

## COURSE DESCRIPTIONS UPDATE

# Winter 2010 Course Descriptions

The following new course descriptions are for winter quarter 2010. Descriptions for individual studies courses are not included in these listings. Please contact the course sponsoring agencies for additional information.

### College Eight

#### **81B. Fundamentals of Environmental Science.**

Addresses major issues in physical and biological environmental sciences and provides tools to critically evaluate, debate, and make informed choices regarding one's own impact on the environment. Topics include: climate change, water resources, air pollution, evolution, ecology (from populations to ecosystems), and conservation. Quantitative problem solving is an integral part of this course. (Also offered as Earth Sciences 81B. Students cannot receive credit for both courses.) Prerequisite(s): courses 80A or 80B, and 81A. Enrollment restricted to first-year and sophomore college members. (General Education Code(s): IN, Q.)

### Crown College

#### **80L. Food Safety and Environmental Quality: The Complexities of a Safe Salad.**

In recent years, outbreaks of food-borne illness have alarmed farmers and consumers alike. This course examines the complexities of ensuring food safety in the complex natural, economic, and social settings that characterize U.S. food-production systems. Enrollment limited to 24. (General Education Code(s): T7-Natural Sciences or Social Sciences.)

### Kresge College

#### **62. Transformative Action.**

Introduces the most effective methods of social change. Examines of social entrepreneurs, innovators, and visionaries. Reviews traditional methods of activism and new theories of nonviolent social change. Presents case studies of success in addressing problems of social injustice. Enrollment limited to 75.

#### **75. Sustainable Food Systems.**

Introduces students to fundamental food-system issues and opportunities. Topics include: hunger, environmental sustainability, race and gender, food and agricultural policy, local food systems, gardening and farming models, social movements, and approaches for analysis and change. Enrollment limited to 55.

#### **80H. Reading Chinese Paintings.**

Introduces significant currents in Chinese cultural history and their visual expression through close examination of selected paintings. Readings focus on a rich variety of primary sources in translation. Course intended for honors students by permission of instructor. Enrollment limited to 20. (General Education Code(s): T5-Humanities and Arts or Social Sciences, A.)

### Anthropology

#### **194D. Tribes/Castes/Women.**

Examines historical constructions and contemporary deployments of the categories that have structured popular and anthropological understandings of social life in South Asia, particularly those of "tribe," "caste," and "women." Students gain familiarity with the mobilization of these categories in contemporary political movements across India. Prerequisite(s): courses 1,

2, and 3. Satisfaction of the Entry Level Writing and Composition requirements. Enrollment restricted to senior anthropology majors. Enrollment limited to 20. (General Education Code(s): W.)

### Applied Mathematics and Statistics

#### **225. Multivariate Statistical Methods.**

Introduction to statistical methods for analyzing data sets in which two or more variables play the role of outcome or response. Descriptive methods for multivariate data. Matrix algebra and random vectors. The multivariate normal distribution. Likelihood and Bayesian inferences about multivariate mean vectors. Analysis of covariance structure: principle components, factor analysis. Discriminant, classification and cluster analysis. Prerequisite(s): course 206. Enrollment restricted to graduate students.

### Biology: Molecular Cell and Developmental Biology

#### **178L. Protocols in Stem Cell Biology.**

Provides hands-on experience in embryonic stem cell culture methods and techniques. Students grow and passage mouse embryonic stem (mES) cells and perform established protocols that differentiate mES cells into cardiac muscle cells and neurons. Prerequisite(s): previous or concurrent enrollment in course 178 or by permission of instructor. Enrollment restricted to biological sciences majors and affiliated majors. Enrollment limited to 16.

### Computer Engineering

#### **235. User Evaluation of Technology.**

Presents a variety of evaluation methodologies to assess usability, acceptance, and effectiveness of technology with the intended users. Combines lectures and exercises for students to gain firsthand experiences of these methodologies with real users. Enrollment restricted to graduate students. Seniors may enroll with completion of course 131.

### Digital Arts and New Media

#### **221. Mathematics and the Arts.**

Examines the role of mathematics in the arts since the computer revolution with an emphasis on chaos, fractals, and symmetry. Covers abstract animation and algorithmic music, including the history of leading innovators and techniques from 1950 to the present. Student projects explore the creative process today using cutting-edge technologies. Enrollment restricted to graduate students. Upper-division undergraduates may enroll with permission of instructor. Enrollment limited to 30. May be repeated for credit.

### Earth and Planetary Sciences

#### **81B. Fundamentals of Environmental Science.**

Addresses major issues in physical and biological environmental sciences and provides tools to critically evaluate, debate, and make informed choices regarding one's own impact on the environment. Topics include:

climate change, water resources, air pollution, evolution, ecology (from populations to ecosystems), and conservation. Quantitative problem solving is an integral part of this course. (Also offered as College Eight 81B. Students cannot receive credit for both courses.) (General Education Code(s): IN, Q.)

#### **194F. Education Capstone (2 credits).**

Students write a paper on a lesson plan developed after their CalTeach internship courses. This independent study is supervised by Earth and planetary sciences faculty or ocean sciences faculty, as well as a member of the CalTeach staff or Education Department. Prerequisite(s): Education 185C and 185L. Enrollment restricted to Earth and planetary sciences majors with a concentration in science education.

### Environmental Studies

#### **177. Teaching Environmental Education.**

For juniors majoring in environmental studies interested in teaching environmental education in the K-12 school system. Students investigate incorporation of environmental education in the classroom; design an environmental education school project; and are placed in a school where they observe environmental education in practice. Prerequisite(s): Course 91F or 191F, and previous or concurrent enrollment in courses 100 and 100L required, or by permission of instructor. Enrollment limited to 20.

### History of Art and Visual Culture

#### **46. History of Modern Architecture.**

Examines the origins and development of modern architecture, from the Enlightenment and the Industrial Revolution to the 20th century and beyond. Buildings, urban plans, and works of art and design are discussed in relation to political, social, and cultural currents. (Formerly course 138, *Modern Architecture, 1880-1968.*) (General Education Code(s): IH, A.)

### History of Consciousness

#### **226. Marxist Humanism and the Anti-Humanist Turn.**

Seminar in which texts are read in the tradition of Marxist humanism and in the turn toward an anti-humanist stance originating among French and other European intellectuals in the 1950s and 1960s, then taking hold widely among left intellectuals in the U.S. and elsewhere. Enrollment restricted to graduate students. Enrollment limited to 15.

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## **Microbiology and Environmental Toxicology**

### ***281V. Topics in Bacterial Pathogenesis and Innate Immunity (2 credits).***

Focuses on the interplay between the human gut bacterial pathogen *Yersinia pseudotuberculosis* and the innate immune system of the host. Participants are required to present the goals, results, and conclusions from their own research. Participation in the general discussion during others' presentations is also required. Enrollment restricted to graduate students. Qualified undergraduates performing research under the supervision of the instructor may enroll with instructor's permission. May be repeated for credit.

## **Pre- and Early Modern Literature**

### ***152. Continental Renaissance.***

Introductory survey of great prose writings of the continental Renaissance in their cultural and historical contexts. Authors include: Machiavelli, Castiglione, Erasmus, Rabelais, Montaigne, and Cervantes. Satisfies the Pre- and Early Modern Studies concentration; also satisfies the Pre- and Early Modern Studies distribution requirement.