. Physical Rehabilitation (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Participate in physical rehabilitation evaluation to diagnose movement dysfunction, design and effectively implement an evidence-based treatment plan to restore, maintain or enhance optimal physical function after injury, surgery or disability. Emphasis on development of observation and manual assessment skills.—I, II, III, IV. (I, II, III, IV.) Woelz  
(new course—eff. summer 10)

**490. Small Animal Anesthesia (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Experience in anesthetizing small animals in a clinical setting.—I, II, III, IV. (I, II, III, IV.) Pypendop

(new course—eff. summer 10)

**491. Small Animal Emergency—Days (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Emergency practice includes the immediate recognition, evaluation, and care of patients with acute illness and injury.—I, II, III, IV. (I, II, III, IV.) Aldrich

(new course—eff. summer 10)

**492. Small Animal Intensive Care Unit (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Gain and demonstrate competence in both the immediate and ongoing care of a diverse group of critically ill small animal patients. Gain proficiency in invasive procedures, cardiopulmonary resuscitation, stabilization of the respiratory distress patient and hemodynamic stabilization.—I, II, III, IV. (I, II, III, IV.) Hopper

(new course—eff. summer 10)

**493. Small Animal Medicine A (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Improve clinical skills required to manage cases in the Small Animal Service including comprehensive histories, performing complete physical examinations, obtaining samples, interpreting results, conducting special procedures and assisting faculty and residents in the diagnosis, prevention, management and treatment of disease.—I, II, III, IV. (I, II, III, IV.) Johnson

(new course—eff. summer 10)

**494. Small Animal Radiology (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Participate in technical aspects of producing radiographs, interpreting radiographic and other diagnostic imaging studies and performing diagnostic ultrasound exams.—I, II, III, IV. (I, II, III, IV.) Wisner

(new course—eff. summer 10)

**495. Small Animal Soft Tissue Surgery (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Participate in management of cases referred for advanced surgical techniques to include all aspects of case management from hospital admission to discharge including daily case rounds.—I, II, III, IV. (I, II, III, IV.) Hunt

(new course—eff. summer 10)

**496. Behavior (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Understand the importance of behavior in companion animal practice, primarily that of dogs and cats. Apply the knowledge to prevent and treat problematic behaviors in companion animals.—I, II, III, IV. (I, II, III, IV.) Bain

(new course—eff. summer 10)

**497. Research (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Research rotations are designed for combined degree students who require a period of time (up to 12 weeks) to complete a discrete portion of their thesis work.—I, II, III, IV. (I, II, III, IV.) Tablin

(new course—eff. summer 10)

**498. Fish Health (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Focus on the application of basic fish health principles to address current problems as experienced by fish as held for research, as

large populations in state fish hatcheries and as part of the collection of large public/private aquaria.—I, II, III, IV. (I, II, III, IV.) Hedrick

(new course—eff. summer 10)

**499. Zoological Medicine (1.5-18)**

Prerequisite: fourth-year standing in the School of Veterinary Medicine. Experience in order to become proficient in performing physical examinations and collecting diagnostic samples from a variety of non-domestic animals. Majority of the rotations spent providing patient care at the Sacramento Zoo.—I, II, III, IV. (I, II, III, IV.) Wack

(new course—eff. summer 10)

## Veterinary Medicine: Medicine and Epidemiology

### New and changed courses in Veterinary Medicine: Medicine and Epidemiology (VME)

#### Graduate Courses

**201. Emerging Issues in Ecosystem Health (2)**

Lecture—1 hour; discussion—2 hours. Prerequisite: Active student status in the M.P.V.M., M.P.H. programs or graduate groups in epidemiology/ecology/public health/comparative pathology or consent of instructor. Principles and approaches for assessing ecosystem health with an emphasis on relationships between environmental, animal and human health and critical data gaps needed for solution-based management of ecosystems. Limited enrollment.—I. (I.) Johnson

(change in existing course—eff. fall 08)

**294B. Conservation Biology and Veterinary Medicine (1)**

(cancelled course—eff. fall 08)

#### Professional Courses

**401. Introduction to One Health (1)**

Lecture—10 sessions. Prerequisite: second- and third-year standing in the School of Veterinary Medicine. Introduce an integrated approach to understanding one health with emphasis on relationships and interdependence of environmental, animal and human health. (S/U grading only.)—II. (II.) Johnson

(change in existing course—eff. winter 10)

**412. Laboratory Animal Medicine (2)**

(cancelled course—eff. winter 09)

**433R. Cardiology Journal Club (1)**

Discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Restricted to current cardiology resident or resident in other services. Critical evaluation of scientific articles relevant to cardiology; including evaluation of hypothesis/objectives, study design, experimental and statistical methods, results, conclusions, references and new applications. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Griffiths

(new course—eff. fall 09)

**434R. Large Animal Resident Seminar (1)**

Discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Restricted to current large animal resident or resident in other services. Review organ-system based large animal internal medicine topics to prepare large animal residents for boards. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Pusterla

(new course—eff. fall 09)

**435R. Companion Animal and Exotic Pet Journal Club (1)**

Discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Restricted to current CAPE, zoological medicine, marine mammal intern resident or resident in other services. Current evaluation of scientific articles in zoological companion animals, including evaluation of the hypothesis/objectives, study design, methods (experimental, statistical), results, conclusions, references, and new applications. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Hawkins

(new course—eff. fall 09)

**437R. Aquatic Animal Health Journal Club (1)**

Discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Restricted to current aquatic, zoological, or companion avian and exotic pet resident or resident in other services. Review current trends in aquatic animal health from both the veterinary and scientific literature. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Weber

(new course—eff. fall 09)

**438R. Small Animal Medicine Physiology & Pathophysiology Review (1)**

Discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Restricted to current small animal resident or resident in other services. Review organ-system-based physiology and pathophysiology to prepare residents for board examinations. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Marks

(new course—eff. fall 09)

**493. Seminar in Veterinary Medicine (1)**

(cancelled course—eff. winter 11)

**439R. Dermatology Journal Club & Seminars in Veterinary & Comparative Dermatology (1)**

Discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Restricted to dermatology or pathology residents or instructors, veterinarians either board eligible or board certified in dermatology or pathology. Critical evaluation of refereed journal articles, textbooks, and proceedings within the disciplines of dermatology, pathology, or immunology. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Ihrke

(new course—eff. fall 09)

**440R. Dermatopathology Conference & Seminar (1)**

Discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Restricted to current dermatopathology resident or resident in other services. Presentation of interesting “unknown” cases by dermatopathologists for residents to describe lesions. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Ihrke

(new course—eff. fall 09)

**441R. Zoological Medicine Journal Club (1)**

Discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Restricted to current zoological medicine resident or resident in other services. Provide coverage of broad range of topics in zoological medicine, captive wildlife, free-ranging wildlife, terrestrial mammals, marine mammals, birds, reptiles, amphibians, and fish to assist residents in preparation for board examination and improve knowledge and proficiency in zoological practice. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Larsen

(new course—eff. fall 09)

**442R. Laboratory Animal Medicine Resident Seminar (1)**

Discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Restricted to current laboratory animal resident or resident in other services. Laws and regulations, biology, animal models, journal review, different diagnostic techniques, anesthesia, pathology. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Christie  
(new course—eff. fall 09)

**443R. Small Animal Internal Medicine Journal Club (1)**

Discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Review of current internal medicine literature to include topics in endocrinology, renal medicine, gastrointestinal disorders, cardiorespiratory medicine, and infectious disease. Focus on critical review of scientific design and methodology, interpretation of results, and relevance to clinical practice. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Johnson  
(change in existing course—eff. summer 10)

**454. International Veterinary Medicine Baja California Fieldwork (2)**

(cancelled course—eff. spring 09)

**455. Beginning Veterinary Spanish (2)**

(cancelled course—eff. winter 09)

**456. Intermediate Veterinary Spanish (1)**

(cancelled course—eff. spring 09)

**463C. Food Animal Medicine, Level I (3.1)**

Lecture—26 sessions; discussion—5 sessions; project. Prerequisite: third-year standing in the School of Veterinary Medicine; completion of course 463A and 463B if Food Animal Medicine is fulfilling your core requirement. Continuation of the fundamentals of food animal medicine with integrated case discussions to illustrate the context and application of material presented and to promote development of problem-solving skills.—II. (II.) Angelos  
(change in existing course—eff. winter 10)

**486. Equine Clinical Neonatology (1)**

Discussion—10 sessions. Prerequisite: first, second- and third-year standing in the School of Veterinary Medicine. Discussion of methods of equine neonatal intensive care and disease pathophysiology in a case format. May be repeated one time for credit. (S/U grading only.)—III. (III.) Madigan, Magdesian  
(change in existing course—eff. spring 09)

## Veterinary Medicine: Molecular Biosciences

### New and changed courses in Veterinary Medicine: Molecular Biosciences (VMB)

#### Graduate Courses

**247. Natural Toxicants (2)**

(cancelled course—eff. spring 08)

**266. Mass Spectrometry in Biological Sciences: Basics, Applications and Communication Tools (4)**

(cancelled course—eff. fall 08)

## Veterinary Medicine: Pathology, Microbiology, and Immunology

### New and changed courses in Veterinary Medicine: Pathology, Microbiology, and Immunology (PMI)

#### Upper Division Course

**101. Comparative Hematology (2)**

(cancelled course—eff. spring 08)

#### Graduate Courses

**270. Advanced Immunology (3)**

Lecture—2 hours; discussion—1 hour. Prerequisite: Introductory course in immunology. Graduate student status in the Comparative Pathology Graduate Group. All other students will require consent of instructor. Current concepts of immunology with an emphasis on interactions between the host, the environment and the pathogen. These interactions will include those that are protective and successful for the host as well as those that are deleterious—II. (II.) Stott

(change in existing course—eff. summer 08)

**280A. The Mouse as an Experimental Model for Human and Animal Diseases I (3)**

(cancelled course—eff. winter 10)

**280B. The Mouse as an Experimental Model for Human and Animal Diseases II (3)**

(cancelled course—eff. fall 10)

**292A. Seminar in Animal Virology (1)**

(cancelled course—eff. spring 09)

#### Professional Courses

**419. Field Techniques for Assessment of Wildlife and Ecosystem Health (2)**

Fieldwork—7 sessions. Prerequisite: first-, second-, third-year or MPVM standing in the School of Veterinary Medicine or consent of instructor. Introduction to the concepts and technical skills necessary to conduct field studies pertaining to wildlife/ecosystem health. Different opportunities will be offered in alternate years—even years offered in Southern California, odd years in either Northern California or outside the state. Limited enrollment. May be repeated two times for credit. (S/U grading only.)—III. (III.) Ziccardi

(change in existing course—eff. spring 09)

**460R. Diagnostic Pathfinder (2)**

Discussion—20 sessions. Prerequisite: resident status at the Veterinary Medical Teaching Hospital; consent of instructor. Restricted to current clinical pathology resident. Work cases using the Diagnostic Pathfinder (computer-based instructional tool) as a mechanistic approach to develop diagnostic reasoning skills in the interpretation of laboratory data. Residents will work the cases independently and meet to present and discuss them in the group. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Christopher  
(new course—eff. winter 09)

**461R. Clinical Pathology Journal Club (1)**

Discussion—10 sessions. Prerequisite: resident status at the Veterinary Medical Teaching Hospital; consent of instructor. Restricted to current clinical pathology resident. Critical evaluation of scientific articles in clinical and basic pathology, including evaluation of the hypothesis/objectives, study design, methods (experimental, statistical), results, conclusions, refer-

ences, and new applications. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Christopher  
(new course—eff. winter 09)

**462R. Clinical Pathology Resident Rounds (1)**

Discussion—10 sessions. Prerequisite: resident status at the Veterinary Medical Teaching Hospital; consent of instructor. Restricted to current clinical pathology resident. Present reviews of selected topics in clinical pathology, reviews of selected laboratory procedures or best practices, and current and proposed research projects. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Christopher  
(new course—eff. winter 09)

**463R. Cytopathology Rounds (1)**

Discussion—10 sessions. Prerequisite: resident status at the Veterinary Medical Teaching Hospital; consent of instructor. Restricted to current clinical pathology resident or resident in other services. Describe and interpret cytologic, hematologic, and correlative histologic specimens via presentation of glass slides on the multi-headed microscope, and lead a critical discussion of the findings. May be repeated 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Borjesson

(new course—eff. winter 09)

**476. Comparative Pathology of Non-Mammalian Vertebrates (2)**

(change in existing course—eff. spring 09)

**480R. Gross Pathology Discussion (1)**

Discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Review of gross pathology including formulation of morphological diagnosis, etiologic diagnosis, differential diagnoses, causes and/or pathogenesis. Gross pathology presented by organ system or species with an emphasis on species underrepresented in resident cases. May be repeated 15 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Munson  
(new course—eff. fall 09)

**481R. Zoological Pathology Rounds (0.5)**

Discussion—5 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Review of disease processes and their pathogenesis in zoo and wild animals including companion avian and exotic pets and fish. Current cases from CAPE, Zoo Med, Fish Health and Pathology services will be the basis for discussions. May be repeated 20 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Lowenstine

(new course—eff. fall 09)

**482R. Pathology Research Seminar (1)**

Discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Overview of a variety of research programs to focus on transitioning from diagnostic pathology into investigative pathology. May be repeated 10 times for credit. (S/U grading only.)—III. (III.) Munson  
(new course—eff. spring 10)

**483R. Advanced Systems and Species Pathology (1)**

Lecture/discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Overview of the pathological basis of diseases of selected organ systems or species and the gross and histopathologic appearance of these diseases. May be repeated 15 times for credit. (S/U grading only.)—I, II. (I, II.) Munson  
(new course—eff. fall 09)

**484R. Advanced General Pathology Review (0.5)**

Discussion—5 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Review of general pathologic mechanisms of diseases using

current veterinary and human textbooks and pathology-related journals. May be repeated 12 times for credit. (S/U grading only.)—I, II, III. (I, II, III.) Mohr (new course—eff. fall 09)

#### **485R. Journal Club/Histopathology Conference (1)**

Lecture/discussion—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Review of current veterinary pathology or general pathology literature supported by histopathology from case material. May be repeated 15 times for credit. (S/U grading only.)—I, II, III. (I, II, III.) Pesavento (new course—eff. fall 09)

#### **486R. Dermatopathology Conference (1)**

Seminar—10 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Diagnosis and discussion of current dermatopathology cases (both surgical and necropsy samples) based on clinical records and microscopic study. May be repeated 15 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Affolter (new course—eff. fall 09)

## Veterinary Medicine: Population Health and Reproduction

### New and changed courses in Veterinary Medicine: Population Health and Reproduction (PHR) Upper Division Courses

#### **106. Human-Animal Interactions: Benefits and Issues (2)**

Lecture—18 sessions; fieldwork—1 session. Prerequisite: upper division standing or consent of instructor. The contributions of animals to human society, including historic, anthropologic, developmental, human health and therapeutic perspectives, as well as effects of humans on animals. One field trip required.—II. (II.) Hart (change in existing course—eff. winter 09)

#### **111. Food Animals and the Public's Health (3)**

(cancelled course—eff. spring 09)

#### **Graduate Courses**

#### **213. Food Safety (1)**

(cancelled course—eff. fall 09)

#### **220. Avian Medicine (3)**

(cancelled course—eff. fall 09)

#### **222. Avian Immunology (3)**

(cancelled course—eff. fall 09)

#### **225. Preventive Avian Medical Practice (3)**

(cancelled course—eff. winter 10)

#### **250. Foodborne Infections and Intoxications (4)**

(cancelled course—eff. fall 09)

#### **266. Applied Analytic Epidemiology (3)**

Lecture—2 hours; laboratory—2 hours. Prerequisite: Preventive Veterinary Medicine 404 or consent of instructor. Principles and applications in analysis of epidemiologic data. Methods of analyzing stratified and matched data, logistic regression for cohort and case-control studies, Poisson regression, survival-time methods. (Same course as Master of Public Health 266.)—III. (III.) Kass (change in existing course—eff. spring 09)

#### **290B. Current Topics in Avian Medicine (1)**

(cancelled course—eff. winter 10)

## Professional Courses

### **406. Human-Animal Interactions in Veterinary Science (1.0)**

Lecture—9 sessions; fieldwork—1 session. Prerequisite: first-, second-, or third-year standing in the School of Veterinary Medicine. Human relationships with companion animals, and, secondarily, on food, laboratory, and wild animals from the perspectives of veterinarians and their clients' needs.—II. (II.) Hart (change in existing course—eff. winter 09)

### **409. Animal Health Policy (1)**

(cancelled course—eff. winter 09)

### **442L. Equine Theriogenology Laboratory (1.0)**

Laboratory—10 sessions. Prerequisite: third-year standing in School of Veterinary Medicine. Hands-on diagnosis, implementation of techniques related to reproductive examination of horses. Routine, current procedures performed on farms. Designed to maximize opportunity for assessment of normal reproductive anatomy, diagnosis, interpretations of physiologic conditions for becoming comfortable in performing various routine procedures. (S/U grading only.)—I. (I.) Ball (change in existing course—eff. fall 08)

### **446B. Equine Reproduction (0.6)**

Lecture—6 sessions; laboratory—4 sessions. Prerequisite: consent of instructor; second-year standing in the School of Veterinary Medicine. Introduction to clinical equine reproduction with emphasis on methods of diagnosis and the interpretation of clinical and laboratory findings.—III. (III.) Ball (change in existing course—eff. spring 09)

### **450. HACCP & Rick Assessment in Pre and Postharvest Food Safety (3)**

(cancelled course—eff. fall 09)

### **483. Pet Loss Support Hotline and End of Life Issues (2)**

(cancelled course—eff. fall 09)

## Veterinary Medicine: Preventive Veterinary Medicine

### New and changed courses in Veterinary Medicine: Preventive Veterinary Medicine (MPM)

#### **Professional Courses**

#### **405. Principles of Epidemiology (4)**

Lecture—4 hours. Prerequisite: MPVM standing in the School of Veterinary Medicine or consent of instructor. Basic epidemiologic concepts and approaches to epidemiologic research, with examples from veterinary and human medicine, including outbreak investigation, infectious disease epidemiology, properties of tests, and an introduction to epidemiologic study design and surveillance. (Same course as Epidemiology 205A.)—I. (I.) (change in existing course—eff. fall 08)

#### **405L. Epidemiology Laboratory (1)**

Laboratory—10 sessions. Prerequisite: MPVM standing in the School of Veterinary Medicine or consent of instructor. A practical application of epidemiological methods using the microcomputer as a tool to solve problems. Utilizes spreadsheets and databases as tools to organize and analyze data. Emphasize epidemiological methods introduced in course 405.—I. (I.) Case (change in existing course—eff. fall 08)

### **406A. Epidemiologic Study Design (3)**

Lecture—20 sessions; discussion—6 sessions; laboratory—4 sessions. Prerequisite: MPVM standing in the School of Veterinary Medicine or consent of instructor. Builds on concepts presented in course 405. Concepts of epidemiologic study design—clinical trials, observational cohort studies, case control studies—introduced in course 405 and covered in more depth, using a problem-based format. Discussion of published epidemiologic studies. (Same course as Epidemiology 206.)—II. (II.) Miller (change in existing course—eff. spring 08)

## Veterinary Medicine: Surgical and Radiological Sciences

### New and changed courses in Veterinary Medicine: Surgical and Radiological Sciences (VSR)

#### **Professional Courses**

#### **400. Equine Radiographic Anatomy (1)**

(cancelled course—eff. winter 09)

#### **408R. Diagnostic Imaging Journal Discussion (1)**

Discussion—1 hour. Prerequisite: resident status at the Veterinary Medical Teaching Hospital. Review of current medical and veterinary diagnostic imaging literature. Focus on scientific methodology, content and relevance to clinical practice. May be repeated 12 times for credit. (S/U grading only.)—I, II, III. (I, II, III.) Zwingenberger (new course—eff. spring 09)

#### **410R. Diagnostic Imaging: Wildlife & Special Species Rounds (0.4)**

Discussion—4 sessions. Prerequisite: resident status in the Veterinary Medical Teaching Hospital. Restricted to residents in diagnostic imaging and other appropriate services. Film review of current and past wildlife and special species cases from Veterinary Medical Teaching Hospital and other locations. May be repeated 12 times for credit. (S/U grading only.)—I, II, III. (I, II, III.) Zwingenberger (new course—eff. fall 09)

#### **423. Diagnostic Ophthalmology (1.5)**

Lecture—15 sessions. Prerequisite: third-year standing in the School of Veterinary Medicine or consent of instructor; successful completion of Veterinary Medicine 422. Pathogenesis and diagnosis of commonly encountered eye diseases of common domestic animals.—II. (II.) Maggs (change in existing course—eff. winter 10)

#### **427R. Oncology Journal Discussion (.75)**

Discussion—.75 hours. Prerequisite: resident status at the Veterinary Medical Teaching Hospital. Review of current medical oncology and radiation oncology literature. Focus on scientific methodology, content and relevance to clinical practice. Covers both veterinary and human medical journals. May be repeated up to 12 times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Skorupski (new course—eff. fall 08)

#### **453R. Advanced Topics in Molecular Biology and Biomaterials (1)**

Discussion—1 hour. Prerequisite: residents in the Veterinary Medical Teaching Hospital or consent of instructor. Interdisciplinary discussion group focused on reviewing principles in cell and molecular biology and biomaterials science and the relevance to research projects concentrating on the cell (biotic) and biomaterial (abiotic) interface. May be repeated six times for credit. (S/U grading only.)—I, II, III, IV. (I, II, III, IV.) Murphy, Pan (new course—eff. winter 10)

Quarter Offered: I=Fall, II=Winter, III=Spring, IV=Summer; 2009-2010 offering in parentheses

General Education (GE) credit: ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Wrt=Writing Experience

**491R. Anesthesia/Critical Care Basic Science Management Conference (2)**

Discussion—20 sessions. Prerequisite: residents in the Veterinary Medical Teaching Hospital or consent of instructor. Physiology, pharmacology and clinical practice as it relates to anesthetic management of veterinary patients. May be repeated three times for credit. (S/U grading only.)—I, II, III. (I, II, III.) Pypendop

(change in existing course—eff. fall 09)

**493R. Anesthesia/Critical Care Case Management Conference (0.8)**

Discussion—0.8 hours. Prerequisite: residents in the Veterinary Medical Teaching Hospital or consent of instructor. Discussion of Veterinary Medical Teaching Hospital case material to illustrate specific medical problems and their preventive and corrective management as it pertains to anesthesia and critical care. May be repeated three times for credit. (S/U grading only.)—I, II, III. (I, II, III.) Pypendop

(change in existing course—eff. fall 09)

**495R. Large Animal Ultrasound Journal Discussion (1)**

Discussion—1 hour. Prerequisite: intern/fellow status in Large Animal Ultrasound at the Veterinary Medical Teaching Hospital. Review of current medical and veterinary diagnostic imaging literature with a focus on large animal ultrasonography. Emphasis is on scientific methodology, content and relevance to clinical practice. May be repeated 12 times for credit. (S/U grading only.)—I, II, III. (I, II, III.) Vaughan, Whitcomb

(new course—eff. spring 09)

**496R. Large Animal Ultrasound Journal Discussion (2)**

Discussion—2 hours. Prerequisite: intern/fellow status in Large Animal Ultrasound at the Veterinary Medical Teaching Hospital. Discuss VMTH large animal ultrasound case material to illustrate specific surgical, medical and lameness problems. May be repeated 12 times for credit. (S/U grading only.)—I, II, III. (I, II, III.) Vaughan, Whitcomb

(new course—eff. spring 09)

## Viticulture and Enology

### New and changed courses in Viticulture and Enology (VEN)

#### Upper Division Courses

**125. Wine Types and Sensory Evaluation (2)**

Lecture—2 hours. Prerequisite: course 124; Plant Sciences 120 or Statistics 106. Open to upper division and graduate students in Viticulture & Enology; others by approval of instructor. Principles of sensory evaluation and application to wines. Factors influencing wine flavor, data from sensory analysis of model solutions.—III. (III.) Heymann

(change in existing course—eff. spring 09)

**130. Management, Marketing, and Economics of the California Wine Industry (9)**

(cancelled course—eff. summer 09)

**186. Fermentation Science (3)**

(cancelled course—eff. summer 09)

#### Graduate Courses

**210. Grape Development and Composition (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: Biological Sciences 102 and 103, or 105. Anatomy, physiology and biochemistry of grape berry

development, with emphasis on the development of grape composition relevant to winemaking. Offered in alternate years.—III. Adams, Polito

(change in existing course—eff. spring 10)

**213. Flavor Chemistry of Foods and Beverages (3)**

Lecture/discussion—3 hours. Prerequisite: Chemistry 8B, course 123, course 123L or Food Science and Technology 103 or consent of instructors. Students will become familiar with basic principles of flavor chemistry, analysis, and formation in fresh and processed foods. Students will be required to read and critically evaluate flavor chemistry literature. (Same course as Food Science and Technology 213).—III. (III.) Ebeler, Heymann

(new course—eff. spring 09)

**220. Secondary Nutrients, Chemistry (3)**

(cancelled course—eff. winter 09)

**292. Advanced Internship (1-15)**

Internship—3-45 hours. Prerequisite: courses 123, 123L, 124, 124L, 125, 125L, 126, 126L, 128, 128L; consent of instructor. Restricted to Viticulture & Enology Graduate Group graduate students. Work experience related to Fermentation Science (Enology) or Plant Science (Viticulture) majors. Internships must be approved and supervised by a graduate group faculty member or students major professor, but are arranged by the student. May be repeated 12 units for credit. (S/U grading only.)—I, II, III. (I, II, III.)

(new course—eff. winter 10)

## Wildlife, Fish, and Conservation Biology

### New and changed courses in Wildlife, Fish, and Conservation Biology (WFC)

#### Lower Division Course

**50. Natural History of California's Wild Vertebrates (3)**

Lecture—2 hours; discussion—1 hour. Examination of the natural history of California's wild vertebrates (fish, amphibians, reptiles, birds, and mammals), including their biogeography, systematics, ecology and conservation status. GE credit: SciEng, Wrt.—II. (II.) Elliott-Fisk

(new course—eff. winter 09)

#### Upper Division Courses

**110L. Laboratory in Biology and Conservation of Wild Mammals (3)**

Laboratory—6 hours. Prerequisite: course 110 (may be taken concurrently); consent of instructor. Laboratory exercises in the morphology, systematics, species identification, anatomy, and adaptations of wild mammals to different habitats. Limited enrollment.—III. (III.) Kelt

(change in existing course—eff. summer 08)

**120. Biology and Conservation of Fishes (3)**

Lecture—3 hours. Prerequisite: Biological Sciences 2A, 2B, 2C. Evolution, ecology, and conservation of marine and freshwater fishes.—I. (I.) Moyle

(change in existing course—eff. all 08)

**136. Ecology of Waterfowl and Game Birds (3)**

Lecture—3 hours; laboratory—3 hours; fieldwork—1 hour. Prerequisite: 111, 111L or the equivalent, or permission of instructor. Detailed examination of distribution, behavior, population dynamics, and management of waterfowl and upland game birds. Offered in alternate years.—(II.) Eadie

(change in existing course—eff. summer 08)

**155. Habitat Conservation and Restoration (3)**

Lecture—3 hours. Prerequisite: Evolution and Ecology 101 or Environmental Science and Policy 100 or equivalent course; course 154 and Environmental Horticulture 160 recommended. Analysis of the characteristics of wildlife and fish habitats, the conservation of habitats, and restoration. GE credit: SciEng, Wrt.—II. (II.) Elliott-Fisk

(change in existing course—eff. winter 09)

**155L. Habitat Conservation and Restoration (2)**

Fieldwork—3 hours; lecture—3 hours. Prerequisite: Evolution and Ecology 101 or Environmental Science and Policy 100 or equivalent course; course 155 (may be taken concurrently). Analysis of the characteristics of wildlife and fish habitats, application of restoration methods, and evaluation of conservation and restoration projects in the field. Students will also participate during the term in a restoration project.—I. (II.) Elliott-Fisk

(new course—eff. winter 09)

## Women's Studies

### New and changed courses in Women's Studies (WMS)

#### Upper Division Course

**136. Topics in Gender, Production, Consumption and Meaning (4)**

Lecture/discussion—3 hours; term paper Construction of gender through production and consumption of goods and services. Transnational movement of peoples and products. Topics may include fashion, film, food, and technology. May be repeated for credit. GE Credit: ArtHum or SocSci, Div, Wri.—Gopinath, Ho, Kaiser, Kuhn, Nettles

(change in existing course—eff. spring 05)

**165. Feminist Media Production (6)**

Lecture/discussion—3 hours; laboratory—3 hours; fieldwork—6 hours. Prerequisite: one course in Women and Gender Studies or consent of instructor. Basic media production and community service. Video, audio and photography instruction; feminist community documentary; video ethnography; video journals; alternative representations of fashion and women's bodies. Fundamentals of camera and microphone operation, interviewing techniques, and editing. May be repeated two times for credit if topic differs. Not offered every year. GE credit: ArtHum or SocSci, Div.

(change in existing course—eff. winter 05)

**185. Women and Islamic Discourses (4)**

Lecture/discussion—4 hours. Prerequisite: course 50 or comparable course. Introduction to the debates/discourses about women and Islam. Transformations in debates/discourses in colonial and postcolonial periods in the Middle East & South Asia. Comparative study of debates/discourses on family, work, law, sexuality, religion, compoment, human rights, feminist and religious movements. Not offered every year. (Same course as Middle East/South Asia Studies 150.)—Joseph

(new course—eff. fall 08)

# Policies & Requirements Addendum

## Examinations

### Changes to Examinations section

**Requirements.** Except under certain specified circumstances, Academic Senate Regulations require that final examinations be given in all undergraduate courses. Final examinations may be given in graduate courses. Exceptions to the regulation would be independent study courses, courses that consist of laboratory work only and courses in which the examination has been waived by the Academic Senate Committee on Courses of Instruction.

## Minor Programs Offered by UC Davis

### Changes to Minor Programs list

Construction Engineering and Management (Civil Engineering) . . . . . ENGR

## Topical Breadth Assigned Subject Areas for Majors and Minors

### Changes to Topical Breadth list

## SCIENCE & ENGINEERING

### Minors

Agri Computing & Info Systems  
Agric Entomology & Bee Biology  
Agricultural Entomology  
Agricultural Systems & Envir  
Animal Science  
Anthropology (Evolutionary emphasis)  
Apiculture  
Applied Computing & Info Systems  
Atmospheric Science  
Avian Sciences  
Biological Sciences  
Chemistry  
Community Nutrition  
Computational Applied Science  
Computer Science  
Construction Engineering and Management  
Engineering (all majors)  
Entomology  
Environmental Geology  
Environmental Horticulture  
Environmental Toxicology  
Exercise Biology  
Fiber and Polymer Science  
Fungal Biology & Ecology  
Geographic Information Systems  
Geographic Studies  
Geology  
Geophysics

Hydrologic Science  
Hydrology  
Insect Ecology  
Insect Ecology & Evolution  
Mathematics  
Medical-Veterinary Entomology  
Nature and Culture  
Nematology  
Nutrition Science  
Nutrition and Food  
Oceanography  
Physics  
Plant Biology  
Precision Agriculture  
Quantitative Biology and Bioinformatics  
Science and Society  
Soil Science  
Statistics  
Technology Management

## SOCIAL SCIENCES

### Minors

Aging and Adult Development  
Agri & Managerial Econ  
Anthropology (General emphasis)  
Anthropology (Sociocultural emphasis)  
Communication  
Community Development  
Contemporary Leadership  
East Asian Studies  
Economics  
Education  
Energy Policy  
Environ Policy Analy & Plan  
Environmental Policy Analysis  
Global and International Studies (Social Science emphasis)  
History & Philosophy of Science  
Human Development  
Intern'l Agri Developmt  
Latin American and Hemispheric Studies  
Linguistics  
Linguistics for Language Teachers  
Managerial Economics  
Middle East/South Asia Studies  
Political Science  
Psychology  
Science and Society  
Sociology  
Textiles & Clothing  
War-Peace Studies

## Anthropology

### Changes to Anthropology minor requirements

#### Minor Program Requirements:

UNITS

**Anthropology** ..... 18-30  
**General emphasis** ..... 19-21

One course from Anthropology 101, 102, 103, 105, 122A, 128A, 151, 152, 153, 154A, 155, 156, 157, 158, 159 ..... 3-5  
One course from Anthropology 170, 171, 172, 173, 176, 180, 183, 184 ..... 4  
One course from Anthropology 140A through 149B, 178 or any other sociocultural track course that refers in its title to one or more peoples or regions of the world ..... 4  
Two courses from Anthropology 100 through 139BN, excluding 101, 103, 105, 128A, and 141B ..... 8

### Archaeology Emphasis ..... 20-25

Anthropology 170 ..... 4  
Two courses from Anthropology 172, 173, 174 175, 176, 177, 178 ..... 8  
Two courses from Anthropology 156A, 156B, 171, 180, 181, 182, 183, 184 ..... 8-13

### Evolutionary emphasis ..... 18-30

Any five upper division Evolutionary Anthropology courses chosen in consultation with an evolutionary track adviser.

### Sociocultural emphasis ..... 19-21

Anthropology 100 ..... 4  
One upper division area-focus sociocultural track course ..... 4  
(area-focus sociocultural track courses are those that refer in their titles to one or more peoples or regions of the world)  
Two courses from Anthropology 102 through 139BN, excluding 103, 105, and 128A ..... 8  
One additional upper division Anthropology course chosen in consultation with sociocultural track undergraduate adviser ..... 3-5

## Biotechnology

### Changes to Biotechnology major requirements

#### B.S. Major Requirements:

#### Animal Biotechnology Option ..... 33

Animal Genetics 111, Neurobiology, Physiology, and Behavior 101, Molecular and Cellular Biology 150, 150L, 182, Animal Science 170 ..... 21  
Restricted Electives ..... 12  
Select at least one course from each of the following areas:  
(a) *Animal cell biology/microbiology/immunology:* Animal Genetics 101, Biotechnology 150, 161A, 161B, Evolution and Ecology 100, Medical Microbiology 188 or Pathology, Microbiology, and Immunology 126, Microbiology 102L, 162, Molecular and Cellular Biology 120L, 160L, Pathology, Microbiology, and Immunology 126L, 127, 128, Physiology, Molecular, Cellular, and Integrative Physiology 200L, Neurology, Physiology, and Behavior 131, Plant Pathology 140  
(b) *Animal reproduction and breeding:* Animal Genetics 107, Animal Science 131, 140, Avian Sciences 103, 121, Evolution and Ecology 102, Molecular and Cellular Biology 164, Neurobiology, Physiology, and Behavior 121, 121L, Plant Pathology 140

## Chemistry

### Changes to Chemistry major requirements

#### B.S. Major Requirements:

UNITS

#### Preparatory Subject Matter ..... 53

Chemistry 2A-2B-2C or  
2AH-2BH-2CH ..... 15  
Physics 9A, 9B, 9C ..... 15

Quarter Offered: I=Fall, II=Winter, III=Spring, IV=Summer; 2009-2010 offering in parentheses

General Education (GE) credit: ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Wrt=Writing Experience



Mathematics 21A, 21B, 21C, 21D,  
22A, 22AL, 22B ..... 23

**Depth Subject Matter ..... 54**

Chemistry 105, 110A, 110B, 110C, 115,  
124A, 124B or 124C, 124L, 125, 128A,  
128B, 128C, 129A, 129B, 129C ..... 47

At least 7 additional upper division units in  
chemistry (except Chemistry 107A, 107B),  
including one course with formal  
lectures ..... 7

**Total Units for the Major ..... 107**

**Recommended**

Physics 9D

**Applied Chemistry—Chemical  
Physics Emphasis** UNITS

**Preparatory Subject Matter..... 57**

Chemistry 2A-2B-2C or  
2AH-2BH-2CH ..... 15

Physics 9A, 9B, 9C, 9D ..... 19

Mathematics 21A, 21B, 21C, 21D, 22A,  
22AL, 22B ..... 23

**Depth Subject Matter ..... 53**

Chemistry 105, 110A, 110B, 110C, 115,  
124A, 125, 128A, 128B, 129A ..... 35

Physics 104A, 105A, 110A ..... 12

At least one course from Physics 105B, 110B,  
112, 115A, 140A ..... 4

At least 2 additional upper division units in  
chemistry (except Chemistry 107A,  
107B) ..... 2

**Total Units for the Major ..... 110**

**Clinical Nutrition**

**Changes to Clinical Nutrition major  
requirements**

**B.S. Major Requirements:** UNITS

**Written/Oral Expression ..... 8**

English 3 or University Writing  
Program 1 ..... 4

Communication 1 ..... 4

Above courses simultaneously satisfy  
College requirement.

**Preparatory Subject Matter..... 47-48**

Biological Sciences [1A & 1B] or  
[2A & 2B] ..... 9-10

Chemistry 2A, 2B, 2C, 8A, 8B ..... 21

Economics 1A or 1B ..... 4

Psychology 1 ..... 4

Sociology 1 or 3 or Anthropology 2 ..... 4-5

Statistics 13 ..... 4

**Breadth/General Education ..... 6-24**

Satisfaction of General Education requirement.

**Depth Subject Matter ..... 84**

Agricultural and Resource Economics  
112 ..... 4

Animal Biology 102 and 103 ..... 10

Biological Sciences 101 ..... 4

Food Science and Technology 100A,  
100B, 101A, 101B, 108 ..... 15

Food Service Management 120, 120L,  
122 ..... 8

Microbiology 101 ..... 5

Nutrition 111AV, 111B, 112, 116A,  
116AL, 116B 116BL, 118, and 190 ..... 25

Neurobiology, Physiology, and Behavior  
101, 101L ..... 8

Additional upper division Nutrition  
electives ..... 4

**Unrestricted Electives ..... 16-35**

**Total Units for the Major ..... 180**

## Computer Science

### Changes to Computer Science minor requirements

#### Minor Program Requirements:

UNITS

**Computer Science ..... 24**

Computer Science Engineering 50 ..... 4

Upper division Computer Science  
Engineering courses ..... 20

Select from Computer Science Engineering  
120, 122A, 122B, 130, 140A, 140B,  
142, 145, 150, 152A, 152B, 152C, 153,  
154A, 154B, 156, 158, 160, 163, 165A,  
165B, 170, 175, 177, 178, 189A-L,  
maximum of 3 units from approved 192 or  
199.

## Community and Regional Development

### Changes to Community and Regional Development major requirements

#### B.S. Major Requirements:

UNITS

**English Composition Requirement ..... 4-12**

One course from English 3, University Writing  
Program 1, 3, 18, 19, 101, 104A, 104B,  
104C, 104D, or 104E ..... 4

Additional course from above or,  
Comparative Literature 1, 2, 3, 4, Native  
American Studies 5 or Communication 1,  
University Writing Program 102 ..... 4

Additional course from University Writing  
Program 101, 102 104A, 104B, 104C,  
104D, or 104E ..... 4

#### Preparatory Subject Matter..... 22-25

Community and Regional Development  
1, 2 ..... 8

Plant Sciences 21 or Computer Science  
Engineering 15 ..... 3-4

Economics 1A or 1B ..... 4

Anthropology 2 or Sociology 1 ..... 4-5

Statistics 13 or 32 or Sociology 46B ..... 3-4

#### Breadth/General Education Requirement ..... 24

Satisfaction of General Education requirement.

#### Depth Subject Matter ..... 39-40

*Core Issues in Community Development:*  
Three courses from Community and Regional  
Development 142, 152, 153A or 153B,  
164, 172, 176, or 180 ..... 12

*Economics of Community Change:*  
Two courses from Community and Regional  
Development 118, 140, 141, 162, or  
International Agricultural Development  
103 ..... 8

*Political Processes and Community Change:*  
Two courses from Community and Regional  
Development 154, 156, 157, 158, or  
171 ..... 8

*Methods for Community Research:*  
Two courses, including at least one \*1d course  
from:  
Community and Regional Development 151,  
\*Education 114, \*Landscape and  
Architecture 150, \*Sociology 103,  
\*Sociology 106, \*Statistics 102 ..... 7-8 units

\*\*Note on substitutions: supplementary list of  
pre-approved substitutions available in  
Advising Office.

*Internship:* Community and Regional  
Development 192 ..... 4

### Areas of Specialization

Take 20 units from each of two options or 40 units  
from one option. The Areas of Specialization must  
include two Community and Regional Development  
courses. Up to 4 units of variable-unit course work  
may be counted toward this requirement (e.g., Com-  
munity and Regional Development 192).

#### Global Communities Option ..... 40

Students must consult with a faculty adviser to iden-  
tify an emphasis within the option and to select suit-  
able courses.

*Development Policy* (Anthropology 122B,  
126A, 135, Agricultural and Recourse  
Economics 115A, 115B, Community and  
Regional Development 140, 152, 153A,  
153B, 164, 180, Economics 115A, 115B,  
160A, 160B, 162, International Agricultural  
Development 170, Sociology 138, 139,  
141, 145A, 159)

*Gender and Development* (Sociology 132,  
145, Anthropology 126B)

*Globalization and Politics* (Political Science  
124, 130, 131, 175)

*Experiential Learning, Area Studies, and  
Language*

Total number of units of credit in Experiential  
learning, Area Studies, and Language  
courses cannot exceed 32.

Up to 12 credits transferred from any  
accredited foreign program or foreign  
internship, including UCD EAP and Summer  
Abroad programs.

Up to 12 credits in regional area studies  
classes (e.g., Middle East, China, Latin  
America).

Up to 12 credits for foreign language.

#### Organization and Management Option ..... 40

Students must consult with a faculty adviser to iden-  
tify an emphasis within the option and to select suit-  
able courses.

*Administration* (Community and Regional  
Development 157, 158, 168, Agricultural  
Economics 100A, 171A, Economics 115A,  
Political Science 100, 105, 142, 155, 183)

*Communication* (Communication 134, 136,  
140, 152, Community and Regional  
Development 173, 175, Education 120,  
163)

*Human Resources* (Community and Regional  
Development 151, 160, 161, 172, 176,  
Economics 151B, Sociology 120, 128, 129)

*Management* (Community and Regional  
Development 118, 140, 141, 154, 161,  
162, 164, 168, Agricultural Economics 112,  
113, History 174A, Sociology 138, 139,  
158, 159, 180A, 180B)

#### Policy, Planning, and Social Services Option ..... 40

Students must consult with a faculty adviser to iden-  
tify an emphasis within the option and to select suit-  
able courses.

*General* (Community and Regional  
Development 118, 142, 151, 153, 154,  
156, 160, 161, 162, 168, 176, 180,  
Environmental Science and Policy 165,  
Political Science 100, 105, 108, 109, 142,  
154, 155, 183, Sociology 120, 140, 154,  
155, 185)

*Community Health and Counseling*  
(Communication 134, 135, 165, Community  
and Regional Development 164, Education  
160, 163, Epidemiology and Preventative  
Medicine 101, Environmental Science and  
Policy 126, Human Development 121, 130,  
Psychology 126, 151, 154, 168, Sociology  
154)

*Education and Community* (Agricultural  
Education 100, 160, Communication 146,  
Education 100, 110, 120, 151, 152, 153,  
Psychology 100, 132, Sociology 124)

*Environmental Policy and Regional Planning*  
(Community and Regional Development 140,

141, 152, 157, 158, 171, Economics  
115A, Environmental Recourse Sciences 121,  
Environmental Science and Policy 110, 160,  
161, 164, 166, 168A, 168B, 171, 172,  
173, 179, Geography 155, Political Science  
102, 107, 175, Sociology 102, 118, 138,  
141, 143A, 143B, 170)

*Family and Community* (American Studies  
152, Human Development 100A, 100B,  
100C, 101, 102, 103, 110, 130, 140,  
140L, 141, 142, 143, 160, 162, Psychology  
140, Sociology 122, 131, 134, 135, 152)

**Total Units for Major**..... 106-109

**Unrestricted Electives**..... 39-42

**Total Units for the Degree** ..... 180

**Major Adviser.** M. Wells

**Advising Center** for the major is located in 1303  
Hart Hall (530) 752-2244.

## Contemporary Leadership

**Changes to Contemporary Leadership minor requirements**

**Minor Program Requirements:**

UNITS  
**Contemporary Leadership** ..... 24

**Core Leadership Courses**

Science and Society 130 ..... 4  
Science and Society 192 (must be  
taken concurrently with an approved  
internship) ..... 2  
Science and Society 190X..... 2

**Preparatory Subject Matter**

Students are required to complete 4 units from  
each of the following four categories. All  
courses are 4 units unless specified in  
parentheses:

**Ethics and Values**

Animal Science 170, Computer Science  
188 (3), English 107, Environmental  
Science and Policy 164 (3), Nature and  
Culture 120, Philosophy 115, 116, 117,  
Psychology 175 ..... 4

**Communication, Interpersonal Relationships and Human Dynamics**

Anthropology 139AN, Communication  
134, 135, 136, Community and Regional  
Development 172, 174, Linguistics 163,  
Psychology 151, Sociology 126, 132,  
University Writing Program 104 (A-F) .... 4

**Organization Structure and Cultures**

American Studies 125, Anthropology 105,  
123BN, Community and Regional  
Development 152, 154, 158, 164,  
Sociology 30A (3), 156, 180A, 180B,  
183, Women's Studies 140..... 4

**Multiculturalism, the Global Community and Social Change**

American Studies 133, 153, 156,  
Community and Regional Development  
176, English 179, History 173, 178A,  
178B, Native American Studies 134,  
Political Science 124, 125, 130, Textiles  
and Clothing 174..... 4

**Minor Adviser.** Consult the Center For Leadership  
Learning Office at 168 La Rue Road. To request an  
advising appointment send an e-mail to  
clm@ucdavis.edu.

## Engineering

**Changes to Engineering major & minor list**

**The Major Programs**

Thirteen majors, leading to the B.S. degree, are  
open to students.

**Aerospace Science & Engineering**

**Biochemical Engineering**

**Biological Systems Engineering**

**Biomedical Engineering**

**Chemical Engineering**

**Civil Engineering**

**Computational Applied Science (not  
accepting new students)**

**Computer Engineering**

**Computer Science and Engineering**

**Electrical Engineering**

**Materials Science and Engineering**

**Mechanical Engineering**

**Optical Science and Engineering**

Three combined majors are offered leading to the  
B.S. degree:

**Chemical Engineering/Materials Science  
and Engineering**

**Electrical Engineering/Materials Science  
and Engineering**

**Mechanical Engineering/Materials Sci-  
ence and Engineering**

**Minor Programs**

The College of Engineering offers two undergradu-  
ate minors:

**Construction Engineering and Manage-  
ment**

**Computational Applied Science (not  
accepting new students)**

## Engineering: Applied Science

**Changes to Engineering: Applied Science major requirements**

**Computational Applied Science Major Program**

The Computational Applied Science program is not  
currently accepting new students.

**Lower Division Required Courses**

Applied Science Engineering 2	UNITS	4
Mathematics 21A-21B-21C-21D		16
Mathematics 22A-22AL-22B		7
Physics 9A-9B-9C-9D		19
Chemistry 2A		5
Engineering 17		4
Computer Science Engineering 30 and 40		8
Computer Science Engineering 20 or 50 or Electrical Engineering 70		4
English 3 or University Writing Program 1 or Comparative Literature 1, 2, 3, or 4, or Native American Studies 5		4
Communication 1 or 3		4
Civil Engineering 19		4
General Education electives		16
<b>Minimum Lower Division Units</b>	<b>.....</b>	<b>95</b>

**Upper Division Required Courses**

Applied Science Engineering 115, 116,  
117A, 117B, 117C, 118, 119 ..... 31

Statistics 131A or Civil Engineering 114 or Mathematics 131	4
Physics 104A	4
Civil Engineering 119	4
Computational Applied Science electives*	28
Engineering 190	3
General Education electives	8
Unrestricted electives	3
<b>Minimum Upper Division Units</b>	<b>..... 85</b>

**Minimum Units Required for Major** ..... 180

**The Minor in Computational Applied Science**

The Computational Applied Science minor is not currently accepting new students.

## Engineering: Biological and Agricultural

**Changes to Biological and Agricultural Engineering major requirements**

**Lower Division Required Courses**

Mathematics 21A-21B-21C-21D	UNITS	16
Mathematics 22A-22B		6
Physics 9A-9B-9C		15
Chemistry 2A-2B		10
Chemistry 8A or 118A	2 or 4	
Chemistry 8B or 118B		4
Biological Sciences 2A-2B-2C		14
Biological Systems Engineering 1		4
Engineering 6, 35, 17		11
Biological Systems Engineering 75		4
University Writing Program 1		4
Communication 1 or 3		4
General Education electives		16
<b>Minimum Lower Division Units</b>	<b>... 110</b>	

**Upper Division Requirements:**

In the junior and senior years, the Biological Systems Engineering major requires courses that focus on the integration of biology and physical sciences with engineering. Depending on your area of interest, you may select elective courses from seven specializations:

Agricultural Engineering  
Aquacultural Engineering  
Bioenergy Engineering  
Biomechanics/Premedicine/Preveterinary Medicine  
Biotechnical Engineering  
Ecological Systems Engineering  
Food Engineering  
Forest Engineering

You may also develop your own specialization in consultation with your adviser. The upper division requirements are listed following the areas of specialization.

**Areas of Specialization**

**Agricultural Engineering**

Recommended biological science electives:

*Plant Emphasis*

Plant Biology 111  
Soil Science 100  
Select one course from Agricultural Management and Rangeland Resources 110A, Entomology 100, Plant Sciences 114, Environmental Horticulture 102

*Animal Emphasis*

Neurobiology, Physiology, and Behavior 101  
Soil Science 100

**Quarter Offered:** I=Fall, II=Winter, III=Spring, IV=Summer; 2009-2010 offering in parentheses

**General Education (GE) credit:** ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Wrt=Writing Experience

Select one course from Avian Sciences 100, Animal Science 143, 144, 146

Recommended engineering electives:

- Biological Systems Engineering 114, 145
- Civil and Environmental Engineering 141, 141L
- Engineering 180

**Bioenergy**

Recommended biological science electives:

- Biological Sciences 101, 103
- Microbiology 102
- Plant Biology 113
- Plant Sciences 101, 142

Recommended engineering electives:

- Biological Systems Engineering 162
- Civil and Environmental Engineering 143, 148A, 149, 150, 153
- Mechanical Engineering 161, 162, 163

**Biotechnical Engineering**

Recommended biological science electives:

- Biological Sciences 101, 102, 103
- Microbiology 102
- Molecular and Cellular Biology 120L
- Plant Biology 113

Recommended engineering electives:

- Biological Systems Engineering 175
- Chemical Engineering 161B, 161C, 161L
- Engineering 180

**Food Engineering**

Recommended biological sciences electives:

- Biological Sciences 101, 102, 103;
- Environmental Science and Policy 110;
- Environmental Toxicology 101, 131; Food Science and Technology 104L, 119, 120, 128; Plant Sciences 152, 172

Recommended engineering electives:

- Biological Systems Engineering 175;
- Chemical Engineering 157, 159;
- Mechanical Engineering 171, 172

**Upper Division Required Courses**

UNITS

- Engineering 100, 102, 104 105, 106..... 18
- Biological Systems Engineering 103, 125, 127, 130, 165, 170A, 170B, 170BL, 170C, 170CL..... 29
- Biological Systems Engineering electives-Select a minimum of 4 units from all upper-division Biological Systems Engineering courses not otherwise required, with the exception of Biological Systems Engineering courses 189-199..... 4
- Statistics 100..... 4
- Engineering electives—Select a minimum of 3 units. All upper division courses offered by the College of Engineering may be taken as engineering electives with the exception of the following: Civil and Environmental Engineering 123, Computer Science Engineering 188, Engineering 103, 160, all courses numbered 190-197 and 199 (except Engineering 190, which may be taken for 2 units of engineering elective credit)..... 3
- Biological science electives-All upper-division courses in the College of Biological Sciences (with the exception of Biological Sciences 132, Evolution and Ecology 175, Exercise Biology 102, 112, 115, 118 through 149L, Microbiology 100 and all courses numbered 190-199) may be used as biological science electives. The following courses may also be taken as biological science electives: Applied Biological Systems Technology 161; Animal Science 118, 143, 144, 146; Agricultural Management and Rangeland Resources 110A; Atmospheric Science 133; Avian Sciences 100; Cell Biology and Human Anatomy 101, 101L; Entomology 100; Environmental Horticulture 102;

Environmental Science Policy and Management 120, 182, 185 (offered at UC Berkeley); Environmental Science and Policy 100, 110, 155; Environmental Toxicology 101, 112A, 131; Food Science and Technology 102A, 104L, 119, 120, 121, 128, 159; Infectious Diseases 141; Soil Science 100; Wildlife, Fish, and Conservation Biology 121. Students may choose other upper division courses with substantial biological content offered by the College of Agricultural and Environmental Sciences; consultation with a faculty adviser and approval by petition is required)..... 4

Upper Division Composition Requirement\* one course from the following: University Writing Program 101, 102A, 102B, 102E, 102F, 102G, 104A, 104E, 104F..... 4

**General Education electives .....8**  
Minimum Upper Division Units..... 74

*\*The Upper-Division composition exam administered by the College of Letters and Sciences cannot be used to satisfy the upper-division composition requirement for students in the Biological Systems Engineering program.*

**Minimum Units Required for Major ..... 184**

**Engineering: Biomedical**

**Changes to Biomedical Engineering major requirements**

**Biomedical Engineering Program**

**Lower Division Required Courses**

UNITS

- Mathematics 21A-21B-21C-21D..... 16
- Mathematics 22A-22B..... 6
- Physics 9A-9B-9C..... 15
- Chemistry 2A-2B-2C, 8A-8B or 118A-118B..... 21
- Engineering 6, 17..... 8
- University Writing Program 1, or English 3, or Comparative Literature 1, 2, 3, or 4, or Native American Studies 5..... 4
- Communication 1..... 4
- Biological Sciences 2A..... 4
- Biomedical Engineering 1, 20..... 5
- General Education electives ..... 16

**Minimum Lower Division Units ..... 96**

\* May not count in lower-division program and towards Engineering and Physical Science electives

**Upper Division Requirements:**

**Upper Division Required Courses**

- Engineering 100 or Electrical and Computer Engineering 100..... 3
- Engineering 105, 190..... 7
- Biomedical Engineering 116 or Neurobiology Physiology Behavior 101..... 5
- Biomedical Engineering 105, 106, 107, 108, 109, 110A-110B, 111..... 30
- Sciences electives..... 8
- To be chosen according to specialization. Any graded upper division course in the Biological Sciences, Chemistry or Physics including Biological Sciences 2B, 2C, Biomedical Engineering 161A, 161S, 161L and Physics 9D, excluding courses for social science GE topical breadth credit.
- Engineering electives..... 20
- Any graded upper division Biomedical Engineering course (except Biomedical Engineering 161A, 161S, 161L)
- Engineering 35, 45, 102, 103, 104, 106; Electrical and Computer Engineering 110A, 110B, 106, 114, 118, 130A, 130B, 140A, 140B, 150A, 150B, 151, 157A, 157B; Applied Science Engineering 108A,

- 108B, 161, 165, 166, 167, 169, 170, 171, 172; Biological Systems Engineering 128; Chemical Engineering 160, 161A, 161B, 161L, 170; Materials Science and Engineering 147, 160, 162, 162L, 164, 172, 172L, 174, 174L, 181, 182; Mechanical Engineering 150AB, 152, 154, 165.

General Education electives .....8

**Minimum Upper Division Units.....81**

**Minimum Units Required for Major ..... 180**

**Engineering: Chemical Engineering and Materials Science**

**Changes to Chemical Engineering and Materials Science Engineering major requirements**

**Chemical Engineering Program**

**Lower Division Required Courses**

UNITS

- Mathematics 21A-21B-21C-21D..... 16
- Mathematics 22A-22B..... 6
- Physics 9A-9B-9C..... 15
- Chemistry 2A, 2B, 2C or Chemistry 2AH, 2BH, 2CH..... 15
- Chemistry 128A, 128B, 129A..... 8
- Chemical Engineering and Materials Science 5, 6..... 6
- Chemical Engineering 51..... 4
- Chemical Engineering 80..... 1
- Engineering 45..... 4
- English 3 or University Writing Program 1, or Comparative Literature 1, 2, 3, or 4, or Native American Studies 5..... 4
- General Education electives ..... 16

**Minimum Lower Division Units.....95**

**Options for Junior and Senior Years**

The focus in your junior year is on fundamentals, such as thermo-dynamics, fluid mechanics, energy transfer, and mass transfer phenomena. In the senior year, you draw together these fundamentals and apply them in a study of kinetics, process design, and process dynamics and control. The program includes ten units of technical electives, and six units of chemical engineering and materials science electives that allow you to strengthen specific areas in chemical engineering, explore new areas, or pursue new areas of specialization.

**Areas of Specialization**

The most popular areas of specialization, together with lists of suggested technical electives, are identified and discussed in the following listing. Talk to the instructors of the courses listed regarding possible prerequisites before enrolling.

**Suggested Technical Electives**

- Advanced Materials Processing:** Electrical and Computer Engineering 140A, 140B, 145A, 145B, 146A, 146B; Physics 140A, 140B; Materials Science and Engineering 172, 180, 181
- Applied Chemistry:** Chemistry 110C, 115, 128C, 129B, 129C, 130, 131, 150; Fiber and Polymer Science 100, 110, 150
- Applied Mathematics:** Applied Science Engineering 115, 116; Mathematics 118A, 118B, 118C, 119A, 119B, 121A, 121B, 128A, 128B, 128C, 131, 132A, 132B, 185A, 185B
- Computers and Automation:** Artificial Intelligence and Computer Graphics: Computer Science and Engineering 170, 175

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**General Education (GE) credit: ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Wrt=Writing Experience**

Numerical Analysis and Optimization:  
Applied Science 115, 116; Mathematics  
128B, 128C, 168; Civil and Environmental  
Engineering 153

**Automatic Control:**

Biological and Agricultural Engineering  
165; Electrical and Computer Engineering  
150B, 157B; Biological and Agricultural  
Engineering 165; Mechanical Engineering  
172

**Environmental Engineering—Air Environment:**  
Civil and Environmental Engineering 149;  
Atmospheric Science 121A, 121B, 158;  
Civil and Environmental Engineering 150;  
Environmental Studies 110; Environmental  
Toxicology 101, 112A, 112B, 131

**Environmental Engineering—Water  
Environment:**

Chemical Engineering 161A, 161B, 161L;  
Civil and Environmental Engineering 140,  
140L, 148A, 148B; Microbiology 102;  
Biological Sciences 102, 103; Civil and  
Environmental Engineering 147;  
Environmental Studies 110, 150A, 151;  
Environmental Toxicology 101, 112A,  
112B; Soil Science 100, 102, 107;  
Hydrologic Science 124

**Food Process Engineering:**

Biological Systems Engineering 132; Food  
Science and Technology 100A, 104, 104L;  
Food Science and Technology 100B

**Management and Marketing:**

Engineering 190; Management 250, 251;  
Agricultural Economics 113, 130, 136;  
Statistics 103

**Polymer Science:**

Chemistry 108, 128C, 129B, 129C; Fiber  
and Polymer Science 150; Chemical  
Engineering 150C; Materials Science and  
Engineering 147

**Pre-Biomedical Engineering:**

Four to six courses from: Anatomy,  
Physiology and Cell Biology 100;  
Biological Sciences 1A, 1B, 1C, 101, 102,  
103, 104; Molecular and Cellular Biology  
140L, 141, 142; Neurobiology,  
Physiology, and Behavior 101, 112, 113,  
114

**Pre-Medical:**

Anatomy, Physiology and Cell Biology 100,  
Chemistry 128C, 129B, 129C; and six  
biology or biochemistry courses, such as  
Biological Sciences 1B, 1C, 101, 103,  
104; Microbiology 102; Molecular and  
Cellular Biology 140L, 141, 142, 150;  
Neurobiology, Physiology, and Behavior  
101, 112, 113, 114

**Chemical Engineering Upper Division  
Required Courses**

Chemical Engineering 140, 141, 142,  
143, 146, 152A, 152B, 155A, 155B,  
157, 158A, 158B, 158C ..... 52  
Chemistry 110A, 110B ..... 8  
Biological Sciences 102 ..... 3  
Chemical Engineering and Materials Science  
Electives ..... 6  
Choose from the following: Chemistry  
110C, 128C, 129B, 129C, 130A, 130B;  
Chemical Engineering 144, 160, 161A,  
161B, 161L, 166, 170; Materials Science  
and Engineering 147, 160, 164, 181;  
Fiber and Polymer Science 150.  
Technical Elective ..... 10  
General Education electives ..... 8

**Minimum Upper Division Units ..... 87**

**Minimum Units Required for Major ..... 182**

**Chemical Engineering/Materials  
Science and Engineering Program**

**Lower Division Required Courses**

	UNITS
Mathematics 21A-21B-21C-21D .....	16
Mathematics 22A-22B .....	6
Physics 9A-9B-9C .....	15

Chemistry 2A, 2B, 2C or Chemistry 2AH, 2BH, 2CH .....	15
Chemistry 128A, 128B, 129A .....	8
Chemical Engineering and Materials Science 5, 6 .....	6
Chemical Engineering 51 .....	4
Chemical Engineering 80 .....	1
Engineering 45 .....	4
English 3 or University Writing Program 1, Comparative Literature 1, 2, 3, or 4 or Native American Studies 5 .....	4
General Education electives .....	16
<b>Total Lower Division Units .....</b>	<b>95</b>

**Upper Division Required Courses**

Chemical Engineering 140, 141, 142, 143, 146, 152A, 152B, 155A, 155B, 157, 158A, 158B, 158C .....	52
Chemistry 110A, 110B .....	8
Biological Sciences 102 .....	3
Statistics 100 .....	4
Materials Science and Engineering 160, 162, 162L, 164, and a minimum of 8 units of course work to be chosen from Materials Science and Engineering 147, 172, 172L 174, 174L 180, 181, 182, 188A-B .....	22
General Education electives .....	8

**Minimum Upper Division Units ..... 93**

**Minimum Units Required for Major ..... 188**

**Biochemical Engineering Program**

**Lower Division Required Courses**

	UNITS
Mathematics 21A-21B-21C-21D .....	16
Mathematics 22A-22B .....	6
Physics 9A-9B-9C .....	15
Chemistry 2A, 2B, 2C or Chemistry 2AH, 2BH, 2CH .....	15
Chemistry 128A, 128B, 129A .....	8
Biological Sciences 2A .....	4
Chemical Engineering and Materials Science 5, 6 .....	6
Chemical Engineering 51 .....	4
Chemical Engineering 80 .....	1
English 3 or University Writing Program 1, or Comparative Literature 1, 2, 3, or 4, or Native American Studies 5 .....	4
General Education electives .....	16
<b>Minimum Lower Division Units .....</b>	<b>95</b>

**Upper Division Required Courses**

Chemical Engineering 140, 141, 142, 143, 146, 152A, 152B, 155A, 157, 158A, 158C, 161A, 161B, 161C, 161L .....	60
Biological Sciences 102 .....	3
Microbiology 102 .....	4
Chemistry 110A .....	4
Biochemical Engineering electives .....	10

Choose two laboratory courses from the  
laboratory electives list, and choose  
additional courses from the lecture elective list  
to provide a total of at least 10 units:

**Laboratory elective list:**  
Biomedical Engineering 161L;  
Biotechnology 161A, 161B; Food Science  
and Technology 123L; Microbiology 102L,  
155L; Molecular and Cellular Biology 120L  
(this course counts as two laboratory  
electives and completely satisfies the  
laboratory requirement), 160L;  
Neurobiology, Physiology, and Behavior  
104L; Plant Sciences 153; two units of an  
internship (192), independent study (199),  
or Biotechnology 189L taken for 2 or more  
units can be used to satisfy one biochemical  
engineering laboratory elective requirement  
with the approval of a petition, provided  
that the course is a laboratory-based  
experimental project, related to the  
biological and/or biochemical engineering  
sciences, and the student submits a written  
report that demonstrates proficiency in  
laboratory skills, techniques, or method.  
**Lecture elective list:**  
Biological Sciences Applied Science 172;  
Biological Sciences 2B, 2C, 101, 103,

104; Biological Systems Engineering 160,  
175; Biomedical Engineering 102, 107,  
109, 117, 140, 162; Biotechnology 160,  
188; Chemical Engineering 170;  
Chemistry 130A, 130B; Food Science and  
Technology 123; Microbiology 140, 150;  
Molecular and Cellular Biology 122, 123;  
Neurobiology, Physiology, and Behavior  
103; Plant Biology 111, 112; Plant  
Sciences 152; Statistics 120, 130A, 131A.  
General Education electives ..... 8

**Minimum Upper Division Units ..... 89**

**Minimum Units Required for Major ..... 184**

**Materials Science and Engineering  
Program**

**Upper Division Requirements:**

In your third and fourth years, you will take "funda-  
mentals" courses (Materials Science and Engi-  
neering 160, 162, 164, 174). With this background,  
you are then ready for the "applications" courses  
(Materials Science and Engineering 147, 180, 181,  
182, 188AB) during the fourth year.

If you need a technical elective course in your pro-  
gram, you may select it from the College list of Tech-  
nical Electives.

Suggested Advisers: N. Browning, J.C. Gibeling,  
J.R. Groza, D.G. Howitt, A.K. Mukherjee, Z.A.  
Munir, A. Navrotsky, S.H. Risbud, J. F. Shackelford

**Upper Division Required Courses**

Engineering 100, 102, 103, 104, 105, 190 .....	22
Select from Aeronautical Science and Engineering 137, 138, Civil and Environmental Engineering 132, 135, Mechanical Engineering 150A, 150B .....	8
Materials Science and Engineering 147, 160, 162, 162L, 164, 172, 172L, 174, 174L, 180, 181, 182, 188A, 188B .....	45
Select one course from Engineering 180, Mathematics 135A, Statistics 120, 131A, Civil and Environmental Engineering 114, Chemical Engineering 140, or Applied Science Engineering 115 .....	4
Select one course from Chemistry 110A, 128A, Physics 121 or Geology 161 .....	3 or 4
General Education electives .....	8

**Minimum Upper Division Units ..... 90**

**Minimum Units Required for Major ..... 180**

**Electrical Engineering/Materials  
Science and Engineering Program**

**Lower Division Required Courses**

	UNITS
Mathematics 21A-21B-21C-21D .....	16
Mathematics 22A-22B .....	6
Physics 9A-9B-9C-9D .....	19
Chemistry 2A-2B .....	10
Computer Science Engineering 30 .....	4
Engineering 6, 17, 35, 45 .....	15
English 3 or University Writing Program 1, or Comparative Literature 1, 2, 3, or 4, or Native American Studies 5 .....	4
Communication 1 or 3 .....	4
General Education electives .....	16
<b>Minimum Lower Division Units .....</b>	<b>94</b>

**Upper Division Required Courses**

Electrical and Computer Engineering 100, 110A, 110B, 130A, 130B, 140A, 140B, 146A .....	32
Materials Science and Engineering 160, 162, 162L, 164, 172, 172L, 174, 181, 188A, 188B .....	32
Statistics 120, 131A, Mathematics 135A, or Civil and Environmental Engineering 114 .....	4
Engineering 190 .....	3
Electronic Materials elective .....	3
Electrical and Computer Engineering 106, 112, 118, 132A, 133, 135, 136A-B, 146B, 150A, 151, 157A, 160, 166, 170, 172, 180A, 180B, 194A-194B-194C	

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**General Education (GE) credit:** ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Writ=Writing Experience

(must be taken in consecutive quarters to count as one design elective), 195A-195B (must be taken in consecutive quarters to count as one design elective); Engineering 105; Materials Science and Engineering 180, 182.

General Education electives..... 8  
Unrestricted electives ..... 4

**Minimum Upper Division Units ..... 86**  
**Minimum Units Required for Major ..... 180**

## Engineering: Civil and Environmental

### Changes to Civil and Environmental major requirements

**The Civil Engineering/Materials Science and Engineering major is no longer offered.**

#### Civil Engineering Program

##### Lower Division Required Courses

	UNITS
Mathematics 21A-21B-21C-21D .....	16
Mathematics 22A-22B .....	6
Physics 9A-9B-9C and choice of Physics 9D, Chemistry 2C, Biological Science 2A or Geology 50-50L* .....	19
Chemistry 2A-2B or 2AH-2BH.....	10
Civil and Environmental Engineering 3 .....	4
(Civil and Environmental Engineering 3 is designed for freshman students and is not open to upper division students. Students who do not take this course will substitute 4 units of additional engineering coursework. Non-engineering units from the approved Technical Elective list** may be substituted if within the four unit maximum.)	

One course from Civil and Environmental Engineering 19, Engineering 6, or Computer Science Engineering 30 ..... 4  
Engineering 17, 35, 45 ..... 11  
Civil and Environmental Engineering 16, 17..... 4  
English 3 or University Writing Program 1, or Comparative Literature 1, 2, 3, or 4, or Native American Studies 5..... 4  
Communication 1 or 3..... 4  
General Education electives..... 16

##### Minimum Lower Division Units ..... 98

\*Units in excess of the requirement from Chemistry, Biological Sciences, Physics, or Geology courses may count toward the technical elective requirement. Please consult with the departmental staff adviser.  
\*\*Departmental technical elective listing available from staff adviser. Maximum of four units from this list may count toward degree requirements.

#### Civil Engineering

##### Upper Division Required Courses

Engineering 102, 103, 104, 104L, 105, 106..... 20  
Applied Science Engineering 115..... 4  
Civil and Environmental Engineering 114..... 4  
One course from Applied Science Engineering 116, Civil and Environmental Engineering 153, Mathematics 118A, or Statistics 108..... 4  
A minimum of four of the following group options (a minimum of two courses in each of the four areas and a minimum of 19 design units from group option selections, technical electives, and programming elective. Courses listed in more than one group may be counted only once. The design unit content of each course is noted on the Civil Engineering degree requirement advising sheet, available

from the department, also shown in its entirety on the department's undergraduate

Web site.) ..... 28\*

*Environment:* Civil and Environmental Engineering 148A or 149 and at least one from courses 140, 143, 148B, 150;  
*Geotechnical:* Civil and Environmental Engineering 171 and 171 Lab and at least one from courses 173, 175, 179;

*Structures:* Civil and Environmental Engineering 135 and at least one from courses 130, 131, 132, 136, 137, 138, 139, 179;

*Transportation:* Civil and Environmental Engineering 161 or 163 and at least one from courses 162, 165, 179;

*Water Resources:* Civil and Environmental Engineering 141 and 141 Lab and at least one from courses 142, 144, 145, 146, 155

Technical electives..... 18

Fourteen units to be selected from upper division engineering courses not already used to fulfill another requirement; of these, seven units must be selected from letter-graded Civil and Environmental Engineering courses. Non-engineering units from the Technical Elective list\*\* may be included, not to exceed four units total toward the degree.

General Education electives ..... 8

##### Minimum Upper Division Units ..... 86

##### Minimum Units Required for Major ..... 184

\*Units in excess of the 28 unit requirement may count toward the technical elective requirement. Please consult with the departmental staff adviser.

\*\*Departmental technical elective listing available from staff advisor. Maximum of four units from this list may count toward degree requirements.

## Engineering: Computer Science

### Changes to Computer Science major requirements

#### Computer Science and Engineering Program

##### Lower Division Required Courses

	UNITS
Mathematics 21A-21B-21C-21D.....	16
Mathematics 22A-22B.....	6
Physics 9A-9B-9C-9D.....	19
Chemistry 2A.....	5
Engineering 20, 30, 40, 60.....	16
Computer Science Engineering 50 or Electrical and Computer Engineering 70... 4	
Engineering 17.....	4
English 3 or University Writing Program 1, or Comparative Literature 1, 2, 3, or 4, or Native American Studies 5.....	4
Communication 1.....	4
General Education electives .....	25

##### Minimum Lower Division Units ... 103

#### Upper Division Requirements:

##### Upper Division Required Courses

Computer Science Engineering 188 ..... 4  
Electrical and Computer Engineering 100, 172, and 180A..... 14  
Computer Science Engineering 120† or 122A† ..... 4  
Computer Science Engineering 132, 140A, 150, 152A, 154A, 154B and 160..... 28  
Computer electives—a minimum of 4 courses and a minimum of 15 units chosen from Computer Science Engineering 120†, 122A†, 122B, 130, 140B, 142, 145, 152B, 152C, 153, 156, 158, 163, 165A, 165B,

170, 175, 177, 178; one course (minimum 3 units from one single course) from approved 192 or 199 or Electrical and Computer Engineering 194; Electrical and Computer Engineering 180B..... 15  
General Education electives ..... 8  
Unrestricted elective .....

##### Minimum Upper Division Units.....77

##### Minimum Units Required for Major ..... 180

† Completion of both Computer Science Engineering 120 and 122A will satisfy the computer science theory requirement and a computer elective requirement.

## Engineering: Electrical and Computer Engineering

### Changes to Electrical and Computer Engineering major requirements

#### Electrical Engineering Program

##### Lower Division Required Courses

	UNITS
Mathematics 21A-21B-21C-21D.....	16
Mathematics 22A-22B.....	6
Physics 9A-9B-9C-9D.....	19
Chemistry 2A.....	5
Computer Science Engineering 30, 40.....	8
Engineering 6.....	4
Electrical and Computer Engineering 1.....	1
Electrical and Computer Engineering 70 or Computer Science Engineering 50.....	4
Engineering 17.....	4
English 3 or University Writing Program 1, or Comparative Literature 1, 2, 3, or 4, or Native American Studies 5.....	4
Communication 1 or 3.....	4
General Education electives .....	16
Unrestricted electives.....	3

##### Minimum Lower Division Units.....94

#### Upper Division Requirements:

##### Electrical Engineering Curriculum

##### Areas of Specialization

*Physical Electronics:* solid-state devices, circuits and fabrication and the theory courses supporting those subjects.

##### Recommended elective courses:

*Core electives:* Electrical and Computer Engineering 130B, 140B  
*Design Electives with Lab:* Electrical and Computer Engineering 118, or 132A, 132B or 135. Select remaining upper-division design electives from Electrical and Computer Engineering 110B, 146A, 146B  
*Technical electives:* Electrical and Computer Engineering 112, 180B

Suggested Advisers: J.P. Colinge, C.E. Hunt, S. Islam

*Electromagnetics:* microwave circuits and systems, and fiber optical systems.

##### Recommended elective courses:

*Core electives:* Electrical and Computer Engineering 130B, 140B  
*Design Electives with Lab:* Electrical and Computer Engineering 132A, 132B. Select remaining upper-division design electives from Electrical and Computer Engineering 110B, 132C, 135, 136  
*Technical electives:* Select from Electrical and Computer Engineering 112 and 133

Suggested Advisers: G.R. Branner, A. Knoesen, A. Pham, B. Yoo

*Analog Electronics:* transistor- and system-level analog circuit design.

##### Recommended elective courses:

*Core electives:* Electrical and Computer Engineering 140B, 150B

*Design Electives with Lab:* at least two from Electrical and Computer Engineering 112, 157A, 165, 195A-195B

Select remaining upper-division design electives from Electrical and Computer Engineering 110B, 118, 132A, 132B, 132C, 151, 157B, 160, 210

*Technical electives:* Select from Electrical and Computer Engineering 130B, 146A, 194A-194B-194C

Suggested Advisers: R. Amritharajah, K.W. Current, P.J. Hurst, S.H. Lewis, R.R. Spencer

*Digital Electronics:* transistor- and system-level digital circuit design.

Recommended elective courses:

*Core electives:* Electrical and Computer Engineering 140B, 150B

*Design Electives with Lab:* Electrical and Computer Engineering 118 and 180B or 151 or 165 or 172 or 183 or 194A-194B-194C or 195A-195B

Select remaining upper-division design electives from Electrical and Computer Engineering 110B, 116, 170 or 171

*Technical electives:* Select from Electrical and Computer Engineering 130B and 112 or 146A or 157A or 160 or 210

Suggested Advisers: R. Amritharajah, K.W. Current, P.J. Hurst, S.H. Lewis

*Communication Controls and Signal Processing:* digital communication, robotics, classical controls and communication, wireless and cellular digital communication systems, signal and image processing, and computer vision.

Recommended elective courses:

*Core electives:* Electrical and Computer Engineering, 150B, 180B

*Design Electives with lab:* Electrical and Computer Engineering 151, 157A and 157B or 165

Select remaining upper-division design electives from Electrical and Computer Engineering 158 or 160

*Technical Electives:* select from Electrical and Computer Engineering 112, 194A-194B-194C, 195A-195B

Suggested Advisers: T.S. Chang, Z. Ding, G.E. Ford, A.N. Gündes, B.C. Levy, J. Tuqan, Q. Zhao

### Upper Division Required Courses

Electrical and Computer Engineering 100, 110A, 130A, 140A, 150A, 161, 180A, 196..... 31  
Engineering 160, 190 or Computer Science Engineering 188 ..... 3  
Upper-division electives\*\*\* ..... 27

Chose at least seven courses for a minimum of 28 units from the following:

*Two core electives:* Electrical and Computer Engineering 110B\*, 130B, 140B, 150B, 157A\*, 160\*, 170\*, 180B\*

*Design laboratory electives:* At least two design electives with lab: Electrical and Computer Engineering 112, 116, 118, 132A, 132B, 132C, 135, 136, 146A, 146B, 151, 152, 157A, 157B, 165, 172, 175, 180B, 183, 194A-194B-194C (must be taken in consecutive quarters), 195A-195B (must be taken in consecutive quarters),

At least one design project course\*\* course with "Design Project" in the title, including Electrical and Computer Engineering 193A-193B, 194A-194B-194C, 195A-195B

The remaining design electives may be chosen from the lists above or from the following courses: Electrical and Computer Engineering 110B, 133, 158, 160, 170, 171, 173A; Computer Science and

Engineering 150, 152B, 163, 175, 177, 178

Technical electives\*\*\*, \*\*\*\* ..... 9  
General Education electives..... 8  
Unrestricted electives ..... 8

**Minimum Upper Division Units ..... 86**

**Minimum Units Required for Major ..... 180**

### Computer Engineering Major

#### Lower Division Required Courses

	UNITS
Mathematics 21A-21B-21C-21D .....	16
Mathematics 22A-22B .....	6
Physics 9A-9B-9C-9D .....	19
Chemistry 2A .....	5
Computer Science Engineering 20, 30, 40, 60.....	16
Engineering 6.....	4
Electrical and Computer Engineering 1 .....	1
Electrical and Computer Engineering 70 or Computer Science Engineering 50 .....	4
Engineering 17 .....	4
English 3 or University Writing Program 1, or Comparative Literature 1, 2, 3, or 4, or Native American Studies 5.....	4
Communication 1 or 3 .....	4
General Education electives.....	16
<b>Total Lower Division Units .....</b>	<b>99</b>

**Upper Division Required Courses**

Electrical and Computer Engineering 100, 110A, 140A, 161, 170\*, 172, 180A, 180B, 196 ..... 36  
Computer Science Engineering 122A, 150..... 8  
Engineering 160, 190, or Computer Science Engineering 188..... 3  
Upper-Division Elective Courses: ..... 10  
At least one design project course\*\* course with "Design Project" in the title, including: Electrical and Computer Engineering 193A-B, 194A-194B-194C, 195A-195B\*\*

The remaining design electives may be chosen from the list above or from the following list: Electrical and Computer Engineering 110B, 112, 116, 118, 132A, 132B, 132C, 133, 135, 146B, 151, 152, 157A, 157B, 160, 165, 171, 173A, 173B, 175, 183; Computer Science Engineering 122B, 140A, 140B, 142, 152B, 153, 158, 160, 163, 165A, 165B, 175, 177, 178

Technical electives\*\* \*\*\* ..... 9  
General Education electives..... 8  
Unrestricted electives ..... 7

**Minimum Upper Division Units ..... 81**

**Minimum Units Required for Major ..... 180**

## Engineering: Mechanical and Aerospace Engineering

### Changes to Mechanical and Aerospace Engineering major requirements

#### Mechanical Engineering Programs

##### Lower Division Required Courses

Requirements for the Mechanical Engineering and Mechanical Engineering/Materials Science and Engineering programs.

	UNITS
Mathematics 21A-21B-21C-21D .....	16
Mathematics 22A-22B .....	6
Physics 9A-9B-9C-9D .....	19
Chemistry 2A-2B or 2AH-2BH .....	10
Engineering 4.....	3
Engineering 6 or Mechanical Engineering 5.....	4
Engineering 17, 35, 45.....	11
Mechanical Engineering 50 .....	4

English 3 or University Writing Program 1, or Comparative Literature 1, 2, 3, or 4, or

Native American Studies 5 ..... 4  
Communication 1 or 3 .....

4  
General Education electives ..... 16

**Minimum Lower Division Units ..... 97**

### Mechanical Engineering Upper Division Required Courses

Engineering 100, 102, 103, 104, 105 ..... 19  
Mechanical Engineering 150A and 172; and one course chosen from 185A with 185B (both courses must be taken in consecutive quarters), or Aeronautical Science and Engineering 130A ..... 12  
Mechanical Engineering 106, 107A, 107B, 165, 171..... 18  
Engineering 190..... 3  
Select one course from Applied Science Engineering 115; Engineering 180; Mathematics 128C; Statistics 120, 131A .....

4  
Technical electives..... 24

Sixteen of the 24 units must be selected from upper division courses in engineering; of these units, one course must be chosen from the following: Engineering 122, Mechanical Engineering 150B, 154 (Mechanical Engineering and Aeronautical Science and Engineering double majors may petition to substitute Aeronautical Science and Engineering 137 or 139).

Two additional courses must be chosen from the following design courses:

Aeronautical Science and Engineering 129, 130B, 130C, 137, 138, 139, 189A, 189B; Materials Science and Engineering 180, 182; Mechanical Engineering 134, 151, 152, 154, 161, 162, 163. You may also choose from Mechanical Engineering 150B, 184A with 184B (these courses must be taken in consecutive quarters). 185A with 185B (these courses must be taken in consecutive quarters, if these courses are not used in satisfaction of the core design requirement above.

A combined maximum of 4 units may be selected from project/independent study courses (184A, 184B, 185A, 185B, 192, 199) not used in satisfaction of core degree requirements.

The remaining units may be selected from the technical electives list.

General Education electives ..... 8

**Minimum Upper Division Units ..... 88**

**Minimum Units Required for Major ..... 185**

### Mechanical Engineering/Materials \ Mechanical Engineering/Materials Science and Engineering Upper Division Required Courses

Mechanical Engineering 106, 107A, 107B, 165, 171..... 18

Mechanical Engineering 150A, 172; and one course chosen from 185A with 185B (both courses must be taken in consecutive quarters), or Aeronautical Science and Engineering 130A ..... 12  
Materials Science and Engineering 160, 162, 164, 174 .....

16  
One course chosen from Materials Science and Engineering 172, 180, 181, 182, 188A-B; and one laboratory course chosen from Materials Science and Engineering 162L, 174L..... 6

Select one course from Applied Science Engineering 115; Engineering 180; Mathematics 128C; Statistics 120, 131A .....

4  
Engineering 190..... 3  
Technical electives..... 11

One course must be chosen from the following: Engineering 122, Mechanical Engineering 150B, 154. In order to satisfy design requirements, two courses must be

**Quarter Offered:** I=Fall, II=Winter, III=Spring, IV=Summer; 2009-2010 offering in parentheses

**General Education (GE) credit:** ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Writ=Writing Experience

chosen from Aeronautical Science and Engineering 129, 130B, 137, 138, 139, 189A, 189B; Materials Science and Engineering 147, 180, 181, 182; Mechanical Engineering 134, 151, 152, 154, 161, 162, 163. You may also choose from Mechanical Engineering 150B, 184A with 184B (these courses must be taken in consecutive quarters). 185A with 185B (these courses must be taken in consecutive quarters), if these courses are not used for a core design requirement above. A maximum of 4 units of courses numbered 184A, 184B, 185A, 185B may be applied to the technical elective degree requirement.

General Education electives ..... 8  
**Minimum Upper Division Units ..... 97**

**Minimum Units Required for Major ..... 194**

## Environmental and Resource Sciences

This major will be discontinued as of Fall 2008; see [Environmental Science and Management](#), on page 280 of the 2008-2010 General Catalog.

## Evolution and Ecology

### Changes to Evolution and Ecology major requirements

#### B.S. Major Requirements:

UNITS

#### Preparatory Subject Matter..... 56-65

Biological Sciences 2A-2B-2C ..... 14  
 Chemistry 2A-2B-2C ..... 15  
 Chemistry 8A-8B or 118A-118B-118C ..... 6-12  
 Mathematics 16A-16B-16C or 21A-21B-21C ..... 9-12  
 Physics 7A-7B-7C ..... 12

#### Depth Subject Matter ..... 49

Biological Sciences 101, 105 (or 102 + 103), 104 ..... 10-13  
 Evolution and Ecology 100, 101 ..... 8  
 Statistics 100, 102 or 130A-130B ..... 4-8  
 Additional upper division course work in biological science to achieve a total of 49 or more units including at least 2 units (6 hours per week) of laboratory ..... 20-27

Include at least one course from the Biodiversity and two courses from the Advanced Evolution and Ecology areas of study below.

#### Areas of Study:

(1) *Biodiversity*: Entomology 103; Evolution and Ecology 105, 108, 112 and 112L, 134, 134L and 134F, 140; Microbiology 105; Nematology 110; Plant Biology 116, 118, 147, 148; Wildlife, Fish, and Conservation Biology 110, 111, 120 and 120L.

(2) *Advanced Evolution and Ecology*: Evolution and Ecology 102, 103, 104, 107, 115, 117, 119, 138, 141, 147, 149, 180A and 180B.

Note: A maximum of 4 units of variable-unit courses (numbered 192, 198, 199) may be applied to upper division elective requirements. Evolution, Ecology and Biodiversity majors may not substitute course 192 for the upper division laboratory requirement. Courses numbered 197T are not applicable to the upper division elective unit requirement.

**Total Units for the Major ..... 105-114**

## Food Science

### Changes to Food Science major requirements

#### B.S. Major Requirements:

UNITS

#### English Composition Requirement ..... 0-8

See College requirement.

#### Preparatory Subject Matter..... 52-70

University Writing Program 102F, 104A, or 104E (if not already taken to satisfy college English requirement) ..... 4  
 Communication 1 (if not already taken to satisfy college English Requirement) ..... 4  
 Mathematics 16A-16B-16C ..... 9  
 Biological Sciences 1A, 1C or 2A, 2B, 2C ..... 10-14  
 Chemistry 2A-2B-2C ..... 15  
 Organic chemistry (see option for requirement) ..... 12  
 Physics 7A-7B-7C ..... 12  
 Food Science and Technology 1 and/or 10; both recommended, but not required ..... 3-6  
 Food Science and Technology 50 ..... 3  
 Nutrition 10 (or approved substitute) ..... 3  
 Statistics 13 ..... 4

#### Breadth/General Education..... 24

Satisfaction of General Education requirement plus social science and humanities electives to total 24 units

#### Depth Subject Matter ..... 50

Biological Sciences 102, 103 ..... 6  
 Food Science and Technology 100A, 100B, 101A, 101B, 103, 104, 104L, 160, 190 ..... 28  
 Food Science and Technology 110A-110B, Applied Biological Systems Technology 110L ..... 8  
 Food Science and Technology 117 ..... 3  
 Food Science and Technology 127 or 107 ..... 4

## History

### Changes to History major requirements

#### A.B. Major Requirements:

UNITS

#### Preparatory Subject Matter (Plan I or II) ..... 20

Five lower division courses chosen from the following six fields, including at least two from one field, one from a second field, and one from a third field. The fifth course can be taken from any field ..... 20

- (a) *African and Middle East History*: History 6, 15
- (b) *Asian History*: History 6, 8, 9A, 9B
- (c) *European History*: History 3, 4A, 4B, 4C
- (d) *Latin American History*: History 7A, 7B, 7C
- (e) *U.S. History*: History 17A, 17B, 72A, 72B
- (f) *World History*: History 10A, 10B, 10C

#### Depth Subject Matter—Plan I..... 40-41

Four upper division courses from one of the fields of concentration listed below ..... 16  
 Two upper division courses from one of the other fields of concentration listed below ..... 8  
 Two upper division courses from a field or fields other than those chosen to satisfy the two preceding requirements ..... 8  
 One additional upper division course chosen from any of the fields ..... 4

One course from the following: History 101 or 102 or 103 (in field of concentration) ..... 4-5  
 One of the courses taken to fulfill the above requirements must deal with premodern history.

#### Total Units for the Major, Plan I..... 60-61

#### Depth Subject Matter—Plan II ..... 42

Four upper division courses from one of the fields of concentration listed below. Include a two-quarter sequence of courses ..... 16  
 Three upper division courses from one of the other fields listed ..... 12  
 History 101 ..... 5  
 History 102 in field of concentration (in exceptional circumstances, a student may, with the permission of an adviser, take the seminar in another field) ..... 5  
 History 103 in field of concentration ..... 4  
 One of the courses taken to fulfill the above requirements must deal with premodern history.

#### Total Units for the Major, Plan II ..... 62

#### Fields of Concentration

(a) *Pre-Industrial Europe*: History 102A, 102B, 102C, 102D, 102E, 102F, 102I, 102P, 102X, 111B, 111C, 112A, 112B, 121A, 121B, 121C, 122, 125, 130A, 130B, 130C, 131A, 131B, 131C, 132, 133, 134A, 135A, 135B, 136, 138A, 138B, 138C, 139A, 139B, 140, 141, 142A, 142B, 143, 144A, 144B, 145, 146A, 146B, 147A, 147B, 147C, 148A, 148B, 148C, 149, 151A, 151B, 151C, 151D, 160.

(b) *United States History*: History 102K, 102L, 102M, 102X, 169A, 169B, 170A, 170B, 170C, 171A, 171B, 171D, 172, 173, 174A, 174B, 174C, 174D, 175, 176A, 176B, 177A, 177B, 178A, 178B, 180A, 180B, 180C, 181, 183A, 183B, 184, 185A, 185B, 188A, 188B, 189.

(c) *Asian History*: History 102G, 102H, 102N, 102Q, 102R, 102X, 110, 111A, 113, 190A, 190B, 190C, 191A, 191B, 191C, 191D, 191E, 191F, 193A, 193B, 194A, 194B, 194C, 194D, 194E, 195B, 196A, 196B.

(d) *African History*: History 102O, 102X, 110, 115A, 115B, 115C, 115D, 115E, 115F, 116.

(e) *Latin American History*: History 102J, 102X, 110, 160, 161A, 161B, 162, 163A, 163B, 164, 165, 166A, 166B, 167, 168, 169A, 169B.

(f) Within broad fields, a student may wish to concentrate some of the courses on a particular area or period, such as China or Great Britain or Medieval Europe. Special approval is not required.

## Human Development

### Changes to Human Development major requirements

#### B.S. Major Requirements:

UNITS

#### English Composition Requirement ..... 12

See College requirement ..... 0-8  
 Choose from University Writing Program 101, 102A, 102B, 102C, 102D, 102E, 102F, 102G, 102H, 104A, 104B, 104C, 104D, 104E, 104F ..... 4

#### Preparatory Subject Matter ..... 39-47

Two courses from: Anthropology 1, 2, or 15 ..... 8-9  
 One course from: Biological Sciences 2A, 10, Microbiology 10, or Neurobiology, Physiology, and Behavior 12 ..... 3-5

One course from: Molecular and Cellular Biology 10 or Biological Sciences 101† ... 4  
 One course from: History 17A, 17B, 72A, 72B, or Political Science 1 ..... 4  
 Two courses from Philosophy 5, 30, 31, 32, or 38 ..... 8  
 One course from: Neurobiology, Physiology, and Behavior 10, 101, or Psychology 101 ..... 4-5  
 Psychology 1 ..... 4  
 One course from: Psychology 41 or Sociology 46A and 46B, or Statistics 10 or 13 ..... 4-8

#### Breadth/General Education ..... 16-24

Satisfaction of General Education requirement ..... 12

#### Depth Subject Matter ..... 50-55

Human Development 100A, 100B, 100C ..... 12  
 Human Development 120 ..... 4  
 One course from: Biological Sciences 101†, Human Development 117, Nutrition 111AV, or Psychology 121 ..... 3-5  
 One course from: Human Development 102, 110, 130, 160, or 162\* ..... 4  
 One course from: Human Development 101, 103, 132, or 163\* ..... 4  
 One course from: Human Development 140-140L, or 141 or 142 or 143\* ..... 4-6  
 Restricted Electives ..... 19-20  
 Five additional upper division courses chosen from among Human Development courses or from a list of restricted electives in consultation with faculty adviser. May include only one practicum course.

#### Unrestricted Electives ..... 54-67

#### Total Units for the Degree ..... 180

† Biological Sciences 101 cannot be used to satisfy both the Preparatory Subject Matter and the Depth Subject Matter Requirements.

\* At least one course from among these groupings must focus on childhood/adolescence (101, 102, 103, 110, 130, 132) and one must focus on adulthood/aging (117, 143, 160, 162, 163).

Major Adviser. L. Harper

## International Agricultural Development

### Changes to International Agricultural Development major requirements

#### B.S. Major Requirements:

UNITS

#### English Composition Requirement ..... 0-8

See College requirement.

#### International Agricultural Development Abroad ..... 0-20

A maximum of five courses abroad, selected with approval of an adviser, may be applied toward the 12 upper division courses in the major.

#### Preparatory Subject Matter ..... 47

Choose 47 units from either the Social Science or Natural Science core in consultation with adviser.

Social Sciences core:

Agricultural and Resource Economics 15; Plant Sciences 1; Animal Science 41 and 41L or Plant Sciences 2; Chemistry 10; Community and Regional Development 1 or 17; Economics 1A and 1B; International Agricultural Development 10; Mathematics 16A and 16B; Nutrition 10 or 20;

Sociology 1 or Anthropology 2; Soil Science 10; Statistics 13 or Sociology 46B

Natural Science core:

Animal Science 41 and 41L or Plant Sciences 2; Biological Sciences 2A and 2B or 2A and 2C; Chemistry 2A and 2B; Chemistry 8A and 8B or Physics 1A and 1B; Economics 1A or Agricultural and Resource Economics 15; International Agricultural Development 10; Mathematics 16A and 16B; Nutrition 10 or 20; Soil Science 10 or 100; Statistics 13

#### Breadth/General Education ..... 6-24

Satisfaction of General Education requirement

#### Depth Subject Matter ..... 36-37

Agricultural and Resource Economics 147 or Plant Sciences 101 or Geography 161 ..... 4  
 Economics 115A ..... 4  
 International Agricultural Development 142 or 160 ..... 2-3  
 International Agricultural Development 103 and International Agricultural Development 170 ..... 8  
 Sociology 170 ..... 4  
 Plant Sciences 110A, 110C, or 135; Plant Sciences 142 ..... 3-4  
 Community and Regional Development 142 or 152 ..... 4  
 Political Science 123 or 124 or Sociology 145A ..... 4  
 Textiles and Clothing 174 ..... 3

#### Foreign Language Requirement ..... 0-15

Students must complete 15-unit level in one language or pass the foreign language proficiency examination. A score of 5, 4, or 3 on a foreign language College Board Advanced Placement Examination (except Latin) or a score of 550 on the College Board SAT II: Subject Test will also satisfy this requirement.

#### Internship Requirement ..... 4-8

Students must complete at least 4 units of internship and may use up to 8 units toward major requirements. Internships can be chosen in consultation with an adviser. Internship requirement waived for students enrolled in the UC Education Abroad Program.

#### Areas of Specialization ..... 30-35

##### Agricultural Production Option:

Agricultural and Resource Economics 140, Plant Sciences 101 and 105 or Animal Genetics 107  
 Additional 14-15 units of restricted electives in consultation with an adviser.

##### Economic Development Option:

Agricultural and Resource Economics 100A and 100B, Economics 115B  
 Agricultural and Resource Economics 120, 130, 140, 175 and International Agricultural Development 195A or 195B

##### Environmental Issues Option:

Students must consult with a faculty adviser to identify an emphasis within the option and to select suitable courses.  
 Environmental Science and Policy 100 or 110, 160, 171 and Plant Biology 151  
 Agricultural and Resource Economics 147, Plant Sciences 101, Environmental Horticulture 150, Environmental Science and Policy 126, 161, 175 and International Agricultural Development 195A

##### Rural Communities Option:

Community and Regional Development 140, 151, 151L, 152, 154  
 Community and Regional Development 164 or 172, International Agricultural Development 195A, additional restricted electives chosen in consultation with an adviser

### Trade and Development in Agricultural Commodities Option:

Agricultural and Resource Economics 100A, 113, 130, Plant Biology 172  
 Agricultural and Resource Economics 138, Economics 160A, 160B, Food Science and Technology 100A, 109, 160, International Agricultural Development 195A, Textiles and Clothing 162, 163

#### Total Units for Major ..... 128-174

#### Total Units for the Degree ..... 180

#### Specialization Advisers

A listing of faculty in the various areas of specialization and with interests in International Agricultural Development is available from the Major Adviser.

Major Adviser. S.B. Brush (*Human and Community Development*)

## International Relations

### Changes to International Relations major requirements

#### A.B. Major Requirements:

UNITS

#### Preparatory Subject Matter ..... 24-54

Economics 1A or Anthropology 2 ..... 4  
 Economics 1B ..... 4  
 History 4C or 10C ..... 4  
 International Relations 1 or Political Science 3 ..... 4  
 Statistics 13 or Sociology 46B ..... 4  
 Political Science 51 ..... 4

Note: Preparatory Subject Matter does not cover all potential prerequisite courses for upper division curriculum.

#### Foreign language ..... 0-30

One of the following series in a single language, or certified fluency at the highest level required below:

Arabic ..... 30  
 Chinese 1, 2, 3, 4, 5, 6 ..... 30  
 or Chinese 1A, 4, 5, 6 ..... 30  
 or Chinese 1CN, 2CN, 3CN ..... 15  
 or Chinese 1BL, 2BL, 3BL ..... 15  
 French 1, 2, 3, 21, 22 ..... 25  
 German 1, 2, 3, 20, 21 ..... 23  
 Hebrew 1, 2, 3, 21, 22, 23 ..... 30  
 Hindi/Urdu ..... 30  
 Italian 1, 2, 3, 4, 5 ..... 21  
 or Italian 1, 2, 3, 8A, 8B ..... 21  
 Japanese 1, 2, 3, 4, 5, 6 ..... 30  
 or Japanese 1A, 4, 5, 6 ..... 30  
 Portuguese 1, 2, 3, 21, 22 ..... 25  
 Russian 1, 2, 3, 4, 5 ..... 23  
 Spanish 1, 2, 3, 21, 22 ..... 25  
 or Spanish 31, 32, 33 ..... 15

Note: The language curricula are subject to change; please check with an adviser for the major. A language not listed above may be substituted only with prior written approval of the International Relations Program Committee.

#### Depth Subject Matter ..... 36-48

Tracks I, II and III: Twelve upper division courses

Track IV: Nine upper division courses

Choose one track below:

#### Track I: World Trade and Development

Emphasizes contemporary economic relations of industrialized and developing countries.

For Advanced Industrialized Focus:

Economics 100; 101; 160A-160B, Political Science 123 ..... 20  
 Two courses selected from Group A ..... 8  
 One course selected from Group B ..... 4

Quarter Offered: I=Fall, II=Winter, III=Spring, IV=Summer; 2009-2010 offering in parentheses

General Education (GE) credit: ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Wrt=Writing Experience



Four courses to fulfill Area Studies Requirement ..... 16  
**For Developing Countries Focus:**  
 Economics 115A-115B, 162 ..... 12  
 Political Science 123, 124 ..... 8  
 One course selected from Group A ..... 4  
 Two courses selected from Group B ..... 8  
 Four courses to fulfill Area Studies Requirement ..... 16  
**Group A courses (Advanced Industrialized Countries):**  
 Agricultural and Resource Economics 138, Anthropology 127, Community and Regional Development 118, 141, Economics 102, 110B, International Relations 104, Political Science 130, 140A, 140B, Sociology 138, 139, 141, 183  
**Group B courses (Developing Countries):**  
 Anthropology 122A, 122B, 123BN, 126A, 126B, 127, 135, Community and Regional Development 153A, 153B, Economics 110B, International Agricultural Development 103, International Relations 104, Political Science 124, 126, 142A, Sociology 138, 141, 145A, 145B

### Track II: Peace and Security

Focuses on political and security relationships among states and non-state actors, examining questions of war, peace, alliances, and diplomacy.

Economics 162 ..... 4  
 Political Science 123, 130, 132 ..... 12  
 Political Science 120 or 121 ..... 4  
 Three additional courses from at least two departments selected from Anthropology 123BN, Comparative Literature 157, Economics 122, History 145, 146A, 146B, Philosophy 118, Political Science 112, 122, 124, 126, 131, 140A, 140B, Sociology 100, 118, 157, Women's Studies 102 ..... 12  
 Four courses to fulfill Area Studies Requirement ..... 16

### Track III: Global Environment, Health, and Natural Resources

Familiarizes students with new sources of global interdependence such as biodiversity, natural resource conflicts, population growth, and world health.

Note: Some courses shown below have additional prerequisites.  
 Economics 162 ..... 4  
 Anthropology 101 ..... 4  
 Political Science 123 ..... 4  
 Environmental Science and Policy 161 or 162 ..... 4  
 Select two from Agricultural and Resource Economics 147, 175, 176, Anthropology 103, Applied Biological Systems Technology 182, Economics 115A, Environmental Science and Policy 164, International Agricultural Development 170, Nature and Culture 120, Physics 160, Political Science 107, 175, Sociology 160 ..... 7-8  
 Select two from one of the following groups ..... 9-12  
**Atmospheric and marine environments:**  
 Atmospheric Science 116, 149, Environmental and Resource Sciences 121, 131, Geology 116N  
**Land use and energy supply:** Anthropology 104N, Community and Regional Development 142, Environmental and Resource Sciences 144, Environmental Science and Policy 167, Geology 130, International Agricultural Development 104, Plant Sciences 101, 144, 150, 160, Political Science 171  
**Health and human populations:**  
 Anthropology 102, 131, Environmental Science and Policy 121, Environmental Toxicology 101, Internal Medicine-Infectious Diseases 141, Nutrition 111AV, 111B, 118, Sociology 170; Epidemiology and Preventive Medicine 198 and 199

may be taken with the director's prior approval  
 Four courses to fulfill Area Studies Requirement ..... 16

### Track IV: Peoples and Nationalities

Examines social and cultural foundations of national development and international relations.

Select one course from Anthropology 123AN, Sociology 118, 156, 181 ..... 4  
 Select one course from Anthropology 130A, 102 ..... 4  
 Select one course each from three of the following four groups ..... 12  
**The Mixing of Peoples:** Anthropology 123BN, 130BN; Community and Regional Development 176; International Relations 104; Political Science 126  
**Women:** Anthropology 126B; Human Development 103; Sociology 145B; Women's Studies 102, 182  
**Religion:** Anthropology 124; Philosophy 105; Religious Studies 170; Sociology 146  
**Development and its Impact on Social Cleavages:** Anthropology 122B, 126A, 126B; Political Science 124, 142A; Sociology 145A, 145B  
 Four courses to fulfill Area Studies Requirement ..... 16  
 Education/Internship Abroad for a minimum of one quarter

### Area Studies Requirement

Four courses: Courses must incorporate at least two of three groups (History, Social Analysis, Culture and Literature); we encourage students to take all four courses from one region, but will accept a minimum of three from one region and one from a different region if course offerings within the region of choice are insufficient. Tracks I, II and III students who choose to take advantage of an Education Abroad experience may fulfill the Area Studies requirement by completing three courses instead of four; all three courses must be from one region.

#### Africa and the Middle East

**History:** History 113, 115A, 115B, 115C, 115D, 115F, 193B  
**Social Analysis:** African American and African Studies 107C, 110, 111, 156, Anthropology 140A, 140B, 142, Political Science 135, 136, 146A, 146B, Religious Studies 167, Women's Studies 184  
**Culture and Literature:** African American and African Studies 157, 162, Art History 150, Comparative Literature 147, 166, Dramatic Art 155A, French 124  
**Culture and Literature:** African American and African Studies 157, 162, Art History 150, Comparative Literature 147, 166, Dramatic Art 155A, French 124

#### East and South Asia

**History:** History 191E, 191F, 194C, 194D, 194E, 195B, 196B  
**Social Analysis:** African American and African Studies 107C, Anthropology 143A, 143B, 147, 148A, 148B, 148C, 149B, Economics 171, Political Science 148A, 148B, 148C, Sociology 147, 188  
**Culture and Literature:** Anthropology 145, Art History 153, 163C, Chinese 101, 104, 105, 110, Dramatic Art 154, East Asian Studies 113, Japanese 103, 104, 106, 131, 132, 133, 135, 136

#### Latin America

**History:** History 159, 162, 163B, 164, 165, 166B, 167, 168  
**Social Analysis:** African American and African Studies 107A, 180, Anthropology 144, 146, Chicana/o Studies 130, Native American Studies 120, 133, Political Science 143A, 143B, Sociology 158  
**Culture and Literature:** African American and African Studies 163, Art History 151, Chicana/o Studies 160, Comparative

Literature 152, 165, Dramatic Art 155A, Spanish 149, 151N, 153, 154, 155, 156, 157, 158, 170, 172

#### Russian and East/Central Europe

**History:** History 138B, 138C, 143  
**Social Analysis:** Political Science 144A, 144B  
**Culture and Literature:** Russian 123, 129, 130

#### Western Europe

**History:** History 140, 141, 142A, 144B, 145, 146A, 146B, 147B, 147C, 151D  
**Social Analysis:** African American and African Studies 107C, Political Science 137, 147A, 147B, 147C, 147D, 161  
**Culture and Literature:** Film Studies 121, 176A, 176B, French 107, 108, 120, 121, 133, German 114, 115, 118B, 118C, 118E, 120, 126, 141, 142, 143, 168, 185, Italian 108, 120A, 120B, Spanish 137N, 138N, 139, 140N, 141, 142, 148, 157, 170

**Total units for the major.....60-102**

**Major Adviser.** Zeev Maoz (Political Science)

## International Science Studies

### New Minor in International Science Studies

This interdisciplinary minor in International Science Studies will introduce College of Agricultural and Environmental Sciences students to global issues, which affect their major disciplines in the current world, and also provide an opportunity to gain first hand experience abroad when appropriate. The goal of this minor is to enable our college students to develop greater international competence and to enhance their employability.

The minor assumes that the student will have a major in the sciences, and that classes taken under one of the three tracks in the minor will contribute depth to the existing major or establish depth in a selected additional field of study. Students will be expected to work closely with an academic advisor in developing an intellectually coherent program of the study. A minimum of 18 units of upper division work is required. Only a single course can be counted toward both major and minor and no course can be used to satisfy the requirements of more than one minor.

### Minor Program Requirements:

UNITS

#### International Science Studies.....24

Global issue course requirement .....7-8  
 Focusing on broad range of global issues and their impacts on ecological and environmental resources and biodiversity, in addition to international policy and economics. Beyond the courses taken under each track, choose two out of the three courses listed below:  
 (1) Atmospheric Science 116  
 (2) Plant Sciences 150  
 (3) Agricultural and Resource Economics 115B  
 Select one of the following tracks..... 16-17

Education Abroad Program courses taught overseas and relevant international internship activities will count towards the minor requirement with advisor's approval. For each track, students can take a maximum of three units from EAP courses, with a valid transcript, and three units from relevant international internship activities. The international internship activities would require a pre-approved study plan with the academic advisor before the maximum of three units can be awarded. Language and culture related courses are encouraged, but not required for the minor.

**Quarter Offered:** I=Fall, II=Winter, III=Spring, IV=Summer; 2009-2010 offering in parentheses

**General Education (GE) credit:** ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Wrt=Writing Experience

(1) Ecological, environmental, and energy studies track: Select 16-17 units from Anthropology 103, Agricultural and Resource Economics 147, Atmospheric Science 116, 133, Environmental and Resource Science 100, 121, 131, 144, 120, 30, Environmental Science and Policy 100, 116, 151, Evolution and Ecology 147, Soil Science 109, Hydrology 143

(2) Policy and management focus track: Select 16-17 units from Agricultural and Resource Economics 115A/B, Agricultural and Resource Economics 138, International Relations 190, Community and Regional Development 156, 180, International Agricultural Development 160, 162, 170, Environmental Science and Policy 102, 175

(3) Agriculture, food, and fiber systems track: Select 16-17 units from Anthropology 103, 130, Atmospheric Science 133, Community and Regional Development 153A/B, Environmental and Resource Science 121, 131, Evolution and Ecology 138, Hydrology 124, Plant Sciences 150, 160, Food Science and Technology 108, 109, Nutrition 119A/B, Textiles and Clothing 174

**Minor Advisor.** Shu-Hua Chen, (*Land, Air and Water Resources*), (530) 752-1822, [shachen@ucdavis.edu](mailto:shachen@ucdavis.edu)

## Latin American and Hemispheric Studies

### Changes to Latin American and Hemispheric Studies minor requirements

#### Minor Program Requirements:

UNITS

#### Latin American and Hemispheric Studies..... 24

Basic Courses ..... 4  
One course from History 7A, 7B, 7C  
Core Courses..... 8  
One course each from two of the following categories:

- (a) Anthropology 144;  
(b) Native American Studies 115;  
(c) Spanish 150 or 151;  
(d) Political Science 143

Elective Courses ..... 12  
Three courses selected from the following list to achieve a total of 24 units: African and African American Studies 107A, 155, 163, 172, 180; Anthropology 130C, 146; Art History 151; Chicana/o Studies 130, 160; Comparative Literature 151, 152, 165; Film Studies 189; Music 127; Native American Studies 110A, 110B, 110C, 110D, 120, 125, 133, 181A, 181B, 181C, 184; History 160, 162, 163A, 163B, 164, 165, 166A, 166B, 167, 168, 169A, 169B; Spanish 117, 149, 151, 153, 154, 155, 156, 157, 158, 159, 170, 171, 172, 174, 175, 176, 177; Women's Studies 80, 102

**Minor Advisor.** C.F. Walker in 5211 Social Sciences and Humanities Building (530) 752-3046

## Luso-Brazilian Studies

### New Minor in Luso-Brazilian Studies

The Department of Spanish sponsors the minor in Luso-Brazilian Studies, which offers students the

opportunity to engage with the Portuguese-speaking world as a global space, as well as gain in-depth knowledge of Brazilian literature, culture and society. The minor is structured to facilitate engagement with Latin American, peninsular, and transatlantic topics, while ensuring that students master the essential skills of linguistic competence, and literary and cultural knowledge.

#### Minor Program Requirements:

UNITS

#### Luso-Brazilian Studies..... 23-24

Portuguese 100, 161 ..... 8  
Select one course in each of the following categories:

Spanish 111N, 115N, or 116 ..... 3-4  
Portuguese 162 or 163 ..... 4

Select one elective course in each of the following categories:

Portuguese 159, 162, or 163 ..... 4  
History 159, 163A, or 163B ..... 4

Note: Consult a departmental adviser if any of these courses are to be taken abroad.  
Note: Additional courses may count toward the minor with prior approval by a departmental adviser.

#### Education Abroad Program Options.

We highly recommend that students participate in study abroad in Salvador, Brazil; see <http://eac.ucdavis.edu>. Courses taken abroad may count toward the Luso-Brazilian Studies minor.

## Music

### Changes to Music major requirements

#### The Major Program

The Bachelor of Arts degree in music provides both a broad liberal arts education and the skills necessary to explore music through its history, composition, theory, and performance. Students majoring in music may choose from three tracks in the major: composition, music history, theory and ethnomusicology, or performance. After a common core of courses in the lower division, students pursue their chosen track with specialized courses leading to an appropriate senior project.

All majors are expected to complete a substantial project (composition, research presentation, recital) in the senior year (Music 195). Music majors who intend to pursue graduate studies in music are encouraged to satisfy the requirements of one of the honors programs in music.

**Study Abroad and the Music major.** The department encourages students to pursue a portion of their studies abroad. In close collaboration with their undergraduate advisers, students plan a course of study abroad that complements their coursework at Davis. UC Davis Music majors have completed upper division coursework at EAP partner institutions in Australia, England, France, Germany, and Italy; Music faculty members lead summer programs in Argentina and Slovenia.

**The Program.** A fundamental grounding in music theory, music history, and performance during the first two years of study leads to more specialized study of composition, history, or performance during the last two years of undergraduate work.

**Career Alternatives.** Students who graduate with a B.A. in music from UC Davis have gone on to careers as composers and performers, in academia, and in the concert, media, and computing industries. Others have continued in medicine, law and business.

#### A.B. Major Requirements:

UNITS

#### Preparatory Subject Matter ..... 27-45

Music 6A, 6B, 6C ..... 9

plus Music 2A, 2B, 2C ..... (0-6)\*  
and Music 16A, 16B, 16C ..... (0-6)\*  
Music 7A, 7B, 7C ..... 9  
plus Music 17A, 17B, 17C ..... (0-6)\*  
Music 24A, 24B, 24C ..... 9

\* May be excused by diagnostic examination at the beginning of each quarter.

#### Depth Subject Matter ..... 36-37

Choose upper division courses from one of the following tracks:

*Track 1: Music Composition* ..... 36  
Music 124A, 124B ..... 6  
Music 121 or 122 ..... 4  
Music 130 (one year) ..... 3  
Music 195 ..... 2

At least 6 units selected from Music 131, 140-148 ..... 6  
Music 101A, 101B ..... 8  
Music 103 ..... 3

At least 4 units selected from Music 102, 107A, 107B, 108A, 108B, 113, 114, 121, 122, 198, 199 ..... 4

*Track 2: Music History, Theory, and Ethnomusicology* ..... 37

Music 124A, 124B ..... 6  
Music 121 and/or 122 ..... 8  
(Need 8 units of seminar courses chosen from above in any combination. Note: Music 121 and 122 may be repeated for credit.)

Music 130 (one year) ..... 3  
Music 195 ..... 2

At least 6 units selected from Music 131, 140-148 ..... 6  
At least 12 further units selected from Music 101A, 101B, 102, 108A, 108B, 113, 114, 121, 122, 198, 199 ..... 12

*Track 3: Music Performance* ..... 37

Music 124A, 124B ..... 6  
Music 121 or 122 ..... 4  
Music 130 (one year) ..... 3  
Music 195 ..... 2

At least 16 units selected from Music 131, 140-148 ..... 16  
At least 6 further units selected from Music 101A, 101B, 102, 108A, 108B, 113, 114, 121, 122, 198, 199 ..... 6

#### Total Units for the Major ..... 63-82

**Note:** A maximum of 19 units in performance courses (Music 130-131, 140-148) apply toward the degree; see Unit Credit Guidelines, College of Letters and Science degree requirements section.

**Honors Programs.** Students who wish to pursue particularly intensive studies in music should elect one of the following honors programs in place of one of the tracks above:  
*Theory/Composition Honors* ..... 45-49

Music 124A, 124B ..... 6  
At least 11 units selected from Music 130, 131, 140, 141, 142, 143, 144, 145, 146, 147 ..... 11  
Music 101A, 101B ..... 8

Two quarters of Music 194H for a total of at least 6 units resulting in a Senior composition or theory thesis ..... 6  
Select 14-18 units from Music 102, 107A, 107B, 107C, 108A, 108B, 113, 114, 122 ..... 14-18

*Music History Honors* ..... 33-37  
Music 124A, 124B ..... 6  
At least 11 units selected from Music 130, 131, 140, 141, 142, 143, 144, 145, 146, 147 ..... 11

Two quarters of Music 194H for a total of at least 6 units resulting in a Senior thesis ..... 6  
Select 10-14 units from Music 108A, 121, 122 ..... 10-14

**Major Advisers.** H.J. Spiller (A-F), D.A. Nutter (G-M), D.K. Holoman (N-Z)

Quarter Offered: I=Fall, II=Winter, III=Spring, IV=Summer; 2009-2010 offering in parentheses

General Education (GE) credit: ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Writ=Writing Experience

**Minor Program Requirements:**

	UNITS
<b>Music</b> .....	<b>22</b>
A minimum of 16 units of upper division music courses .....	
Courses chosen from: Music 105, 106, 110A-G, 115, 122, 126, 129A-D	
A minimum of 6 units in upper division music performance courses .....	
Courses chosen from: Music 140, 141, 142, 143, 144, 145, 146, 147, 148, 154, 198	

**Foreign Language.** Students contemplating graduate study in music are advised to consider pursuing foreign language study beyond the elementary level.

**Nature and Culture**

Admission to the undergraduate major in Nature and Culture has been suspended. Courses in Nature and Culture will continue to be offered for a limited period.

**Nutrition Science**

**Changes to Nutrition Science major requirements**

**B.S. Major Requirements:**

	UNITS
<b>English Composition Requirement</b> .....	<b>0-8</b>
See College requirement.	

**Preparatory Subject Matter..... 60-66**

Anthropology 2 or Geography 2 or Sociology 3 .....	4
Biological Sciences [1A, 1B & 1C] or [2A, 2B & 2C] .....	14-15
Chemistry 2A-2B-2C and 8A-8B, or 118A-118B, or 128A-128B and 129A .....	21-23
Mathematics 16A-16B .....	6
Physics 1A-1B (Nutritional Biochemistry option) or Economics 1A-1B (Community Nutrition option) .....	6-10
Sociology 46A or Psychology 41 .....	4
Statistics 13 or Agricultural Management and Rangeland Resources 120 .....	4

**Breadth/General Education ..... 6-24**

Satisfaction of General Education requirement

**Depth Subject Matter ..... 57-58**

Animal Biology 102, 103 .....	10
Biological Sciences 101 .....	4
Food Science and Technology 100A and 100B .....	8
Neurobiology, Physiology, and Behavior 101, 101L .....	8
Nutrition 111AV, 111B, 112, 116A, 116B, 190 .....	15
Additional Upper Division Nutrition .....	5

**Nutritional Biochemistry option:**

Nutrition 117 .....	6
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**Community Nutrition option:**

Nutrition 118, 130/192 (2 units) .....	6
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**Restricted Electives..... 20**

Select one of the two options.

**Nutritional Biochemistry option:**

Molecular and Cellular Biology 120L ..... 6  
Additional courses in genetics, biochemistry, microbial biology, physiology, immunology, or toxicology, chosen from the following list in consultation with the faculty adviser ..... 14  
Animal Genetics 111, Animal Science 123, 124, Anthropology 153, Biological Sciences 104, Cell Biology and Human Anatomy 101, 101L, Environmental

Toxicology 101, 128, Exercise Biology 101, 102, 110, Food Science and Technology 104, 123-123L, 128, Molecular and Cellular Biology 121, 122, 123, 150-150L, 161, 162, 163, Microbiology 101, 102, 102L, 160, Medical Microbiology 130, Neurobiology, Physiology, and Behavior 112, 113, 114, 121, 130, 161, Nutrition 104, 105, 114, 127, Plant Science 121, Psychology 121, Population, Health, and Reproduction 150, Pathology, Microbiology, and Immunology 126, 127, 128.

**Community Nutrition option:**

Economics 100-101 or Agricultural and Resource Economics 100A-100B ..... 8  
Additional courses chosen from the following list in consultation with the faculty adviser ..... 12  
African American and African Studies 100, Agricultural and Resource Economics 15, 120, 130, Anthropology 101, 122A, 126A, 126B, Asian American Studies 100, Chicana/o Studies 110, Community and Regional Development 2, 151, 152, 153A, 153B, 172, 174, 176, Consumer Science 100, Economics 115A, 115B, 130, 151A, 151B, 162, Education 110, 153, Environmental Science and Policy 126, 165, Environmental Toxicology 101, 128, Epidemiology and Preventive Medicine 101, 160, Exercise Biology 101, 102, 110, 113, 117, Food Science and Technology 104, Geography 170, Human Development 100A, 100B, 100C, International Agricultural Development 10, 103, 110, 111, 195A, 195B, Microbiology 101, Native American Studies 115, Nutrition 104, 105, 114, 127, Plant Science 150, 151, Political Science 105, Psychology 1, 121, 126, 130, 140, 151, 168, Sociology 145A, 145B, 154, 170.

**Unrestricted Electives ..... 8-38**

**Total Units for the Degree ..... 180**

**Physics**

**Changes to Physics major requirements**

**B.S. Major Requirements:**

	UNITS
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**Preparatory Subject Matter..... 50-56**

Physics 9A, 9B, 9C, 9D or 9HA, 9HB, 9HC, 9HD, 9HE .....	19-25
Mathematics 21A, 21B, 21C, 21D, 22A, 22B .....	22
Computer Science Engineering 30 (or equivalent programming course) .....	4
Chemistry 2A or 2HA (2B-2C or 2HB-2HC highly recommended) .....	5

**Depth Subject Matter ..... 59-62**

Physics 104A, 105A, 105B, 110A, 110B, 110C, 112, 115A, 115B ..... 36  
Physics 102 (1 unit) or 104B ..... 1-4  
Physics 122 or 116A, B and C ..... 4-12  
Two courses from one specialty (Astrophysics/Cosmology, Condensed Matter, or Nuclear/Particle Physics) and one course from a different specialty. Lists of courses in each specialty are available from the department ..... 12  
Additional upper division Physics courses excluding 160, for a total of 15 upper division Physics courses of 3 or more units each. With prior departmental approval, one course from mathematics, engineering, or natural science may be used to meet this requirement. May include only one course from 194H, 195, 198, 199 ..... 0-9

**Total Units for the Major ..... 109-118**

**Astrophysics Emphasis**

	UNITS
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**Preparatory Subject Matter..... 50-56**

Physics 9A, 9B, 9C, 9D or 9HA, 9HB, 9HC, 9HD, 9HE .....	19-25
Mathematics 21A, 21B, 21C, 21D, 22A, 22B .....	22
Computer Science Engineering 30 (or equivalent programming course) .....	4
Chemistry 2A or 2HA (2B-2C or 2HB-2HC highly recommended) .....	5

**Depth Subject Matter ..... 59-65**

Physics 104A, 105A, 108L, 110A, 110B, 112, 115A, 115B, .....	32
Physics 102 or 104B .....	1-4
Physics 122 or 157 .....	4
Physics 151, 152, 153, 156 .....	16
Two elective courses from: Physics 105B, 110C, 116A, 129A, 130A, 130B, 150 (only with an astrophysics topic and prior departmental approval), 154, 155, Geology 163; may include only one course from Physics 194H, 195, or 199 .....	6-9

**Total Units for the Major ..... 109-121**

**Recommended**

Computer Science Engineering 40;	
Astronomy 25	

**Plant Biology**

**Changes to Plant Biology major requirements**

**B.S. Major Requirements:**

	UNITS
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**Preparatory Subject Matter..... 56-65**

Biological Sciences 2A-2B-2C .....	14
Chemistry 2A-2B-2C .....	15
Chemistry 8A-8B or 118A-118B-118C .....	6-12
Mathematics 16A-16B-16C or 17A-17B-17C .....	9-12
Physics 7A-7B-7C .....	12

**Recommended**

Biological Sciences 20Q	
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**Depth Subject Matter ..... 43-46**

Biological Sciences 101, 105 (or 102 + 103), 104 or equivalent .....	10-13
Statistics 100 or 102 .....	4
Plant Biology 105, 111, 112 .....	11
Research internship: Plant Biology 92, 99, 189, 192, 199 or equivalent .....	3
Restricted electives .....	15
Upper division courses in plant biology or other fields relevant to the student's interest chosen from the lists below. The student's academic advisor may approve additional courses as "restricted electives" at their discretion.	

**Total Units for the Major ..... 99-111**

**Course Lists**

**Ecology**

Environmental Science and Policy 121, 123, 124, 150C, 151, 151L, 155, 155L; Evolution and Ecology 101, 131, 138; Hydrologic Science 124; Plant Biology 117, 119; Plant Pathology 150; Plant Sciences 112, 130, 131, 134, 135, 142, 144.

**Evolution and Diversity**

Evolution and Ecology 100, 102, 108, 140, 149; Plant Biology 102, 108, 116, 118, 143, 148.

**Plant Genetics**

Evolution and Ecology 100, 102; Molecular and Cellular Biology 161, 164; Plant Biology 113; Plant Pathology 123; Plant Sciences 152.

**Plant Physiology, Development, and Molecular Biology**

Biotechnology 160, 161A, 161B; Molecular and Cellular Biology 126; Plant Biology 113, 126; Plant Pathology 123, 130; Plant Sciences 153, 157, 158.

**Political Science****Changes to Political Science major and minor requirements****A.B. Major Requirements:**

	UNITS
<b>Preparatory Subject Matter</b> .....	<b>28</b>
Three lower division Political Science courses from: 1, 2, 3, 4.....	12
Political Science 51 (required course) .....	4
Statistics 13, 32, 102 (or equivalent) .....	4
One course from Economics 1A, Economics 1B or Philosophy 5 .....	4
One course from History 4C, 8, 9A, 10C, 15, 17A or 17B.....	4
<b>Depth Subject Matter</b> .....	<b>44-45</b>
Four courses in one of the fields of concentration listed below .....	16
Three courses in another field of concentration listed below .....	12
Two courses in another field of concentration listed below .....	8
Two other upper division courses in Political Science. Only 5 units of Political Science 192 may be counted toward the depth subject matter. ....	8-9

**Fields of Concentration**

*American Politics (courses with Political Science 1 as a prerequisite):* Political Science 100, 102, 104-109, 150-155, 160, 162-166, 168, 170-172, 174-176, 180, 183, 187, 195, 196A.

*Comparative Politics (courses with Political Science 2 as a prerequisite):* Political Science 126, 140A-140C, 142A-142B, 143A-143B, 144A-144B, 146A-146B, 147A-147B, 148A-148C, 179, 196B.

*International Relations (courses with Political Science 3 as a prerequisite):* Political Science 120-124, 126, 129, 130-132, 134-137, 139, 190, 196C, International Relations 131.

*Political Theory (courses with Political Science 4 as a prerequisite):* Political Science 110, 112-117, 118A-118C, 119, 187, 196D.

**Total Units for the Major**..... 72-73**Political Science—Public Service****A.B. Major Requirements:**

	UNITS
<b>Preparatory Subject Matter</b> .....	<b>20</b>
One course from Political Science 1, 5, or 7 .....	4
Two courses from Political Science 2, 3, or 4 .....	8
Statistics 13 (or equivalent) .....	4
Political Science 51 (required course) .....	4
Recommended: Economics 1A-1B.	
<b>Depth Subject Matter</b> .....	<b>45-50</b>
Core program.....	12
Two courses chosen from Political Science 100, 104, 105, 106, 113, 180; and one course from Political Science 108, 109, 114.	
Internship, Political Science 192A, 192B, or 192W .....	7-10
Research paper, Political Science 193 ...	2-4
Fields of concentration .....	24
Select six upper division courses from two or three fields of concentration listed below with at least two courses in each field	

selected; at least 16 of the units must be in political science; Core Program courses may not be counted toward this requirement.

**Fields of Concentration**

*Field (1) Policy formulation:* Political Science 100, 104, 105, 106, 108, 109, 160, 162, 163, 164, 165, 166, 168, 170, 171, 174, 175, 195; Economics 130

*Field (2) Policy implementation and evaluation:* Political Science 180, 183, 187; Economics 131

*Field (3) Policy interpretation—Substance and procedures (public/pre-law):* Political Science 150, 151, 152, 153, 155

*Field (4) Policy areas:*

(a) Urban policy and implementation: Political Science 100, 102, Environmental Horticulture 110, Environmental Science and Policy 173

(b) Environmental policy and implementation: Political Science 107, Environmental Science and Policy 160, 161, 166, 168A-168B, 172, 179

(c) Environmental policy and implementation: open field that might include courses relevant to health care, welfare, education, community development, transportation, science and technology, etc.; requires approval of Political Science—Public Service adviser.

**Total Units for the Major**..... 68

**Major Advisers.** Consult Department office.

**Minor Program Requirements:**

Students electing a minor in Political Science may choose one of two plans.

	UNITS
<b>Political Science</b> .....	<b>24</b>

Six upper division courses: Three courses in one of the fields of concentration and three courses outside of that field.

**Public Affairs Internship Program.** This program is open to upper division students in any major who want to obtain an internship in the area of government and public service. Information and applications are available from the Political Science Department in 1273 Social Sciences and Humanities Building.

**Graduate Study.** The Department of Political Science offers a program of graduate study and research leading to a Ph.D. degree or an M.A./J.D. joint degree. The M.A./J.D. joint degree is done only in conjunction with UC Davis School of Law. Information concerning admission to these programs and requirements for completion are available in the Graduate Program Coordinator office.

**Graduate Adviser.** Consult Graduate Program Coordinator office.

**American History and Institutions.** This University requirement may be satisfied by passing any one of the following Political Science courses: 1, 5, 100, 102, 104, 105, 106, 108, 109, 113, 130, 131, 160, 163; see also under University requirements.

**Psychology****Changes to Psychology major requirements****A.B. Major Requirements:**

	UNITS
<b>Preparatory Subject Matter</b> .....	<b>20-25</b>
Psychology 1 or the equivalent .....	4
Psychology 41 .....	4
Statistics 13 or 102 .....	4

Strongly recommended that Psychology 41 and Statistics 13 or 102 be completed in the first year.

Biological Sciences 2A; or a combination of Biological Sciences 10 and one course from Anthropology 1, Molecular and Cellular Biology 10, or Neurobiology, Physiology, and Behavior 10.....

4-8  
One course in sociology or cultural anthropology; may be lower or upper division, minimum of 4 units.....

**Depth Subject Matter** .....

40  
Two courses from two of the following four groups and one course from the remaining two groups.....

23-24  
*Group A:* Psychology 100, 130, 131, 132, 135, 136

*Group B:* Psychology 101, 113, 121, 122, 123, 126, 127, 129

*Group C:* Psychology 151, 152, 154, 161, 162, 168

*Group D:* Psychology 140; or Human Development 100A or 100B, Psychology 141/Human Development 101, Psychology 142/Human Development 102, 143, 146, 148

Additional units to achieve a total of 40 upper division units in psychology .....

16-17  
A maximum of 12 approved upper division Human Development units can be credited toward satisfaction of the 40-unit requirement.

**Total Units for the Major**..... 60-65**Biology Emphasis****B.S. Major Requirements:**

	UNITS
<b>Preparatory Subject Matter</b> .....	<b>51-59</b>

Psychology 1 or the equivalent .....

4  
Psychology 41 .....

4  
Statistics 13 or 102.....

4  
Strongly recommended that Psychology 41 and Statistics 13 or 102 be completed in the first year.

Mathematics 16A-16B or 17A-17B or 21A-21B.....

6-8  
Physics 10 or 7A-7B.....

4-8  
Biological Sciences 2A, 2B .....

9  
Chemistry 2A, 2B .....

10  
Chemistry 8A-8B or 118A-118B or 128A-128B.....

6-8  
One course in sociology or cultural anthropology; may be lower or upper division, minimum of 4 units.....

4-5  
4-5

**Depth Subject Matter** .....

49  
Seven Psychology courses distributed as specified:

*Group A:* two courses from Psychology 100, 130, 131, 132, 135, 136 .....

8  
*Group B:* three courses from Psychology 101, 113, 121, 122, 123, 126, 127, 129 .....

11-12  
*Group C:* one course from Psychology 151, 152, 154, 161, 162, 168 .....

4  
*Group D:* one course from Psychology 140 (or Human Development 100A or 100B), Psychology 141/Human Development 101, Psychology 142/Human Development 102, 143, 146, 148 .....

4  
Additional units to achieve a total of 40 upper division units in psychology .....

12-13  
(A maximum of 12 approved upper division Human Development units can be credited toward satisfaction of the 40-unit requirement.)

4  
Biological Sciences 101 .....

4  
Neurobiology, Physiology, and Behavior 101 .....

5  
101 .....

**Total Units for the Major**..... 100-108**Recommended**

Psychology 180B, 199; on a psychological topic, Anthropology 154A,

Environmental Science and Policy 110,  
Evolution and Ecology 100, 101.

## Mathematics Emphasis

### B.S. Major Requirements:

UNITS  
**Preparatory Subject Matter.....44-59**

Psychology 1 or the equivalent ..... 4  
Psychology 41 ..... 4  
Statistics 13 or 102 ..... 4  
Strongly recommended that Psychology 41 and Statistics 13 or 102 be completed in the first year.  
Mathematics 21A, 21B, 21C, ..... 12  
Computer Science Engineering 30 or Computer Science Engineering 10 ..... 4  
Chemistry 10 or 2A-2B or 2AH-2BH.... 4-10  
Physics 10 or 7A-7B ..... 4-8  
Biological Sciences 2A; or a combination of Biological Sciences 10 and one course from Anthropology 1, Molecular and Cellular Biology 10, or Neurobiology, Physiology, and Behavior 10 ..... 4-8  
One course in sociology or cultural anthropology; may be lower or upper division, minimum of 4 units ..... 4-5

**Depth Subject Matter ..... 49**

Five Psychology courses, distributed as specified:  
*Group A:* two courses from 100, 130, 131, 132, 135, 136 ..... 8  
*Group B:* two courses from Psychology 101, 113, 121, 122, 123, 126, 127, 129 ..... 7-8  
*Group C:* one course from Psychology 151, 152, 154, 161, 162, 168  
**or**  
*Group D:* one course from Psychology 140 (or Human Development 100A or 100B), Psychology 141/Human Development 101, Psychology 142/Human Development 102, 143, 146, 148 ..... 4  
Additional units to achieve a total of 40 upper division units in psychology ..... 11-12  
A maximum of 12 approved upper division Human Development units can be credited toward satisfaction of the 40-unit requirement.  
Psychology 103A ..... 5  
One course from Psychology 103B, 104, or the equivalent ..... 4  
One course sequence from Statistics 106-108, 130A-130B, 131A-131B ..... 8

**Total Units for the Major ..... 93-108**

**Recommended for All Majors.** Students who plan to do graduate work in any area of psychology are strongly encouraged to complete Statistics 13 and Psychology 103A or both Statistics 13 and 102. Psychology 41 is a prerequisite for most upper division courses. Psychology 41 and Statistics 13 or 102 should be completed in the first year.

**Major Advisers.** K. Bales, S. Blozis, J.P. Capitanio, C.S. Carter, R. Conger, D. Corina, R.G. Coss, R.A. Emmons, E. Ferrer, S. Ghetti, G.S. Goodman, K. Graf Estes, K. Grimm, G.M. Herek, P. Janata, J.T. Johnson, L.A. Krubitzer, K. Lagattuta, D.L. Long, S. Luck, G.R. Mangun, L. Oakes, D.H. Owings, C. Pickett, R.B. Post, C. Ranganath, S. Rivera, R.W. Robins, P.R. Shaver, J. Sherman, D.K. Simonton, S. Sue, T. Swaab, R. Thompson, B. Trainor, M. Traxler, D. Whitney, K.F. Widaman, A.P. Yonelinas, N.W. Zane

**Human Development course credit.** Human Development 100A, 100B, 100C, 101, 102, 120, and 121 can be used toward satisfying the 40-unit upper division major requirement to a maximum of 12 units. Students who have completed Human Development 100A or 100B will receive 2 units of credit for Psychology 140.

### Minor Program Requirements:

UNITS  
**Psychology..... 24**  
Psychology 1 or the equivalent ..... 4

One course from each of the following four groups .....15-16  
*Group A:* Psychology 100, 130, 131, 132, 135, 136  
*Group B:* Psychology 101, 113, 121, 122, 123, 126, 127, 129  
*Group C:* Psychology 151, 154, 162, 168  
*Group D:* Psychology 140, 141, 142, 143, 146, 148

Additional units to achieve a total of 20 upper division units .....4-5

One course selected from Human Development 100A, 100B, 100C, 101, 102, 120, 121 can be used toward satisfying the minor upper division unit requirement.

**Honors and Honors Program.** In order to be eligible for high or highest honors in Psychology, the student must both meet the college criteria and complete a research project involving a minimum of six units of course work over at least two quarters which represents an original analysis of data on psychological phenomena. Course 194HA-194HB or other approved courses can be used to satisfy the unit requirement. This project is to be written in thesis form and approved by the department. The quality of the thesis work will be the primary determinant for designating high or highest honors at graduation.

**Graduate Study.** The Department offers programs of study and research leading to the Ph.D. degree in psychology. Detailed information regarding graduate study may be obtained by writing the Graduate Adviser, Department of Psychology.

**Graduate Adviser.** See *Class Schedule and Registration Guide*.

## Quantitative Biology and Bioinformatics

### Changes to Quantitative Biology and Bioinformatics minor requirements

#### Minor Program Requirements:

UNITS  
**Quantitative Biology and Bioinformatics ..... 18-24**

Core Courses .....8-12  
*Programming:* Computer Science Engineering 10 or 30 or the equivalent\* ..... 4  
*Quantitative Biology:* Biological Sciences 132 or Mathematics 124 ..... 4  
*Bioinformatics:* Computer Science Engineering 124 or 129 ..... 4  
Quantitative and Computational Preparation ..... 4  
Complete one course from the following:  
Applied Science Engineering 115;  
Computer Science Engineering 122;  
Mathematics 128A, 128B, 128C, 135A;  
Statistics 130A, 131A, 141A  
Restricted Electives ..... 6-8

Complete two or more courses from the following list to achieve a total of 18-24 units: Biomedical Engineering 117, 141, 151; Biotechnology 150; Computer Science Engineering 165A, 166; Evolution and Ecology 102, 103, 104, 175; Molecular and Cellular Biology 123, 143; Neurobiology, Physiology, and Behavior 105, 163; one course from Environmental Science and Policy 121 or Wildlife, Fish, and Conservation Biology 122; one course from Molecular and Cellular Biology 182 or Neurobiology, Physiology, and Behavior 131

**Restrictions.** No more than two upper division courses from a single department may be offered in satisfaction of the minor requirements. Only one

course used to satisfy a requirement for the minor may be applied toward a student's major.

\*The programming requirement may be satisfied by previous experience and therefore may not entail college course credit. Please see your minor adviser for this determination and its possible impact on your unit requirements for the minor.

**Minor Adviser.** Consult the College of Biological Sciences Dean's office in 202 Life Sciences, (530) 752-0410.

## Russian

### Changes to Russian major and minor requirements

#### A.B. Major Requirements:

UNITS  
**Preparatory Subject Matter.....0-27**  
Russian 1 through 6; or the equivalent ..... 0-27  
Russian 41 or 42 ..... 4

**Depth Subject Matter ..... 36**

Russian 101A, 101B, 101C ..... 12  
Russian 102 or 103 or 105 ..... 4  
20 Additional upper division units chosen in consultation with adviser from the following selection of Literature and Culture courses taught in Russian and English ..... 20  
Russian 121, 123, 126, 127, 128, 129, 130, 139, 140, 141, 142, 150

The elective upper-division courses in English can be satisfied in part by one or more courses in History, Political Science, Comparative Literature and other departments after consultation with, and prior approval of, the major advisor.

The total of 36 upper-division units may include units earned in the Education Abroad Program.

**Total Units for the Major .....36-63**

**Major Adviser.** Olga Stuchebukhova

#### Minor Program Requirements:

UNITS  
**Russian..... 20**  
Russian 101A, 101B, 101C ..... 12  
Other upper division Russian courses ..... 8

**Honors and Honors Program.** The honors program comprises at least one quarter of study under course 194H, which will include a research paper. For details consult the major advisor.

**Study Abroad.** Students who have completed one or two years of Russian language study can participate in the Education Abroad Program (EAP) in Moscow. Many of our students also participate in summer, semester, and year-long programs sponsored by CIEE and ACTR in St. Petersburg and Moscow.

**Prerequisite Credit.** Credit normally will not be given for a course if that course is the prerequisite for a course already completed.

## Sociology

### Changes to Sociology major and minor requirements

#### A.B. Degree Requirements:

##### General emphasis:

UNITS  
**Preparatory Subject Matter.....28-29**  
Sociology 1, 46A, and 46B ..... 13

Quarter Offered: I=Fall, II=Winter, III=Spring, IV=Summer; 2009-2010 offering in parentheses

General Education (GE) credit: ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Wrt=Writing Experience

Sociology 2, 3, 4, 5, 11, 30A, or 30B ..... 3-4  
 Anthropology 2 or 20 ..... 4  
 Select from History 4A, 4B, 4C, 6, 7A, 7B, 7C, 8, 9A, 9B, 10C, 15, 17A, 17B ..... 4  
 Select from Philosophy 5, 14, 24 ..... 4

**Depth Subject Matter ..... 44**

(A) Sociology 100 ..... 4  
 (B) Select one course from each of the following four categories:  
*Individual, Culture and Society:* Sociology 125, 126, 135 ..... 4  
*Stratification and Social Differentiation:* Sociology 130, 132, 140 ..... 4  
*Organizations and Institutions:* Sociology 118, 131, 146, 180A ..... 4  
*Social Dynamics:* Sociology 104, 141, 143A, 170 ..... 4  
 (C) Select three upper division courses from one of the following clusters, not counting courses taken to fulfill requirement B ..... 12  
 (1) *Individual, Culture and Society:* Sociology 102, 120, 122, 125, 126, 127, 128, 129, 131, 132, 134, 135, 137, 143B, 148, 150, 152, 153, 172, 173, 174, 175, 176  
 (2) *Stratification and Social Differentiation:* Sociology 118, 128, 129, 130, 132, 133, 134, 140, 145A, 145B, 171, 172, 185, 188, and not more than one of the following courses: African American and African Studies 123; Asian American Studies 100; Chicana/o Studies 110; or Native American Studies 115  
 (3) *Organizations and Institutions:* Sociology 118, 124, 131, 133, 139, 144, 146, 149, 150, 151, 154, 155, 159, 160, 180A, 180B, 181, 182, 183, 185  
 (4) *Social Dynamics:* Sociology 104, 123, 125, 138, 141, 143A, 145A, 145B, 147, 148, 156, 157, 158, 170  
 (5) *Student-initiated thematic cluster:* developed with a faculty adviser and approved by the Sociology Undergraduate Curriculum Committee  
 (D) Eight units of Sociology beyond courses taken to fulfill above requirements, and outside of the course cluster used to fulfill requirement C ..... 8  
 (E) One integrative course (prerequisite: senior standing and completion of requirement for Preparatory Subject Matter, Depth Subject Matter, requirement A, and at least two of the courses for requirement B). Choose from Sociology 190X, 191, 192/193, 194HA-194HB, 195 ..... 4

**Total Units for the Major ..... 72-73**

**Law and Society emphasis:**

UNITS

**Preparatory Subject Matter ..... 29**

Sociology 1; 3, 4, or 11; 46A and 46B ..... 17  
 Anthropology 2 or 20 ..... 4  
 Select from History 4A, 4B, 4C, 6, 7A, 7B, 7C, 8, 9A, 9B, 10C, 15, 17A, 17B ... 4  
 Philosophy 5 or 14 ..... 4

**Depth Subject Matter ..... 44**

Sociology 100 and 155 ..... 8  
 Select courses from the following categories:  
*Individual Culture and Society:* Sociology 125, 126, 135 ..... 4  
*Stratification and Social Differentiation:* Sociology 130, 132, 140 ..... 4  
*Organizations and Institutions:* Sociology 118, 131, 146, 160180A ..... 4  
*Crime and Social Dynamics:* Sociology 120, 150, 151, 152, 171 ..... 12  
*Stratifications and Social Dynamics:* Sociology 118, 137, 148, 156, 157, 158; African American and African Studies 123, 145A, 145B; Chicana/o Studies 130,

132; Native American Studies 117, 118 ..... 4  
*Legal Studies:* Asian American Studies 155; English 107; Environmental Science and Policy 161; Environmental Toxicology 138; Hydrology 150; Philosophy 119; Political Science 122, 151, 152, 154; Psychology 153; Women's Studies 140 ..... 4  
*Methodology:* Prerequisite: senior standing and completion of requirement for preparatory subject matter; select one course from Sociology 190X, 192/193, 194HA-194HB, 195 ..... 4

**Total Units for the Major ..... 73**

**Social Services emphasis:**

**Preparatory Subject Matter ..... 26-28**

Sociology 2, 3, 46A and 46B ..... 16  
 Psychology 1 ..... 4  
 Select from African American and African Studies 10, 15; Asian American Studies 1, 2; Chicana/o Studies 10, 50; Native American Studies 1, 10; Sociology 4, 11, 30A, or 30B ..... 6-8

**Depth Subject Matter ..... 44**

Sociology 131, 140, 185 ..... 12  
 Select four units of upper division psychology: Psychology 140, 142, 151, or 168 ..... 4  
 Select courses from the following categories:  
*Social Issues:* Sociology 104, 120, 122, 124, 139, 143A, 144, 146, 149, 150, 152, 153, 154, 155, 156, 158, 160, 170, 171 ..... 8  
*Social Interaction:* Sociology 126, 127, 128, 143B, 148, 157 ..... 4  
*Race and Ethnicity:* African American and African Studies 100; Asian American Studies 110, 111, 150; Chicana/o Studies 110; Community and Regional Development 176; Native American Studies 115; Sociology 129, 130, 134, 137, 172 ..... 4  
*Gender:* Sociology 132, 133, 145B, 172 ..... 4  
*Organizational Behavior:* Sociology 139, 146, 151, 154, 159, 180A, 180B, 181, 182, 183 ..... 4  
*Methodology:* Prerequisite—senior standing and completion of requirement for preparatory subject matter: Sociology 103, 106 (or the equivalents), 190X, 192/193, 194HA, 194HB, 195 ..... 4

**Total Units for the Major ..... 70-72**

**Comparative Studies and World Development emphasis:**

**Preparatory Subject Matter ..... 29-59**

Sociology 1, 5, 46A and 46B ..... 17  
 Economics 1B ..... 4  
 Anthropology 2 or 20 ..... 4  
 History 10C or Political Science 2 ..... 4  
 Course work in one modern foreign language at the two-year level or provide proof of proficiency ..... 27-30

**Depth Subject Matter ..... 48**

Sociology 100, 104, 141, 145A, 170 .. 20  
 Anthropology 126A, 126B, or Economics 115A ..... 4  
 Anthropology 127; Sociology 118, 130, 131, 143A, 144, 145B, 156, 158 ..... 12  
 Regional focus, three courses from one of the following groups ..... 12  
 (1) *Africa:* African American and African Studies 110, 111, 162; Anthropology 140A, 140B; History 115A, 115B, 115C, 116; Political Science 134, 149  
 (2) *Latin America:* African American and African Studies 107A, 180; Anthropology 144, 146; History 159, 161A, 161B, 162, 163A, 163B, 164, 165, 166A, 166B, 167, 168; Native American Studies 120,

133; Political Science 143; Sociology 158; Spanish 170, 172, 173  
 (3) *Middle East:* Anthropology 142; History 112A, 112B, 113, 190A, 190B, 190C, 193A, 193B; Jewish Studies (see an advisor); Middle Eastern Studies (see an advisor); Religious Studies 162; Women's Studies 184  
 (4) *Asia-China & Japan:* African American and African Studies 107C; Anthropology 148A, 148B, 148C, 149A, 149B; East Asian Studies 113; Economics 171; History 191 (series), 194A, 194B, 194C; Political Science 148A, 148B; Religious Studies 165, 170, 172; Sociology 147, 188  
 (5) *Southeast Asia/Pacific:* Anthropology 143A, 143B, 145, 147; Economics 171; History 191 (series), 195B, 196A, 196B; Political Science 148B, 148C; Religious Studies 165, 170, 172

**Total Units for the Major ..... 77-107**

**Sociology—Organizational Studies**

**A.B. Degree Requirements:**

UNITS

**Preparatory Subject Matter ..... 29**

Sociology 1, 2; 5 or 11; 46A and 46B ..... 21  
 Economics 1A and 1B ..... 8

**Depth Subject Matter ..... 44**

Sociology 100 ..... 4  
 Sociology 180A ..... 4  
 Sociology 106 (or its equivalent) ..... 4  
 Select from Communication 134, 136, 172; Sociology 126 ..... 4  
 Select five courses from below, at least three courses from Sociology ..... 20  
 Agricultural and Resource Economics 112, 130; American Studies 125; Community and Regional Development 151/151L, 152, 154, 156, 158, 162, 164, 168; Economics 116, 121A, 121B, 151A, 151B; History 185B, 194D; Political Science 107, 180, 187; Sociology 103, 124, 138, 139, 141, 154, 159, 160, 180B, 181, 183, 185  
 Select from Sociology 128, 130, 132, 134, 140, 145A, 145B, 172 ..... 4  
*Methodology:* Prerequisite: senior standing and completion of requirement for preparatory subject matter; select one course from Sociology 190X, 192/193, 194HA-194HB, 195 ..... 4

**Total Units for the Major ..... 73**

**Major Advisers.** Consult the Departmental Advising office in 1282 Social Sciences and Humanities Building.

**Minor Program Requirements:**

UNITS

**Sociology ..... 20**

Choose any five upper division courses in Sociology, except the following: SOC190X, 191, 192/193, 194HA, 194HB, 195, 197T, 198, 199

**Minor Advisers.** Consult the departmental Advising office in 1282 Social Sciences and Humanities Building.

**Honors Program.** An Honors Program is available to Sociology and Sociology-Organizational Studies majors who have demonstrated excellence in their field of study. To be eligible for the program, students must have a grade-point average of 3.500 in the major and the recommendation of a faculty sponsor familiar with their work. In addition to meeting the standard major requirements, students are encouraged to take a 199 course with their sponsor in the spring of their third year, prior to the seminar courses. The honors student writes an honors thesis and participates in a two-quarter honors seminar (course 194HA-194HB). Successful completion of the Honors Program, when combined with College GPA requirements, enables the student to graduate

**Quarter Offered:** I=Fall, II=Winter, III=Spring, IV=Summer; 2009-2010 offering in parentheses

**General Education (GE) credit:** ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Social-Cultural Diversity; Writ=Writing Experience

with Highest Honors or with High Honors. Applications for the program are due in August before the student begins their fourth year.

**Honors Program Advisor.** Drew Halfmann, [dhalfmann@ucdavis.edu](mailto:dhalfmann@ucdavis.edu)

**Graduate Study.** The Department offers programs of study and research leading to the M.A. and Ph.D. degrees in sociology. Further information regarding graduate study may be obtained at the Department office or on our Web site.

Graduate students in Sociology have the opportunity to pursue designated emphases in Critical Theory, Social Theory and Comparative History, Native American Studies, Economy, Justice and Society, or Feminist Theory and Research. See these headings for further details on these interdisciplinary programs.

**Graduate Advisers.** Consult the Graduate Program Coordinator in 1287 Social Sciences and Humanities Building.

## University Writing Program

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### New Minor in Expository Writing

#### Minor Program Requirements:

UNITS

#### Expository Writing..... 20

One course from each of the following four groups: ..... 20

*Group A:* English 100NF, Nematology 150, University Writing Program 101, 102A, 102B, 102C, 102D, 102E, 102F, 102G, 102H, 102I, 102J, 102K

*Group B:* Sociology 189, University Writing Program 104A, 104B, 104C, 104D, 104E, 104F, 104I

*Group C:* Anthropology 119, Classics 110, Communication 105, 152, English 105, English/Linguistics 106, History 101, Philosophy 137A, 137B, 137C, Technocultural Studies 191

*Group D:* University Writing Program 192 (or equivalent)

Additional units to achieve a total of 20 upper division units: ..... 4

One additional course from Groups A, B, or C above.

Note: At least twelve units must be from University Writing Program courses.

## Law

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### Changes to Law Academic Calendar

#### **SCHOOL OF LAW ACADEMIC CALENDAR 2008-2009**

The School of Law operates on a semester system rather than the quarter system used on the remainder of the UC Davis campus.

	Fall 2008	Spring 2009
Introduction Week	Mon.–Fri., Aug 18-22	
Law School instruction begins	Mon., Aug 25	Mon. Jan 12
Labor Day holiday	Mon., Sep 1	
Veteran's Day holiday	Thurs., Nov 11	
Thanksgiving holiday	Thurs.–Fri., Nov 27-28	
Martin Luther King, Jr. holiday		Mon., Jan 19
President's Day holiday		Mon., Feb 16
Spring recess		Mon.–Fri., Mar 23-27
Law School instruction ends	Fri., Dec 5	Fri., Apr 28
Reading period	Sat.–Mon., Dec 6-8	Wed.–Thurs., Apr 29-30
Law School examination period	Tues.–Tues., Dec 9-23	Fri.–Fri., May 1–15
Law School Commencement		Sat. May 16

*Tuesday, April 28 is treated as a Monday for class schedule purposes.*

Examinations will be held on Saturday, May 9.



# UC Davis Academic Calendar

## Changes to UC Davis Academic Calendar

Revised: June 17, 2009 (see red text)

### UC Davis Academic Calendar 2008-2010\*

*Class Schedule and Registration Guide and Registration appointment times available*

- Pass 1 Registration (assigned appointments)
- Pass 2 Registration (assigned appointments)
- Last day to:
  - Pay fees and enroll without incurring a \$50 late fee
  - Petition for classification to resident status

**Quarter begins**

**Instructional Startup Activities**

- Last day to file for PELP

**Instruction begins**

- Pay late fee
- Drop 10-day-drop courses
- Change student status (part-time/full-time)

**Last day to add courses**

**Last day to drop 20-day-drop courses**

- Last day to:
  - Opt to take courses on a P/NP basis
  - File to take courses on a S/U basis

**Instruction ends**

**Final examinations**

**Quarter ends**

- Commencement
- Academic and Administrative Holidays

**Filing for Candidacy (Graduation)**

Filing period for those who expect to complete work for a bachelor's degree to file for candidacy with the Registrar †

Last day to file minor with the Dean's Office ‡

**Undergraduate Admission – Readmission**

Last day for applicants to file admission & scholarship application  
 Last day to file readmission application with the Registrar for undergraduate status

Summer Sessions 2009	Winter 2010	Spring 2010
Jun 22–Jul 31	Oct 26	Feb 1
Aug 3–Sep 11	Nov 2 Nov 30	Feb 8 Mar 1
<b>Summer Sessions 2010</b>	Dec 28	Mar 22
Jun 21–Jul 30	Jan 4	Mar 25
Aug 2–Sep 10	Jan 4 Jan 4	Mar 25 Mar 29

**Financial Aid Filing Period**

- Filing period for grants, loans, work-study and California Student Aid awards for 2009–2010; Jan 1–Mar 2
- Filing period for undergraduate scholarship application for 2009–2010; Oct 3–Dec 3, 2008

**Key to Symbols**

- \* Dates are subject to change and should be checked with appropriate *Class Schedule and Registration Guide*
- † For students graduating Sep 2009, the filing period is May 17–Jul 8.
- ‡ For students graduating Sep 2009, the deadline to file a minor program with Dean's Office is Jul 8.