



FALL 2008

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**Freshman and Sophomore Seminars
University of California, Berkeley
301 Campbell Hall
Berkeley, CA 94720-2922**

Freshman & Sophomore Seminars at Berkeley

UC Berkeley's Freshman and Sophomore Seminars provide an unparalleled opportunity for faculty members and small groups of lower-division students to explore a scholarly topic of mutual interest together, in the spirit of learning for its own sake. By taking a seminar a student becomes an active member of Berkeley's intellectual community. The seminars depend on the regular presence and active participation of every student. Sharing ideas in class is an important academic skill that can be acquired only through practice. The vigorous discussions that characterize the most successful seminars depend on the commitment of each and every member of the class. Students are encouraged to choose their seminars based on the pull of intellectual curiosity, a desire to explore enticing and even unfamiliar realms.

Please visit the Freshman & Sophomore Seminar website at <http://fss.berkeley.edu> for the following:

- Updates to the seminar lists included in this document on easy-to-follow web pages
- Revisions to this document
- Pop-up menus to help students find seminars of interest based on seminar topics
- Information regarding the Food for Thought Seminar series, a wonderful way for faculty and students to get better acquainted in an informal setting before or after class
- Success, Seminars, and You – a web page full of good ideas and helpful links to support students in registering for a seminar and getting the most out of their seminars before, during and after taking a seminar

L&S Discovery Courses

The seven-course breadth requirement can be an unparalleled opportunity to explore fascinating worlds of knowledge. The Letters & Science Discovery Courses, which the College is launching in fall 2005, will take the guesswork out of satisfying the breadth requirement. Taught by some of the most distinguished faculty on campus and deliberately designed to engage and ignite the minds of non-experts, these courses are destined to be unforgettable. For details on the Discovery Courses planned for the upcoming semester, see <http://lsdiscovery.berkeley.edu>.

This document was last updated on April 21, 2008.

FRESHMAN SEMINARS

The following courses, most of which are numbered 24, are limited to 15-18 students. Each is offered for one unit of credit. First-year students will be given priority for enrollment. Courses designated P/NP may be taken pass/no pass only; courses designated LG may be taken for a letter grade or on a pass/no pass basis. If a course is designated as requiring the consent of the instructor to enroll, or if you would like additional course information, contact the undergraduate assistant in the department offering the seminar.

Anthropology 24, Section 1
Humor in Cross-Cultural Perspective (1 unit, P/NP)
Professor Stanley H. Brandes
Monday 2:00-3:00, 2224 Piedmont Avenue, Room 15, CCN: 02480

This freshman seminar is designed to explore various approaches to the topic of humor, particularly as humor reflects and reinforces social boundaries—gender boundaries, ethnic boundaries, national boundaries, class boundaries, boundaries of friendship, and the like. We will examine (1) the sources of humor, (2) types of humor (jokes, riddles, teasing and banter, verbal dueling, among others), and (3) the impact of humor on both individuals and groups. Although humor is intrinsically lighthearted, it invariably reflects deep-seated social and psychological concerns. This is the main message of this course.

Stanley Brandes received his Ph.D. in Anthropology from UC Berkeley, where he has taught in the Department of Anthropology since 1974. He has carried out extensive fieldwork in Spain, Mexico, Guatemala, and the United States. His most recent publication concerning humor is his book, *Skulls to the Living, Bread to the Dead: The Day of the Dead in Mexico and Beyond* (2006). In addition to writing on humor in Mexico, he has written extensively on ritual humor in Spain and Jewish humor in the USA.

Anthropology 24, Section 2
The Imagined Past: Other Times in Film (1 unit, P/NP)
Professor Rosemary Joyce
Thursday 1:00-2:00, 2251 College Avenue in Room 101, CCN: 02482

Films offer an unparalleled opportunity to show what we think another time or place was like, engaging our senses and giving a more vivid impression of actually being there. In the hands of some film makers, these creations of the past can make us feel a simultaneous sense of difference and connection. Other film makers simply use the past as an exotic backdrop for stories that could be taking place today. In this course, we will compare Ang Lee's *Ride with the Devil* and *Crouching Tiger, Hidden Dragon* to films including Mel Gibson's *Apocalypto* to understand how an imagined past can help us understand other times and places or fail to promote our understanding. **If you have ever wondered whether a film set in the past is giving you a real sense of what it would have been like to live in another time or place, this course is for you. This seminar is part of the On the Same Page initiative: <http://onthesamepage.berkeley.edu>.**

Rosemary Joyce is an anthropological archaeologist whose fieldwork takes place in Honduras, ranging from the earliest villages (ca. 1500 BC) to the colonial period that began 3000 years later. With a special interest in visual culture in the past among peoples like the Maya and Olmec of Central America, she also is interested in the way that archaeology and its findings are presented to broader publics in newspapers, TV, film and digital media.

Chemical Engineering 24, Section 1
Foundations of our Empire: Energy and Water (1 unit, P/NP)
Professor Jeffrey Reimer
Monday 4:00-5:00, 121 Latimer Hall, CCN: 10402

Cheap energy and abundant high purity water have been the mainstay of American life for decades. Their availability have made deserts into croplands and cities, and helped build an industrial empire that dominates world markets. An increasing number of scientists and policy analysts, however, are concerned about the future reliability of these resources. Join this seminar and engage in a series of readings and discussions about our energy and water budget, including the triumphalism of science and engineering, and the sobering reality of a world with 9 billion people. What is the problem with carbon? Will the hydrogen economy work? Don't we have enough water in the oceans? We seek answers to these and other questions. **Non-technical majors are welcome.**

Jeffrey A. Reimer is the Warren and Katharine Schlinger Distinguished Professor and Chair of the Department of Chemical Engineering. In 1998 he won the Donald Sterling Noyce Prize for Excellence in Undergraduate Teaching in the Physical Sciences, and was given the AIChE Northern California Section Award for Chemical Engineering Excellence in Academic Teaching. In 2000 he was awarded the Chemical Engineering Departmental Outstanding Teaching Award. In 2003 Professor Reimer was awarded the Distinguished Teaching Award, the highest award bestowed on faculty for their teaching. The goal of Professor Reimer's research is to apply the principles and methods of spectroscopy toward societal problems, including alternative energy, materials and sensors for energy conservation, molecular imaging, and nuclear spintronics. His group consists of experimentalists that use many different tools for their research, yet retain special expertise and interest in magnetic resonance (MR) spectroscopy and imaging methods. For more information regarding Professor Reimer, please visit his faculty web page at <http://india.cchem.berkeley.edu/~reimer/>.

Chemistry 24, Section I
Issues in Nuclear Chemistry (1 unit, P/NP)
Professor Joseph Cerny
Thursday 4:00-5:00, 121 Latimer Hall, CCN: 11353

This seminar will begin by covering some of the basic concepts in nuclear science such as nuclear radioactivity and nuclear reactions, as well as nuclear fusion and fission. These concepts will then be explored in the context of current national and international research in nuclear science and nuclear astrophysics. Particularly interesting and important topics such as the recent experimental proof that neutrinos do possess mass will be addressed. **This course is intended to be an informal survey of contemporary issues of international interest in nuclear chemistry. No prior background in nuclear chemistry or nuclear physics is expected. As part of the seminar, a visit to the cyclotron will be arranged.**

Professor Cerny received his Ph.D. in nuclear chemistry from Berkeley in 1961 and has been a faculty member here since that time. His research group works with the 88-inch cyclotron on the hill at Lawrence Berkeley National Laboratory.

Chicano Studies 24, Section I
The Chicano Civil Rights Movement (1 unit, P/NP)
Professor Carlos Munoz Jr.
Wednesday 10:00-11:00, 224 Wheeler Hall, CCN: 13003

The seminar will consist of examining the multifaceted dimensions of the 1960s Chicano Civil Rights Movement via documentary films.

Professor Carlos Muñoz, Jr. is a Professor Emeritus in the Department of Ethnic Studies. He is the award-winning author of *Youth, Identity, Power: The Chicano Movement*, and is working on a book on the topic of the seminar.

Classics 24, Section I

How Were They Built? Creative Technology in Ancient Greece (1 unit, P/NP)
Professor Crawford Greenewalt
Thursday 1:00-2:00, 210 Dwinelle Hall, CCN: 14727

Ancient Greek artists and artisans were masters of line, balance, and rhythm. The success of their creations also depended on mastery of complex procedures and techniques. The seminar will consider procedures and techniques used in working stone, metal, clay, and other materials for the creation of architecture and art, from colossal buildings to postage-stamp-size carvings and paintings.

Professor Greenewalt is field director of the Sardis Expedition (jointly sponsored by Harvard and Cornell universities); has excavated in Turkey for fifty seasons; and for seven years was involved with the claim and eventual recovery by the Turkish government of gold and silver treasure looted in western Turkey between 1965 and 1968 and partly acquired by the Metropolitan Museum of Art in New York.

Classics 24, Section 2

Homer's 'Odyssey'—The Text and the Mythology (1 unit, P/NP)
Professor Anthony Bulloch
Wednesday 4:00-5:00, 258 Dwinelle Hall, CCN: 14730

This seminar is a study of the 'Odyssey' in both the cultural and historical context of ancient Greece, and as a mythic language through which to explore issues of identity, gender, sexuality, community, individuality, responsibility, etc.

Anthony Bulloch is a Professor of Classics at UC Berkeley and Assistant Dean in the College of Letters & Science, Office of Undergraduate Advising. Before coming to Berkeley he was a Fellow, Dean and Classics tutor at King's College in Cambridge and has authored books and articles on various authors and texts from the ancient Greek world.

Education 24, Section 1

Civil Rights Law in Higher Education (1 unit, LG)
Assistant Provost Sheila O'Rourke
Tuesday 4:00-5:30, 4648 Tolman Hall, CCN: 23517

This seminar will meet the first ten weeks of the semester.

This seminar will provide an introduction to civil rights issues in higher education such as affirmative action, race discrimination, sexual harassment, sex discrimination, regulation of hate speech, and civil rights protections for lesbian/gay/bisexual students. Reading materials will include actual court cases involving colleges and universities, as well as articles and commentaries. Students will be expected to complete weekly reading assignments and participate in classroom discussions.

Sheila O'Rourke is Assistant Provost for Academic Affairs at UC Berkeley. She was formerly the Assistant Vice Provost for Equity and Diversity at the the University of California Office of the President. She received her A.B. from Stanford, her J.D. from Boalt Hall and is a member of the California Bar. She previously served as a civil rights attorney for the U.S. Department of Education, Office for Civil Rights, where she was responsible for the enforcement of federal civil rights laws in education. She has taught constitutional law at the University of San Francisco Law School and legal writing at Stanford Law School.

Electrical Engineering and Computer Sciences 24, Section 1
Gadgets Electrical Engineers Make (1 unit, P/NP)
Professor Jeffrey Bokor
Thursday 10:00-11:00, 125 Cory Hall, CCN: 25251

This seminar is intended to offer a taste of how the hardware that is powering the information age really works. Electrical engineers must invest considerable effort to learn their science and math fundamentals. Eventually, though, the fun comes in building innovative and practical gadgets. We will side-step the science and math and get right into the hardware. We'll take a look at what's inside some of today's most exciting products and technology as well as look ahead at the future products that are just around the corner. Our focus will be on hardware and we will see how much fun engineers can have using their hands other than by typing on a keyboard.

Jeffrey Bokor received the B.S. degree in electrical engineering from the Massachusetts Institute of Technology in 1975, and the M.S. and Ph.D. degrees in electrical engineering from Stanford University in 1976 and 1980, respectively. From 1980 to 1993, he was at AT&T Bell Laboratories where he did research on novel sources of ultraviolet and soft X-ray coherent radiation, advanced lithography, picosecond optoelectronics, semiconductor physics, surface physics, MOS device physics, and integrated circuit process technology. He held management positions as head of the Laser Science Research Department at Bell Labs in Holmdel, NJ, from 1987 to 1990, and head of the ULSI Technology Research Department at Bell Labs in Murray Hill, NJ, from 1990 to 1993. Dr. Bokor was appointed Professor of Electrical Engineering and Computer Sciences at the University of California at Berkeley in 1993, with a joint appointment at the Lawrence Berkeley National Laboratory (LBNL). In 2004, he was appointed as Deputy Director for Science at the Molecular Foundry at LBNL, a major new nanoscale science research center. His current research activities include novel techniques for nanofabrication, new devices for nanoelectronics, quantum information processing, extreme ultraviolet lithography, optical metrology, and Fourier optics. He is a fellow of IEEE, APS, and OSA.

Engineering 24, Section I

Time, Money, and Love in the Age of Technology (1 unit, P/NP)

Lecturer Americ Azevedo

Monday 1:00-2:00, 41 Evans Hall, CCN: 27704

Many people in technological societies complain of "time poverty." What are the real relationships between time, money, and love in our lives? Where is love in a world dominated by the technological paradigm? Is there a balance to be found? Does technology make us happy? What is the good life? How can we cultivate peace of mind in a world of rapid change? These and other fundamental questions will be at the heart of a semester-long Socratic dialogue. **This seminar is for engineering, business, and liberal arts students.**

Americ Azevedo has pursued a life-long study of world religions and spirituality, along with a continued commitment to Socratic dialogue. Though his background is in Philosophy, his business and teaching career have brought him extensively into the world of information technology, with an emphasis on collaborative technologies, e-learning, and their cultural implications. He is especially concerned with how we can maintain our humanity in an increasingly technological world. He has been at UC Berkeley since Fall 2000 and teaches courses in the College of Engineering and the Department of Peace and Conflict Studies. For more information regarding Americ Azevedo and his courses, talks, workshops, publications, media coverage, fellowships and awards, visit his website at <http://socrates.berkeley.edu/~americ/>.

English 24, Section I

Shakespearean Comedy: Twelfth Night (1 unit, P/NP)

Professor Alan Nelson

Monday 12:00-1:00, 205 Wheeler Hall, CCN: 28093

Our seminar will concentrate on one of Shakespeare's best and most beloved comedies, Twelfth Night. We will read every word of the play as a group, and do trial readings and enactments of various scenes. Members of the seminar will give at least two oral reports each, covering various aspects of plot, character, action, gender representation (and confusion) and, most particularly, language and poetry.

Alan Nelson is a Professor Emeritus in the Department of English at the University of California, Berkeley. His specializations are paleography, bibliography, and the reconstruction of the literary life and times of medieval and Renaissance England from documentary sources.

English 24, Section 2
William Blake's Illuminated Books (1 unit, P/NP)
Professor Morton D. Paley
Wednesday 2:00-4:00, 300 Wheeler Hall, CCN: 28096

This seminar will meet for eight weeks, beginning August 27, 2008 and ending October 22, 2008. It will not meet on September 24, 2008.

During recent years the study of William Blake has come to concentrate more and more upon what has been called his composite art—the union of text and image that characterizes Blake's work in illuminated printing. In this seminar we'll study the interactions of words and images in Blake's illuminated books. We'll be concentrating on two works of the early 1790's: "The Marriage of Heaven and Hell" and "America," and we'll also look more briefly at some of the others.

The requirements for this seminar are simply to 1) obtain the text and bring it to each seminar meeting so we can study it together; 2) come regularly to seminar meetings and participate in discussions; 3) make a fifteen-minute oral presentation on a subject to be worked out with the instructor in conference; and 4) write an essay of about 1,500 words, due at the seventh meeting on October 15th.

The text for this seminar is William Blake's "Selected Poems," edited by G. E. Bentley, Jr. (Penguin Books, 2005 – ISBN 0-140-42446-6). It may be obtained at the customary bookstores or amazon.com. It is important that we all have the same texts for page references. Our subject for the first meeting is "The Marriage and Heaven and Hell." Please read the first half or so (but skip "The Argument"), to the end of the "Proverbs of Hell."

Any freshman interested in poetry and art in general and/or William Blake in particular is welcome.

Morton D. Paley's special interest is the relationship between British literature and the fine arts in the eighteenth and nineteenth centuries. He has written several books on aspects of this subject. His most recent is "The Traveller in the Evening," a study of the works of William Blake's last decade.

English 24, Section 3
Rethinking Hemingway (1 unit, P/NP)
Professor Katherine Snyder
Wednesday 2:00-3:00, 125 Dwinelle Hall, CCN: 28098

The past two decades have seen a dramatic reassessment of Ernest Hemingway. Departing from earlier critical traditions that first celebrated him as a macho sportsman, then vilified him as a misogynist, a homophobe, and a racist, the current critical reassessment reveals a Hemingway whose work and life was shaped by his obsession with and ambivalence toward gender norms and sexual aberrations. We will participate in this critical rethinking by attending to the centrality of issues of identity—especially gender and sexual identity, but also racial, ethnic, and class identity—to the man and his fiction. We will read one, or at most two, of Hemingway's most famous novels (probably *The Sun Also Rises*, and possibly one other to be determined by class vote), slowly and carefully mapping the intersections among gender and sexual concerns, narrative strategies, characterization, and plotting. The leisurely pace of our reading will allow us to inhabit the text in a way that the more hectic pace of many four-unit classes generally does not permit. We will supplement our reading of the fiction with literary critical articles and historical and biographical essays. Assigned work will include oral presentations of selected passages and short written

responses to the readings, and will culminate with in-class readings of our own attempts at writing Hemingway parodies.

Katherine Snyder is an Associate Professor in the English Department and is currently serving as Director of the College Writing Programs. Her research interests encompass nineteenth- and twentieth-century British and American fiction, the history of masculinity, and the rise of literary modernism.

English 24, Section 4

The Mysteries of Edwin Drood (1 unit, P/NP)

Professor Robert Tracy

Monday 3:00-5:00, Room L20 in Unit II located at 2650 Haste Street, CCN: 28870

This seminar will meet for eight weeks, beginning September 15, 2008 and ending November 3, 2008.

Dickens's last novel, *The Mystery of Edwin Drood*, is the most successful mystery story ever written. Dickens died before finishing it, or solving the mystery. Unlike other mystery stories, it fails to reassure us that justice is done, and forces us to accept the absence of closure. We must move beyond reassurance into the larger mysteries of motivation and behavior that lie behind any crime. Dickens is writing a new kind of novel, in which the imaginative process and its translation into writing become the central subject. At the peak of his powers, Dickens is exploring his own motivations as a writer, and the geography of his own imagination. If possible, please read chapter 1 for the first meeting.

Required text: Charles Dickens, *The Mystery of Edwin Drood*, ed. David Paroissien (Penguin 2002).

Robert Tracy is Emeritus Professor of English and of Celtic Studies. He has served as Visiting Professor of Anglo-Irish literature at Trinity College, Dublin; of American literature at Leeds University; and of Slavic Studies at Wellesley; and has been Associate Director of the University of California Dickens Project. His publications include a study of Trollope's novels, editions of works by Synge, Trollope, Le Fanu, and Flann O'Brien, and *Stone*, a translation from the Russian of poems by Osip Mandelstam. His *The Unappeasable Host: Studies in Irish Identities* was published in Dublin in July 1998.

Environmental Science, Policy, and Management 24, Section 1

Issues in Natural Resource Conservation (1 unit, P/NP)

Professor David Wood

Friday 9:00-10:00, 107 Mulford Hall, CCN: 29166

There is one optional field trip to a Bay Area location on a Saturday from 8:00 am to 3:00 p.m. to be arranged.

Some of the issues to be dealt with include management and preservation of timberlands; reducing fire risk through logging; management in wilderness areas; endangered species; importation and exportation of logs; the lives of John Muir and Gifford Pinchot; trees and religion; can rain forests be saved?; killer bees; coral reefs—human threat; jobs versus spotted owls; vegetarianism; Muir Woods, past and present; garbage in the United States; biofuels; solar power; airport expansion in the San Francisco Bay Area; the competition for water; global warming; and many more topics to be selected by the students.

Professor Wood's research interests include host-selection behavior of forest insects, chemical ecology, the biology and ecology of bark beetles, forest pest management, the biodeterioration of wood by insects, and insect/pathogen/tree interactions.

Environmental Sciences 24, Section 1

Sustainability: The Future is Now (1 unit, P/NP)

Professor William Berry
Wednesday 4:00-5:00, 55A McCone Hall, CCN: 30527

This seminar includes a review of issues involved in sustainability of our resources and environment. Topics to be discussed include green buildings-sustainable architecture, the energy-transportation-air-quality-health connections, managing our wastes, uses and abuses of our water, and impacts of farming and marketing practices on our food and on enhancing use of organics.

Professor Berry teaches a number of courses in basic environmental science and has both research and teaching programs in impacts of climate change on environmental changes and on biodiversity. He directs an internship program in which students assist Bay Area environmental science teachers.

History 24, Section 1
What Is a Book? (1 unit, P/NP)
Professor Carla Hess
Wednesday 4:00-6:00, 2519 Tolman Hall, CCN: 39198

This seminar will meet the first eight weeks of the semester.

Going to college is all about reading and studying books—whether they are textbooks for the sciences or novels studied in literature. But what exactly is a book and how did the book form come into being? This freshman seminar will explore the history of the codex book from its beginnings in the ancient world and the various forms it has taken as it has been reincarnated in the wake of new materials and technologies—papyrus, parchment, vellum, paper, screen, manuscript, print, digital. What is happening to the book in the digital age? As you will be spending most of the next four years with such objects, why take them for granted? We will use the vast sources of the rare book and manuscript collection at the Bancroft Library as well as visits to modern-day printing shops to get a grip on the meaning of this ubiquitous form of creating and exchanging meaning and ideas. **Freshmen of all backgrounds and future fields of study are welcome.**

Carla Hesse is Professor of European History. She is a specialist in cultural history who has written numerous books and articles on the past, present and future of the book, among other topics. She has been teaching at UC Berkeley for almost twenty years.

History 24, Section 2
Napoleon I Explored (1 unit, LG)
Professor Roger Hahn
Monday 10:00-12:00, 2303 Dwinelle Hall, CCN: 39201

This seminar will meet the first eight weeks of the semester.

How is Napoleon to be remembered? As a military genius, a liberator, a conquering hero—or rather as a ruthless dictator who overstepped his ambitions to rule Europe and the Middle East?

Roger Hahn is a Professor Emeritus in the Department of History at UC Berkeley. He has taught at Harvard University, University of Paris, and University of Delaware. For information regarding Professor Hahn's educational background, honors, professional activities, and publications, please visit his faculty web page at <http://history.berkeley.edu/faculty/Hahn/>.

History of Art 24, Section 1
Looking at Berkeley Buildings (1 unit, P/NP)
Professor David Wright
Wednesday 2:00-4:00, 104 Moffitt Undergraduate Library, CCN: 05448

Attendance at the first seminar meeting is necessary. This seminar will meet for twelve weeks, beginning September 3, 2008 and ending Wednesday, November 19, 2008.

This seminar is based on close study of the best buildings on campus and includes comparison with some of the worst. The goal is to learn to analyze buildings objectively, to understand the rationale behind buildings in different styles, and to develop criteria for a balanced judgment of them. We will also study the 1899 ideal plan for the campus, the official 1914 plan, and the present state of the arrangement of buildings, plazas, and planting on campus. There will be weekly study assignments to look closely at specific buildings, to make very simple drawings of them (no experience or talent expected) and to write short descriptive comments. Two-hour classes will normally begin with a discussion of the current assignment, will include a short slide lecture for background for the next assignment, and will end with a collective visit to a building involved in the assignments. No reading; lots of walking, looking, and discussing; some drawing and writing. The final very short paper will be a critical report on a building chosen by the student. **This is a Liberal Arts course, but students of Civil Engineering are specially invited to enroll.**

Professor David H. Wright completed the requirements in Physics at Harvard in three years, just after the war; however, for his general education requirement, he took a course with the Dean of the School of Design. That course and two other courses in history of art persuaded him to switch and graduate in Fine Arts, and to take the Bauhaus Basic Design course with Joseph Albers. He has taught at Berkeley since 1963. All his scholarly publications concern Late Antiquity and the Dark Ages, but he cares passionately about the architecture and civic design we live with every day.

**Integrative Biology 24, Section 1
Animal and Human Navigation: Which Way Is Home? (1 unit, LG)
Professor Roy Caldwell
Monday 2:00-3:00, 5192 Valley Life Sciences Building, CCN: 43003**

A homing pigeon can return to its loft after being shipped one thousand km to a place it has never been. A whale spends its summers in the Bering Sea and its winters near Maui. A female sea turtle returns for the first time to a beach where she hatched thirty years earlier to lay her own eggs. A Monarch butterfly flies south two thousand km to spend the winter in a secluded grove in central Mexico. A limpet returns forty cm to a favorite depression in a rock. The abilities of animals to navigate have intrigued biologists for decades. We will read a series of papers describing how animals navigate and how they use such methods as landmarks, celestial cues, and geomagnetic fields to determine where to go and what route to follow. We will also attempt to replicate experiments that suggest that humans are able to navigate using geomagnetic fields. At the end of the semester, each student will be required to write a short review paper discussing navigation and orientation by an animal of his or her choice. **This seminar is designed for students with a general interest in animal biology and more specifically animal behavior. Registration for this seminar is by instructor approval only. Interested students should put their names on the waitlist and then attend the first class meeting.**

Roy Caldwell is a Professor of Integrative Biology with a background in insect migration and marine invertebrate animal behavior.

**Integrative Biology 24, Section 2
Biology: The Study of Life (1 unit, P/NP)
Professor Tyrone Hayes
Wednesday 5:00-6:00, 5192 Valley Life Sciences Building, CCN: 43006**

Food for Thought dining arrangements will be discussed in class.

Biology: The Study of Life is a course primarily designed for non-science majors. The course will examine scientific issues that we are confronted with in our everyday life: health and nutrition, reproduction, etc. The seminar will focus on current events and political issues that we are confronted with today: what is stem cell research? intelligent design? pesticide reform? bio-fuels? genetically modified organisms? **Non-science majors are encouraged to enroll. This seminar is part of the Food for Thought Seminar series.**

Tyrone Hayes is a Professor of Integrative Biology. He received his Bachelor's degree from Harvard and his PhD from the Department of Integrative Biology, UC Berkeley. Professor Hayes is a developmental endocrinologist whose research focuses on the role of hormones in development and the impact of pesticides on amphibian development and in human cancer. For more information regarding Professor Hayes, visit atrazinelovers.com.

Integrative Biology 24, Section 3
The Stone Age (1 unit, P/NP)
Professor Tim White
Tuesday 3:00-5:00, 18 Hearst Gym, CCN: 43009

This seminar will meet the first eight weeks of the semester.

This seminar is an overview of human evolution and prehistoric archaeology. The seminar considers the methods and findings of human evolutionary studies, and introduces laboratory and field investigations into this topic. It will cover the biological and technological evidence of human evolution across the last six million years, and will focus on current debates about human origins. Hands-on experience with fossils and artifacts from around the world will be an integral part of the seminar. Students will be introduced to primary research papers and will be encouraged to critically evaluate published claims about human evolution and related subjects. **Enrollment is limited to first-semester freshmen.**

Professor Tim White has taught at all levels on the Berkeley campus for twenty-seven years, first in the Anthropology Department, and now in Integrative Biology. He conducts fieldwork in Africa and Eurasia and has made many discoveries relating to the topic of the seminar. He co-directs Cal's Human Evolution Research Center and is the Curator of Biological Anthropology in the Hearst Museum of Anthropology.

Integrative Biology 24, Section 4
Dinosaur Biology: An Introduction to Research (1 unit, LG)
Professor Kevin Padian
Wednesday 12:00-1:00, 5192 Valley Life Sciences Building, CCN: 43012

If dinosaurs are all extinct, how can we know anything about their biology? The answer to this question gives you the key to how we learn about the past: how we gather information, form and test hypotheses, and propose new questions to ask. This seminar focuses on the methods we use (field, lab, and most importantly intellectual methods), the kinds of information available and not available from fossils, and how we integrate information from living forms to try to reconstruct a view of long-extinct ones. The course sessions require reading preparation, contributions to discussion, and some hands-on experience. By the end, you will probably know more about dinosaurs, but especially about how paleontologists, geologists, and evolutionary biologists know about the processes of life that have produced the biodiversity of the past as well as the present.

Kevin Padian would like to play first base for the Oakland A's, but he is over the hill for that one. Instead, he spends his time doing research on how new major evolutionary changes and adaptations get started. Part of his focus is on the Age of Dinosaurs; in addition to being a professor in IB, he is a curator in the Museum of Paleontology. Last year he served as an expert witness at the "intelligent design" trial in Dover, Pennsylvania.

Integrative Biology 24, Section 6
Saving Nature in the Age of Global Warming (1 unit, P/NP)
Professor Anthony Barnosky
Monday 10:00-12:00, 4110 Valley Life Sciences Building, CCN: 43017

This seminar will meet alternating Mondays, beginning September 8, 2008.

In the past two years a floodgate has opened, with books, movies, and innumerable news reports all publicizing that global warming is real, that people are causing it, and that we all are wondering how the world will change as a result. One of the major changes will be in what happens to Earth's ecosystems. This course will explore the ecological impacts of global warming and what we can do to save nature in the Age of Global Warming. **This seminar is for students who want to be exposed to a broad spectrum of ecological and societal issues associated with global warming, and to learn how what they do as an individual can have an impact on the world.**

Anthony Barnosky is a Professor of Integrative Biology, Curator in the Museum of Paleontology, and Research Paleoecologist in the Museum of Vertebrate Zoology. His research focuses on using the paleontological record to understanding the effects of environmental changes on ecosystems. For more information regarding Professor Barnosky, visit <http://ib.berkeley.edu/labs/barnosky/adbprofile.htm>.

Linguistics 24, Section 1
Language and Politics in Southern Africa (1 unit, P/NP)
Professor Sam Mchombo
Monday 12:00-1:00, 89 Dwinelle Hall, CCN: 52272

Food for Thought dining arrangements will be discussed in class.

This seminar will focus on political developments in Southern Africa and the use of language in fostering national identity and attaining cultural emancipation. We will look at case studies representative of the dynamics of the region. The topics covered will include a brief history of the peoples of Southern Africa; family structure, kinship systems and traditional political institutions; cultural practices and religious beliefs; the impact of contact with western culture and civilization on language issues and political organization; language and its role in fostering national identity in post-independence Africa; models of national language policy in multi-ethnic societies; language use and democratic practice and human rights; the impact of AIDS on economic development and linguistic ecology; prospects of mother-education, and the use of African languages in science and technology. Since the course is a seminar, students will be expected to participate actively in the class. There will be a course reader. There will be no examinations. Grades will be based on one 500-word paper and class participation. **This seminar is part of the Food for Thought Seminar Series.**

Sam Mchombo is an Associate Professor in the Department of Linguistics, which he joined in 1988. He received his B.A. from the University of Malawi and Ph.D. from the University of London. He pioneered and taught courses in Linguistics and African Language Structure in what is now the Department of African Languages and Linguistics in the University of Malawi. From 1985-1988 he was a member of the Linguistics faculty at San Jose State University, teaching courses on general linguistics, syntax, and semantics. His research focuses on grammatical theory and African linguistic structure. Recently, he has also focused on aspects of African politics, delivering talks at the World Affairs Council on emergent democracies, as well as human rights in Africa. His publications include *Theoretical Aspects of Bantu Grammar* (1993), *The syntax of Chichewa* (Cambridge University Press, 2004), and "Democratization in Malawi: Its Roots and Prospects," published in a volume edited by Jean-Germain Gros called *Democratization in Late Twentieth-Century Africa*. Other works include papers on "National Identity, Democracy and the Politics of Language in Malawi and Tanzania," as well as "The Role of the Media in Fostering Democracy in Southern Africa," both published in *The Journal of African Policy Studies*,

"Religion and Politics in Malawi" in *Issues in Political Discourse Analysis* (2005), and "Sports and Development in Malawi" in *Soccer and Society* Vol. 7 No. 2-3, 2006. He has delivered invited lectures and conference presentations in Hong Kong, Europe, Mexico, and in Africa. In Spring 2003, he was appointed Distinguished African Scholar by the Institute for African Development at Cornell University.

Linguistics 24, Section 2

Language Myths (1 unit, P/NP)

Professor Larry Hyman

Monday 10:00-11:00, 105 Dwinelle Hall, CCN: 52275

Everyone has preconceptions about language in general and languages in particular. But are these accurate? In this course we will discuss and evaluate a number of common language myths such as these: Are all languages equally complex? Are some more logical? More beautiful? Is there such a thing as a primitive language? Do some people speak more grammatically than others? Is the English language undergoing a process of decay? We will draw on facts from English, other languages that may be familiar to participants, and less known languages which bear on the above and other questions. **No linguistic or other prerequisites are required. All interested students are welcome, especially students who have a fascination with language and/or languages.**

Larry M. Hyman is a Professor of Linguistics at Berkeley where he chaired the Department of Linguistics from 1991 to 2002. He obtained his Ph.D. at UCLA in 1972 and subsequently taught at USC until coming to Berkeley in 1988. His research centers around the study of sound systems (phonology) and grammar, particularly within Bantu and other Niger-Congo languages in Africa. His publications include several books and numerous articles in the major journals in general and African linguistics. One of his long-standing interests is the study of tone languages, as found in Africa, Asia, Meso-America and elsewhere.

Materials Science and Engineering 24, Section 1

Materials in Music (1 unit, P/NP)

Professor Ronald Gronsky

Monday 2:00-4:00, 128 Hearst Memorial Mining Building, CCN: 53403

The lab will also be available from 4:00-5:00 in case students wish to stay after class to use the equipment, play music, etc.

Is a rosewood fretboard any better than a maple one? Why does the same brass cymbal go from "crash" to "clunk" when aged? Can the tonal range of magnetic pick-ups be enhanced in single-coil, humbucking, or triple-wound configurations? Does it really matter if those strings are nickel wrapped? Is platinum better? The answer to these questions lies in the microstructure of materials, as illustrated in this hands-on seminar for musicians, poets, or engineers. We will establish the relationship between the acoustical signatures of various materials used in music and their microstructures, to show how performance (tone) can be optimized through microstructural manipulation. **Enrollment is limited to twelve freshmen.**

Professor Gronsky holds the Arthur C. and Phyllis G. Oppenheimer Chair in Advanced Materials Analysis in the College of Engineering and is a recipient (2001) of the Distinguished Teaching Award. He currently conducts research on the fundamental relationship between the atomic structure and properties of materials used in nanotechnology and biomedical applications.

Mathematics 24, Section 1

The Mathematics of Gambling (1 unit, P/NP)

Professor F. Alberto Grunbaum

Tuesday 11:00-12:30, 939 Evans Hall, CCN: 54418

This seminar will meet the first ten weeks of the semester.

People have gambled using dice or tossing coins for several centuries. In fact, several important areas of mathematics were developed to answer questions posed by gamblers. These pieces of mathematics eventually found unexpected applications in physics, chemistry, and several parts of engineering. We will discuss a number of questions that a gambler may consider of interest. The three guiding principles in the selection of material will be 1) it will be very elementary; 2) it will show that common sense cannot always be trusted; and 3) it will illustrate the interconnection between mathematics and several physical sciences.

Alberto Grunbaum is a Professor in the Mathematics Department at UC Berkeley. His fields of expertise include analysis, probability, integrable systems and medical imaging.

Mathematics 24, Section 2

What is Happening in Math and Science? (1 unit, P/NP)

Professor Jenny Harrison

Friday 3:00-4:00, 891 Evans Hall, CCN: 54421

In this seminar, we will discuss the latest developments in science and math. Students will present short oral reports from articles of their choice in the Science Times, Scientific American, Science News, or articles in What is Happening in the Mathematical Sciences. Discussion and debate are encouraged especially when controversial or challenging issues arise, e.g., cloning of organs, string theory, stem cell research, and geopolitics of global warming. Students are encouraged to think of applications and possibilities of new research projects. Brainstorming and creative thinking are encouraged! **Students considering a major in math or science have found this seminar a useful resource to help clarify their choice.**

Jenny Harrison obtained her Ph.D. in mathematics in Warwick, England. She has taught at Oxford, Princeton, and Yale, as well as UC Berkeley. Her research interests include a new quantum calculus that applies equally to charged particles, fractals, smooth surfaces, and soap films. Applications of this theory to sciences may arise during this seminar.

Mechanical Engineering 24, Section 1

Art and Science on Wheels (1 unit, P/NP)

Professor Benson Tongue

Wednesday 11:00-12:00, 202 Wheeler Hall, CCN: 56003

This seminar will examine two devices near and dear to my heart—the automobile and the bicycle. Both of these have undergone a long history of change and innovation; both inspire passion in their users and both embody technical as well as artistic excellence. Some issues we will look at will be efficiency, alternative power sources, environmental impact, dynamics, aerodynamics and handling. Along the way we'll dispel some myths, and ideally people will leave with a deeper appreciation for what bicycles and cars truly represent. **Enrollment is limited to twelve students.**

Benson H. Tongue is a Professor in the Department of Mechanical Engineering and has been a member of the faculty since 1988. His interests lie in the fields of vibrations, dynamics and controls, not to mention Scottish dancing, bicycling and bird watching. He is the author of Principles of Vibrations and Dynamics: Analysis and Design of Systems in Motion.

Mechanical Engineering 24, Section 2

Computer Graphics Tools (1 unit, P/NP)

Professor Dennis Lieu

Monday 5:00-6:00, 2105 Etcheverry Hall, CCN: 56005

Bitmap or vector? JPG or TIF? AutoCAD or ProE? This seminar will provide an overview of many of the computer graphics formats available today on PC's. Find out about two-dimensional drawing, three-dimensional solids modeling, animation and special effects. Students will be introduced to sophisticated technical drawing and modeling tools such as AutoCAD, Solidworks, Pro/E and 3D Studio.

Dennis K. Lieu is a Professor in the Department of Mechanical Engineering. He teaches beginning and advanced engineering design graphics classes in the College of Engineering.

Molecular and Cell Biology 90B, Section I
Insulin as a Window on Discovery in Biology (1 unit, P/NP)
Professor Randy W. Schekman
Tuesday 3:00-4:00, 2038 Valley Life Sciences Building, CCN: 57820

The discovery and therapeutic application of insulin was one of the most dramatic developments in twentieth-century biomedical science. We will consider the impact of insulin in protein biochemistry, and molecular and cell biology. We will also explore the role of the individual scientist in the process of discovery and the importance of animal research in biomedical science. The Discovery of Insulin by Michael Bliss will be available in the student bookstore and Invisible Frontiers: The Race to Synthesize a Human Gene by Stephen S. Hall will be provided in class because it is out of print. Glory Enough For All, a Canadian film and dramatic portrayal of the insulin story, will be available for viewing. **Students considering a major in Molecular and Cell Biology as well as all other interested students are welcome to enroll. This seminar is open to all students interested in the discovery process in the life sciences. A background in high school biology will be useful; AP biology is particularly appropriate preparation for the material we cover.**

Randy Schekman is a Professor of Cell and Developmental Biology in the Department of Molecular and Cell Biology and an Investigator in the Howard Hughes Medical Institute. Schekman is past Chair of the Department and currently is Chair of the Chancellor's Advisory Committee on Biology, a council that covers the span of life science research conducted on the Berkeley campus. Schekman also directs the campus program in stem cell biology. The research in Schekman's laboratory focuses on the mechanism of transport of membrane proteins within the eukaryotic cell.

Molecular and Cell Biology 90B, Section 2
Blood, Guts and Plumbing: The Human Body (1 unit, P/NP)
Professor John Forte
Thursday 11:00-12:00, 35 Evans Hall, CCN: 57823

The human body is a wonderful machine. It has pumps, combustion cells, fuel storage and exhaust systems. It even comes with air conditioning and circulating coolant. This seminar will explore the operation of these systems. In the first seven weeks Professor Forte will lecture and discuss functions of the human body, e.g., cardiovascular, respiratory, renal, gastrointestinal, and immune systems. In the last eight weeks students will prepare an oral presentation of their reading and library research on a specific physiological function or pathology resulting from dysfunction.

Professor Forte has taught and done research at Berkeley since 1965. He received an undergraduate degree from Johns Hopkins University, where he also played football and was captain of the fencing team. He received his Ph.D. in Physiology from the University of Pennsylvania. Here at Cal he currently teaches Biology 1A, a freshman seminar class (MCB 90B) and an advanced course in physiology (MCB 136). His research interests concern the mechanisms of biological membrane transport and the regulation of these processes. He has frequently used the gastrointestinal tract as a model to explore the biophysics and biochemistry of cellular secretory and absorptive systems. He is the principal discoverer of the mechanism of gastric acid secretion: the definition of the gastric proton pump; cooperativity of the pump

with ion channels to effect HCl secretion; and the mechanism of membrane recycling as the basis for acid secretory regulation.

Molecular and Cell Biology 90E, Section I

Music, Mind, Brain (1 unit, P/NP)

Senior Lecturer David E. Presti

Wednesday 3:00-4:00, 2030 Valley Life Sciences Building, CCN: 57832

Music has a deep and mysterious impact on the human psyche and on human behavior. This seminar will explore music, the brain, the human mind, and how they are related. Content will range from the biophysics of sound sensation and the neurophysiology of auditory perception to an exploration of the evolution of music, from its roots to modern genres.

David Presti has taught neuroscience in the Department of Molecular and Cell Biology for seventeen years. He has also taught neuroscience to Tibetan monks in India and is interested in how science can address the connection between what we know as the brain and what we call the mind.

Natural Resources 24, Section I

Global Environment Theme House Freshman Seminar (1 unit, P/NP)

Professors Peter Berck and Scott Stephens

Thursday 5:00-6:00, Classroom A in Foothill 4, CCN: 61303

After the formal sessions, the professor and students may continue their discussion informally over dinner in the Dining Commons. Food for Thought dining arrangements and field trip arrangements will be discussed in class.

The goal of this Freshman Seminar is to bring students and faculty together to explore issues such as global environmental change, policy and management of natural resources, sustainable rural and urban environments, and environmental leadership. The seminar will provide students and faculty a forum to exchange ideas, challenge one another's thinking, and share experiences in a small group setting. Students will have the opportunity to do research and teach their peers about regional to global environmental issues in preparation for Theme Program field trips and guest speakers. **Course enrollment is restricted to Global Environmental Theme House participants. Obtain CEC from the instructor. This seminar is part of the Food for Thought Seminar Series.**

Peter Berck is a Professor of Agricultural and Resource Economics and Policy. He was an undergraduate at Cal, received a Ph.D. in Economics from MIT in 1976, and has been teaching at Cal ever since. His research has been on the economics of forestry, fisheries and water, on food security in developing nations, and on the costs of environmental regulation.

Scott Stephens is an Associate Professor in the department of Environmental Science, Policy & Management. He received his Ph/D. in Wildland Resource Science from UC Berkeley and his B.S. in Electrical Engineering from Sacramento State University. He is interested in the interactions of wildland fire and ecosystems.

Near Eastern Studies 24, Section I

Ancient Egypt at Berkeley: Egyptian Archaeology in the Hearst Museum (1 unit, LG)

Professor Carol Redmount

Tuesday 1:00-2:00, Exhibit Gallery in Hearst Museum (first meeting) and 271 Barrows Hall, CCN: 61442

The first seminar meeting will be held in the Exhibit Gallery in Hearst Museum, Kroeber Hall. Future seminar meeting locations will be announced in the first class.

The Hearst Museum has one of the most important collections of ancient Egyptian artifacts in the United States and the best west of Chicago. Most of the almost 19,000 ancient Egyptian objects in the museum came from excavations undertaken in the early 1900s by George Reisner, with funding provided by Phoebe Apperson Hearst. Only a very tiny fraction of this collection is ever displayed in the museum, due to space constraints. In this seminar, we will examine the background and history of the collection, its housing and treatment in the museum, and various objects from the collection. Students will learn to use various resources of the museum and have the opportunity to work with ancient objects. **First year students with no background in the field are encourage to enroll.**

Carol Redmount is an Associate Professor in the Near Eastern Studies Department. She specializes in the archaeology of Egypt and the southern Levant, and directs the new UC Berkeley excavations at El-Hibeh, a three-thousand-year-old provincial town and cemetery site in Middle Egypt. She began her archaeological fieldwork the summer of her freshman year in college and hasn't stopped excavating since. She first worked in Egypt in 1978 and lived in Cairo for three years in the mid-1980s. She also has taken part in archaeological research in Cyprus, Israel, Jordan, Tunisia, and the United States.

Near Eastern Studies 24, Section 2
Islam and Imaginative Literature: The Making of a Problematic Relation (1 unit, LG)
Professor Muhammad Siddiq
Wednesday 11:00-12:00, 129 Barrows Hall, CCN: 61445

This course explores the status of imaginative literature in Islamic contexts. Beginning with the attitude of the Qur'an towards poetry and poets (which we will compare to the views of Plato and Aristotle on the subject), the course will examine the perimeters of literary expression and the theological constraints placed on it in various phases of Islamic history up to the present. Students are expected to write several short, informal, but analytical essays. In addition, regular attendance and participation in class discussion will figure in determining the overall grade in the course.

Professor Muhammad Siddiq is trained in Comparative Literature with special expertise in Arabic, Hebrew, and English. He is currently working on a project that examines the poetics of Palestine in the works of the major Palestinian poet Mahmoud Darwish.

Nutritional Sciences and Toxicology 24, Section 1
The Freshman Experience: A Comparative Study (1 unit, P/NP)
Professor George Chang
Wednesday 11:00-12:00, Unit 2 Towle Residence Hall L3 Seminar Room, CCN: 64596

This is a Food for Thought Seminar. Students are urged to keep the Wednesday 12:00-1:00 p.m. time slot open for seminar lunches. Towle Hall is located in Unit Two at 2650 Haste Avenue between College and Bowditch.

The freshman experience offers problems and challenges to the first-year student. For example: How can I cope with The Roommate from Hell? What about the "freshman fifteen" pounds of weight gain? Why do I have more reading in one week than I had in all of high school? Is Chemistry IA really more frightening than death itself? Why can't my GSI speak Californian English? Are assignments and exams really necessary? Each week a team of students will select a question like these, research it for a week, and then present their findings to the class. A lively discussion will follow, with each student speaking every week. In fall 2008, "The Freshman Experience" will be held in Unit 2 Towle Residence Hall L3 Seminar Room to enhance the living-learning connection in the residence halls. **This seminar is part of the Food for Thought Seminar Series. After seminars, students and faculty can continue their discussions over lunch at the Crossroads Dining Commons.**

Professor Chang received an A.B. in chemistry from Princeton and a Ph.D. in biochemistry from Cal. He has been heavily involved in undergraduate affairs, serving on the Undergraduate Affairs Committee, the Committee on Courses, and the Committee for Undergraduate Scholarships and Honors of the Academic Senate. He has also served on ad hoc committees dealing with disabled students and the need to develop a sense of community on each of the UC campuses. His most exciting assignment in the 20th Century was to serve on The Chancellor's Commission to Study the University's Responses to a Diversified Student Body. In 2005 Professor Chang became the inaugural professor in Cal's new Residential Faculty Program.

Physics 24, Section I

From Mythbusters to Science Fiction: How Do We Know Things? (1 unit, P/NP)

Professor Robert Jacobsen

Wednesday 11:00-12:00, 122 Latimer Hall, CCN: 69504

Food for Thought dining arrangements will be discussed in class.

Physics advances when we figure out that something we think we know doesn't work like that, or we finally start to understand something that we didn't yet know. Both parts are important. In this seminar we'll use a number of different examples, ranging from episodes of the MythBusters TV show to famous works of science fiction to explore how that works. Why do we think the things we do as individuals? As a scientific community? Why are we so willing to extrapolate from them, and when does that tend to work (or not)? Some reading is required. **No specific background is needed, just a sense of curiosity and a willingness to question what you think you know. This seminar is part of the Food for Thought Seminar Series.**

Bob Jacobsen is an experimental high-energy physicist and ex-computer engineer. His previous project involved hundreds of physicists and thousands of Linux computers at sites around the world; his next one definitely won't.

Plant and Microbial Biology 24, Section I

Encounters with Plants: First-hand Experiences with the Culture, Lore, and History of Plants (1 unit, P/NP)

Professor Lewis Feldman

Tuesday 11:00-12:00, 104 Genetics and Plant Biology Building, CCN: 70406

This seminar is meant to provide students the opportunity to explore ways plants have influenced their lives, both personally and in an historical sense. Examples could include unique cultural uses of plants, perhaps as foods or medicines, or in a ceremonial way. As well, you could also use this seminar to explore an aspect of plants in which you may have an interest, and about which you would like to learn more, such as the ways plants figure into art (e.g., Rousseau's Jungle paintings). Plants too have recently been associated with controversial issues, such as genetically engineered foods. We want to use this seminar as a way of expanding our appreciation and understanding of this unique group of organisms. For the first few meetings we will have talks/discussions from individuals whose daily lives involve plants. For the remaining weeks each student will present a twenty-minute "seminar" on a plant topic in which he or she has an interest. This seminar should be based on readings and could also involve some personal, first-hand experiences with plants.

Lewis Feldman has been teaching about plants at Berkeley for nearly thirty-two years. He regularly instructs in the plant section of Introductory Biology (Biology 1B). He is a member of the Department of Plant and Microbial Biology, where he conducts research on plant development, with a particular interest in understanding how plants are organized, and how patterns are established. He has also studied how plants detect and respond to gravity.

Portuguese 24, Section 3**Islands, Myths and Heroes (I unit, P/NP)****Professor Ana Maria Martinho****Wednesday 2:00-3:00, 104 Genetics and Plant Biology Building, CCN: 86612**

Islands determine and foster specific forms of cultural evolution throughout the world. How many islands exist in the different continents? How many do you know or have you heard about? Which ones can you point out in the Atlantic? In this course we will explore many circulating discourses about these spaces, learning about secrets, symbology, knowledge. Reality and myths will come together through videos, images, cultural texts, fiction and different forms of storytelling to help us understand these fascinating worlds. We will also talk about heroes that have shaped insular communities and changed them. Their example can be read in many different ways and one can find ancient tales of heroism as well as contemporary ones. A reader will be provided with all the documentation and references that you will need to know more about this topic and to take you through the discovery of these cultures. **Readings and discussions will be in English.**

Ana Maria Martinho was born in Portugal and has also lived in the US before 2006 and in Africa for short-term stays. She is since July 2006 an Assistant Professor in the Department of Spanish and Portuguese where she teaches at undergraduate and graduate levels. She offers courses like "Ethnography and Literature", "Nation and Gender in Africa and Brazil", "Colonial History", and "Culture Media and Politics in Lusophone Countries". Her main interests are Portuguese and Luso-African Cultures and Literatures; Education and Development in Africa; Atlantic Cultures; African Diaspora and Emigration. She travels frequently to Africa and has worked with universities across the world, from Mozambique to South Africa, Thailand, Australia, Venezuela and Brazil. Currently she has projects in Guiné-Bissau and Angola in the fields of Education & Development and Higher Education. She has also an extensive cooperation record of working with non-profit organizations and governmental offices (EU - Belgium; Foreign Affairs Ministry-Portugal) as a consultant, evaluator or collaborator in training and project planning. She has published extensively and is currently preparing the publication of a book on Luso-African cultures and literatures. She will be working in Guiné-Bissau in June 2008.

Psychology 24, Section 3**The Psychology of Scientific and Religious Explanations (I unit, P/NP)****Professor Tania Lombrozo****Wednesday 2:00-3:00, 2235 Tolman Hall, CCN: 74081**

This seminar will consider how we explain the world around us. Why are some explanations more satisfying than others? Why are people drawn to pseudo-science and superstition? A main focus will be scientific and religious explanations, with the debate over evolution and creationism as a case study. Readings will come primarily from the experimental literatures in cognitive psychology and cognitive development. We'll aim to understand how basic cognitive processes influence our understanding of, preference for, and acceptance of different kinds of explanations.

Tania Lombrozo is an Assistant Professor in the Department of Psychology at UC Berkeley. She is also affiliated with the Department of Philosophy and with the group major in Cognitive Science. She works in the area of Cognition, Brain, and Behavior, using the methods of cognitive psychology to address questions about explanation, causal reasoning, conceptual representation, and moral reasoning.

Rhetoric 24, Section 1**Arguing with Judge Judy: Popular "Logic" on TV Judge Shows (I unit, P/NP)****Professor Daniel F. Melia****Tuesday 9:00-10:00, 186 Barrows Hall, CCN: 77859**

TV "Judge" shows have become extremely popular in the last 3-5 years. A fascinating aspect of these shows from a rhetorical point of view is the number of arguments made by the litigants that are utterly illogical, or perversions of standard logic, and yet are used over and over again. For example, when asked "Did you hit the plaintiff?" respondents often say, "If I woulda hit him, he'd be dead!" This reply avoids answering "yes" or "no" by presenting a perverted form of the logical strategy called "a fortiori" argument ["from the stronger"] in Latin. The seminar will be concerned with identifying such apparently popular logical fallacies on "Judge Judy" and "The People's Court" and discussing why such strategies are so widespread. It is NOT a course about law or "legal reasoning." **Students who are interested in logic, argumentation, and popular notions of fairness will probably be interested in this course. This is NOT a law course or even a pre-law course.**

Professor Melia belongs to the Rhetoric department and the Program in Celtic Studies. His scholarly interests include Classical rhetorical theory, oral discourse, and medieval Celtic literature and languages. His recent publications concern Aristotle and orality and the forms of early Irish poetry. He is a former Jeopardy! champion.

Slavic Languages and Literatures 24, Section 1
War and Peace: Let's Read It Together (1 unit, P/NP)
Professor Hugh McLean
Friday 9:00-11:00, 6115 Dwinelle Hall, CCN: 79742

This seminar is a collective exploration of this great novel, seen both as a work of literary art and as a response to philosophical issues of its time. **Enrollment is limited to twelve students. No knowledge of Russian is required, nor are there any special qualifications. No term paper. Grade will be based on class attendance and participation.**

Hugh McLean is a Professor Emeritus of Slavic Languages and Literatures at UC Berkeley. He has taught a wide range of courses on Russian literature and was an active member of the faculty from 1967 to 1994. Since then he has been recalled to teach regular courses and more recently has taught Freshman-Sophomore and Freshman seminars.

Spanish 24, Section 2
Baseball Spanish (1 unit, P/NP)
Professor Ignacio Navarrete
Monday and Wednesday 11:00-12:00, 33 Dwinelle Hall, CCN: 86181

This seminar will meet the first seven weeks of the semester.

Writing in Spanish about baseball retains the colorful character that English-language sports writing used to have. When examined closely, it can also teach us a good deal about certain linguistic processes, particularly translation and metaphor formation. In this seminar we will read and listen to Spanish-language baseball coverage over the internet, discuss it, and try our hands at writing some short pieces ourselves. We'll also talk about the role of baseball in the Spanish-speaking world. **Prerequisite: enough Spanish to read a newspaper.**

Professor Ignacio Navarrete was born in Cuba, grew up in New York, and has taught at UC Berkeley since 1987. His area of specialization is Medieval and Renaissance Spanish literature.

Theater, Dance, and Performance Studies 24, Section 1
Documentary Playmaking: School Integration, Little Rock, 1957-58 (1 unit, P/NP)
Professor Dunbar Ogden
Monday 2:00-4:00, 8 Zellerbach Hall, CCN: 88048

This seminar will meet for eight weeks, beginning September 8, 2008 and ending November 3, 2008.

On the fateful morning of September 4, 1957, a small group of African-American students walked up to the doors of Central High, Little Rock, to enroll in school—and were turned away by the National Guard. Arkansas State Governor Faubus had called out the Guard to surround the building. "Blood will run in the streets," said Faubus, "if Negro pupils should attempt to enter Central High School." A racist mob seethed out front. Eventually the courageous group of children did enter. The first of them graduated in the spring of 1958. They came to be known as the Little Rock Nine; Central High as the first major integrated public high school in the South. Nowadays many people regard their mentor, Daisy Bates, on a level with Martin Luther King, Jr. Each student in our Freshman Seminar will select a person who participated in the integration of Central High, study historical documents linked with that individual, and develop a monologue in the role of the person, perhaps as one of the Little Rock Nine or as the Governor or as the principal of Central High. We will encourage each student to experiment with a role different from his or her own gender and cultural background.

Professor Dunbar H. Ogden has just published a book, entitled *My Father Said Yes*, about the integration crisis at Central High School, Little Rock. He developed this civil rights book in conjunction with students in his freshman seminars since 2000. Professor Ogden is the author of books on actors, set design, and theatrical space.

**Vision Science 24, Section 3
The Human Eye (1 unit, P/NP)
Professor Richard C. Van Sluyters
Friday 2:00-4:00, 394 Minor Hall, CCN: 66403**

This seminar will meet approximately every other week throughout the semester, beginning the first week of the semester.

This seminar will include a series of instructor-led discussions on the structure and function of the human eye and its appendages. The use of standard clinical instruments to view the exterior and interior of the eye will be demonstrated. Students will then employ these instruments to observe one another's eyes. Digital images of the iris will be captured and provided to each student. Examples of the topics to be discussed include the following: Why is the cornea so clear and the sclera so white? Why is the iris so beautifully colored? What is the fluid in the eye, where does it come from, and where does it go? How do the skull and bony orbit protect the eye without hindering its performance? How do the appendages of the eye—the eyelids and eyebrows—work, and what are their functions? How does the eye adjust its focus from far to near, and why do we lose this ability with age? How do contact lenses work, and what happens to the cornea when laser refractive surgery is performed? **Enrollment is limited to ten students.**

Professor Richard C. Van Sluyters joined the faculty of the School of Optometry in 1975, and currently serves as the School's Associate Dean for Student Affairs. He received his undergraduate training at Michigan State University, studied optometry at the Illinois College of Optometry and was a graduate student at Indiana University. He holds doctorates in optometry and vision science and was a postdoctoral fellow at Cambridge University in England. He teaches courses on the anatomy and physiology of the eye and visual system.

**Vision Science 24, Section 4
Myths, Mysteries and Discoveries in Medicine (1 unit, P/NP)
Professor Patsy Harvey
Thursday 12:30-2:00, 394 Minor Hall, CCN: 66405**

This seminar will meet the first ten weeks of the semester.

Throughout the centuries, people sought to understand the reasons for diseases and death. Intriguing explanations, myths and superstitions were developed in an attempt to describe and prevent their medical maladies. In this course, we will discuss early and current explanations of health problems, with special considerations given to various cultures in the US and around the world. We will also discuss recent changes in health care and imagine future roles and discoveries of medicine. **Students enrolled in this seminar should be curious about people's beliefs and misconceptions about health and diseases, including our own myths about vision.**

Dr. Patsy Harvey received her Doctor of Optometry and Masters in Public Health from UC Berkeley. She currently teaches at the UC Berkeley School of Optometry, including courses on Systemic Diseases, Geriatrics, and the History of Medicine and Optometry. During her international travels and clinical work, she developed a fascination with health beliefs in other countries and times, and enjoys discussing their beliefs and myths with others.

**Vision Science 24, Section 5
Oh Say Can You See (1 unit, P/NP)
Professor Dennis Levi
Monday 4:00-6:00, 491 Minor Hall, CCN: 66406**

This seminar will meet every other week throughout the semester, beginning the Monday after Labor Day (September 8th).

Visual illusions are tricks that the eye plays on the brain. Illusions can tell us a great deal about the heuristics (rules of thumb) and algorithms (structural rules) that might operate in the visual cortex. This seminar focuses on visual illusions and the eye and brain mechanisms that underlie them. The class will include demonstrations, a field trip to view "natural" illusions on the Berkeley campus, and another to view illusions at the Exploratorium. This seminar will meet approximately every other week throughout the semester, beginning the first week of the semester.

Dennis M. Levi is the Dean of the School of Optometry at the University of California, Berkeley. He received his initial training in Optometry in South Africa, and did advanced training in London and New York. He received the O.D. and Ph.D in Physiological Optics from the University of Houston, where he became a Professor of Optometry and Physiological Optics, and Associate Dean for Research and Graduate Studies in the College of Optometry. In 1996, he became the Cullen Distinguished Professor of Optometry, a lifetime University Chair. Dr. Levi achieved international prominence as a vision scientist for his research in amblyopia, a major cause of vision loss in children. He has been a recipient of the American Academy of Optometry's Garland Clay and Glenn Fry awards as well as an honorary doctorate of science from the State University of New York. He has served as Chair of the National Institutes of Health Visual Sciences B Study Section and a member of the institute's special review committee as well as on the editorial boards of a number of scientific journals.

SOPHOMORE SEMINARS

The following courses are limited to 15 students. Each is offered for one or two units of credit. Second-year students will be given priority for enrollment. Courses designated P/NP may be taken pass/no pass only; courses designated LG may be taken for a letter grade or on a pass/no pass basis. If a course is designated as requiring the consent of the instructor, or if you would like additional course information, contact the undergraduate assistant in the department offering the seminar.

English 84, Section 1

Contemporary Native American Short Fiction and Poetry (1 unit, P/NP)

Professor Hertha D. Sweet Wong

Tuesday 4:00 - 6:00, 305 Wheeler, CCN: 28194

Contemporary Native American stories are survival stories, reckonings with the brutal history of colonization and its ongoing consequences: they calculate indigenous positions, settle overdue accounts, note old debts, and demand an accounting. These are the stories, says Joy Harjo, that "keep us from giving up in this land of nightmares, which is also the land of miracles." Focusing on the short fiction of a select number of contemporary Native North American writers from within the U.S., we will examine how these Native writers convey cultural survival in the wake of colonization; struggles for sovereignty; rejuvenations of ceremonial healing; retellings of myth and history; experiments with orality and literacy; articulations of a geocentric epistemology and land-based narrative; and the primacy of storytelling. In addition, we will examine the literary, cultural and regional influences on these writers and place their work in the context of Native American literatures specifically and U.S. literatures and global indigenous literatures, generally.

Hertha D. Sweet Wong is an Associate Professor in the English Department who specializes in American literatures, Native American literatures, autobiography and visual culture. Currently, she is working on a book on visual autobiography.

English 84, Section 2

Socrates as a Cultural Icon (2 units, P/NP)

Professor John Coolidge

Wednesday 3:00 - 5:00, 305 Wheeler Hall, CCN: 28873

Socrates has often been compared to Jesus, an enigmatic yet somehow unmistakable figure who left nothing in writing yet decisively influenced the mind of his own and later ages. We will read Aristophanes' comic send-up of Socrates in *Clouds* and the Platonic dialogues purporting to tell the story of Socrates' trial and death (*Euthyphro*, *Apology of Socrates*, *Crito*, and selections from *Phaedo*) attempting to trace the construction of the Socratic icon and assess its relevance to issues in our contemporary "culture wars," e.g. identity, freedom of speech, elitism, science and religion, "know thyself," the aims of education, authority, male chauvinism, virtue, anti-intellectualism, academic freedom, family, civil disobedience, "spin," body and soul, self-esteem, anomie, patriarchy, individualism, relativism, reductionism, self-ownership, conscience, reason, etc. Links to Wikipedia articles and other on-line resources on these topics are provided in the syllabus. Weekly meetings consist of two 50-minute sessions, each devoted to class discussion of one or another such issue, led by a team of two or more students who are to prepare for it in office-hour consultation with the instructor. The object is to provoke a lively debate. The course is intended to appeal especially to students who are desirous of getting in on the intellectual conversation of our time and curious about its cultural antecedents.

John Coolidge, emeritus professor of English and amateur classicist, has taught courses in the Renaissance and seventeenth century, Milton, Jane Austen, the English Bible as Literature, etc. His publications include articles on Shakespeare, Milton, Marvell, and Fielding, and a book on Puritanism and the Bible.

Natural Resources 84, Section I
Global Environment Theme House Sophomore Seminar (1 unit, P/NP)
Professors Scott Stephens and Peter Berck
Thursday 5:00-6:00, Classroom A in Foothill 4, CCN: 61306

After the formal sessions, the professor and students may continue their discussion informally over dinner in the Dining Commons. Food for Thought dining arrangements and field trip arrangements will be discussed in class.

The goal of this Sophomore Seminar is to bring students and faculty together to explore issues such as global environmental change, policy and management of natural resources, sustainable rural and urban environments, and environmental leadership. The seminar will provide students and faculty a forum to exchange ideas, challenge one another's thinking, and share experiences in a small group setting. Students will have the opportunity to do research and teach their peers about regional to global environmental issues in preparation for Theme Program field trips and guest speakers. **Course enrollment is restricted to Global Environmental Theme House participants. Obtain CEC from the instructor. This seminar is part of the Food for Thought Seminar Series.**

Scott Stephens is an Associate Professor in the department of Environmental Science, Policy & Management. He received his Ph/D. in Wildland Resource Science from UC Berkeley and his B.S. in Electrical Engineering from Sacramento State University. He is interested in the interactions of wildland fire and ecosystems.

Peter Berck is a Professor of Agricultural and Resource Economics and Policy. He was an undergraduate at Cal, received a Ph.D. in Economics from MIT in 1976, and has been teaching at Cal ever since. His research has been on the economics of forestry, fisheries and water, on food security in developing nations, and on the costs of environmental regulation.

FRESHMAN AND SOPHOMORE SEMINARS

Most of the following courses are limited to 20-25 students. First- and second-year students are given priority for enrollment. Most of these courses fulfill Letters and Science breadth requirements; consult *A Guide for Students in the College of Letters and Science: Earning Your Degree*. If a course is designated as requiring the consent of the instructor, or if you would like additional information, please contact the undergraduate assistant in the department offering the seminars.

Classics 39H, Section I

The Trojan War: History or Myth? (4 units, LG)

Professor Kim Shelton

Tuesday & Thursday 8:00 - 9:30, 279 Dwinelle, CCN: 14736

This course will explore the evidence for the Trojan War, one of the greatest stories ever told: literary, historical, visual and archaeological. The history of the search for the reality behind Homer's epic and its scholarship will be examined as well as detailed analyses of the theories currently in play. Through reading, visual analysis, discussion and writing students will discover for themselves the ancient world of the heroes and their legends. Was there ever an actual war between two powerful Bronze Age Aegean cultures? Did Hektor and Achilles ever really clash on the battlefield? Was Helen really "a face that launched 1000 ships?"

Kim Shelton is a faculty member in the Department of Classics and the Director of the Nemea Center for Classical Archaeology. She has two excavation projects in Greece, including the UC Berkeley Excavations at the Sanctuary of Zeus at Nemea and at the prehistoric Bronze Age site of Mycenae. She began excavating at a very young age and has never looked back. Her experience includes field work in this country as well as twelve years of full-time research in Greece. Other important personal facts include her cats named after famous archaeologists and her favorite Halloween costume - what else? Indiana Jones, whip and all. For more information regarding Professor Shelton, please visit her faculty web page at <http://shelton.berkeley.edu>.

Computer Science 39J, Section I

The Art and Science of Photography: Drawing with Light (2 units, P/NP)

Professor Brian Barsky

Friday 12:00-2:00, 405 Soda Hall, CCN: 2625 I

On the first day of instruction, please meet Professor Barsky at 12:10 in the Oak Room at the Foothill Dining Commons. At 1:10 pm, class will meet in 405 Soda Hall. Additional Food for Thought dining arrangements will be discussed in class.

This seminar explores the art and science of photography. Photographs are created by the control and manipulation of light. We will discuss quality of light for the rendering of tone, texture, shade, shadow, and reflection. The seminar examines the photographic process from light entering the lens through the creation and manipulation of the final image. Some typical topics are composition and patterns, mathematics of perspective projection, refraction, blur, optics of lenses, exposure control, color science, film structure and response, resolution, digital image processing, the human visual system, spatial and color perception, and chemical versus electronic processing. **The seminar is open to freshmen only. Although this seminar is offered through the Computer Science Division, the focus of this seminar is not computer science. The focus of this seminar is photography, and it is not limited to digital photography but embraces also film photography. Students should have experience using a camera with manual control of exposure and focus and that either has interchangeable lenses of different focal lengths or has a zoom lens. Students must have such a camera to complete the course assignments. Ideally, students should have access to both a film camera and a digital camera. It is helpful, but not essential, for students to have an interest in**

science (at least chemistry and physics). Class assignments will be based on color slides, prints, and digital images. Although print film assignments are welcome, the darkroom facilities are outside the control of the class. Student work will be critiqued in class. Participation and attendance at all classes and other course-related activities is required to receive a "pass" grade, except for prior arrangement with the instructor or documented emergencies. Committee Education Policy states that faculty may decline to enroll students in a class who cannot be present at all scheduled activities. To read an interesting article about this seminar, please see <http://inst.eecs.berkeley.edu/~cs39j/fa06/engnews/http://inst.EECS.Berkeley.EDU/~cs39j/> This seminar is part of the Food for Thought Seminar Series.

Brian Barsky received his Ph.D. from the University of Utah in Computer Science and joined the UC Berkeley faculty in 1981. His research interests are CAD/CAM, computer-aided geometric design and modeling, computer graphics, geometric modeling, visualization in scientific computing, and computer-aided cornea modeling and visualization.

Computer Science 39M, Section I
Information Technology in Society: Ethical, Policy and Legal Issues of Designing New Technology
(2 units, P/NP)
Professors Ruzena Bajcsy and Maryanne McCormick
Friday 2:00 - 4:00, 320 Soda Hall, CCN: 26253

This course provides an interdisciplinary introduction and overview of the societal and ethical implications of trustworthy systems in information technology in society. It will cover the positive and negative consequences of IT on individuals, neighborhoods, schools, commerce, and democracy. **Course objectives: The goal of this course is to provide a unified introduction to the ramifications of IT design and deployment on individuals and society. The course provides a broad exposure to IT applications and systems, at a level of detail aimed at both the beginning technical student and the social science student. For technical students, this course will provide a societal context for their studies, placing the objectives and results of their design and deployment decisions in a larger context. At the same time, for the social science students, this course will provide a basic understanding of the technology and provide an opportunity to focus on the intersection of policy and technology. For all students, this course will provide a venue to consider IT issues in an interdisciplinary context, and in so doing, we hope to provide good foundational training for the next generation of cyber-security professionals. No prerequisites!**

Ruzena Bajcsy is a professor in the Electrical Engineering and computer Science Department. She has been teaching and doing research during last 30 years in Computer Vision, Robotics and medical Image Processing. Recently she has been interested in the privacy of Information technology. She is a member of NSF Science Technology Center, called TRUST.

Maryanne McCormick is Associate Director of Policy and Outreach at UC Berkeley Law School's Samuelson Law, Technology & Public Policy Clinic. She joined Berkeley Law from the Molecular Sciences Institute, an interdisciplinary genomics research laboratory where she was General Counsel and Director of Outreach. Prior to MSI, she spent over a decade at the intersection of technology and public policy, serving in the office of Senator Daniel Patrick Moynihan, managing public policy for Corning Incorporated, working at the Federal Communications Commission, and representing the California Small Business Roundtable. She is a member of the California bar.

**Dutch Studies 39A, Section I
Cultural History of the Low Countries (Belgium, the Netherlands, Luxembourg) (3
units, LG)**

Professor Jeroen Dewulf

MWF 11:00 - 12:00, 109 Wheeler Hall, CCN: 38208

Everyone interested in European cultural history will eventually land in the Low Countries (Belgium, the Netherlands and Luxembourg). Located at the estuary of some of Europe's most important rivers, the Low Countries represent a vital economic artery of the European continent. A solid knowledge of its cultural history is therefore essential for those who wish to have a profound understanding of Europe. The succession of foreign rulers inevitably marked the identity of the Low Countries. A close look at this fascinating territory, where so many decisive battles in European history took place, broadens and deepens the view of any student interested in European Studies.

This course offers a general survey on the cultural history of the Low Countries, including Belgium, the Netherlands and Luxembourg. Through written texts, audiovisual materials and discussions, we will study important historical, social, political, and cultural aspects of these European monarchies. The course is organized around six larger themes: Flanders in the early Middle-Ages; The Dutch 'Golden Age'; The independence of Belgium in 1830 and the rise of the Flemish Movement; The German occupation of the Low Countries during WW I and WW II; Amsterdam as Europe's 'Magic Centre' during the 1960s; and Brussels and Luxembourg as centers of the European Union.

No knowledge of Dutch or French language is required.

All UCB students interested in European culture and history are welcome.

Jeroen Dewulf is director of the Dutch Studies Program in the Department of German. He graduated in Dutch and German Philology at the University of Ghent, in Belgium. He holds Master's degrees in Comparative Literature and Portuguese Studies from the University of Porto, in Portugal, and a Ph.D. in German Literature from the University of Bern, in Switzerland. He has taught Dutch Studies, German Cultural History and Comparative Literature in Portugal (Porto) and Brazil (São Paulo) and was visiting professor at the University of Antwerp, in Belgium. His areas of specialization are European Studies, particularly related to multicultural citizenship in the Benelux and Switzerland, and Postcolonial Studies, in particular Dutch, German and Portuguese colonial history and literature, as well as issues related to migration, race and hybridity. He is member of the MLA Executive Committee of Netherlandic Studies. For his scholarly service, he was distinguished, in 1999, with the Quality Seal for Innovating Initiatives in the Field of Foreign Language Education by the European Union.

**Environmental Economics and Policy 39D, Section I
Great New Books and Hot Topics (2 units, P/NP)**

Professor Larry Karp

Wednesday 2:00 - 4:00, 201 Giannini, CCN: 01218

The goal of the seminar is to assist students in increasing their knowledge of environmental issues, and their understanding of how economics helps in analyzing those issues. The seminar will proceed along two tracks. One track will involve the reading and discussion of several "great new books," chosen by the instructor, dealing with current environmental and economic issues. The other track will consist of current environmental and economic topics selected in consultation with students. These topics will likely include issues related to climate change and international trade. The 2008 Presidential election will serve as a context for the discussion of these topics. Students will be (largely) responsible for finding the readings and organizing the discussion. Students, forming small groups, will prepare "policy briefs" and lead discussions for individual topics.

Larry Karp received his Journeyman's card in roofing in 1977 and his B.A. in Economics in 1978, after spending several years traveling in Latin America, not succeeding in writing a novel. He completed his PhD in 1982. In 1984 he joined the Berkeley faculty, where he is currently chair of the Department of

Agricultural and Resource Economics. His research interests include environmental economics, international trade, and game theory.

History 84, Section I

Concept and Image: Movies as Historical Documents for the Study of the United States, 1920-1945 (2 units, P/NP)

Professor Samuel Haber

Wednesday 2:00-5:00, 123 Dwinelle Hall, CCN: 39219

This seminar will meet the entire semester. For eight of those weeks we will meet from 2:00-5:00 p.m. to view and discuss eight movies. During the alternate weeks the seminar will meet for approximately an hour and a half to further examine the issues raised by the movies and those presented by the course reader. The movie schedule will be available at the first class meeting. Participation in "Food for Thought" voluntary dinner meetings will be discussed in class.

We will be studying the history of this country over a brief period of twenty-five years. Yet during those years the nation entered into and responded to three drastically different eras—those of prosperity, depression, and war. Movies provide invaluable evidence of what it was like to be alive in these eras. Movies have great advantages and great shortcomings as historical documents. We will examine both. What are the advantages and shortcomings of images and concepts as ways of knowing? Can movies adequately cope with a complex historical event? In what sense can movies tell the truth? In what way do movies help define the values of their audiences and in what way are the movies themselves shaped by existing values of their audiences? These are some of the questions that we will try to answer. In addition to viewing the movies, each student must purchase and study closely a reader providing information and background for the course. At the end of the semester, each student must submit a ten-page typewritten critical summary paper tying the course together in his/her own way. No additional reading is required for this paper, only additional thinking. **This seminar is open to freshmen and sophomores. Enrollment is limited to fifteen students. At the first and second meeting of class, a few students may be admitted, with the permission of the instructor, to replace those enrollees who have decided to go elsewhere. This seminar participates in the Food for Thought Seminar Series as well as the On the Same Page initiative: <http://onthesamepage.berkeley.edu>.** This seminar may be used to satisfy the Historical Studies or Social and Behavioral Sciences requirement in Letters and Science.

Samuel Haber is an Emeritus Professor in the History Department who is writing a book on American History during the era 1920-1945.

History of Art 39A, Section I

Photography as a Fine Art (4 units, LG)

Professor David H. Wright

Friday 1:30-4:30, 308B Doe Library, CCN: 05472

This seminar combines taking photographs with studying the work of the great masters. It is based on a critical study and discussion of the work of selected photographers from about 1860 to 1940, from Carleton Watkins to Walker Evans, with nine assignments to try making photographs in their styles. The course is designed for students experienced in practical photography, including darkroom work in black and white. After those assignments there will be a term paper on a topic developed by each student individually, with the instructor's help. No examination. **Registration for this course is by instructor approval only. Enrollment is limited to eight students. An interview is required between Friday, 22 August, and Wednesday, 27 August. Further information and an interview sign-up sheet will be posted at that time by the instructor's office, 423 Doe Library. To qualify, students must have darkroom experience and bring samples of their black-and-white photography to the**

interview. This seminar may be used to satisfy the Arts and Literature requirement in Letters and Science.

Professor David H. Wright invented this course some twenty years ago when he realized what he would have liked to take when he was a freshman just after the war; he continues to delight in offering it. Although he completed the requirements in Physics before switching to History of Art, he feels his real college education came as a photographer for the Harvard Crimson.

Nuclear Engineering 39A, Section I
Issues in Nuclear Science and Engineering (2 units, LG)
Professor Per Peterson
MW 1:00-2:00, 3113 Etcheverry Hall, CCN: 64006

This seminar is an introduction to technical, social, institutional, and ethical issues that arise in the field of nuclear engineering: nuclear reactions and radiation, radiation protection, nuclear energy production and utilization, the nuclear fuel cycle, reactor safety and risk, controlled fusion, nuclear waste, medical and other applications of radiation, and nuclear nonproliferation and arms control. This seminar may be used to satisfy the Physical Sciences requirement in Letters and Science.

Per F. Peterson is Professor and Chair of the Department of Nuclear Engineering.

Optometry 39B, Section I
The Developing World: Profound Challenges, Needs, and Opportunities—An Example Applied to Eye Care in India (2 units, P/NP)
Professor Jay Enoch
TuTh 2:30-4:00, 394 Minor Hall, CCN: 65503

This seminar will meet the first five weeks of the semester. There are also two late afternoon and evening sessions which will be added towards the end of the period of time in which the class meets.

The developing world and its profound problems will remain with us throughout our lifetime. Continued population growth, rapid aging of these populations and provision of care for the aged; questionable adequacy of harvests, greatly increased health needs (for example, the HIV-AIDS epidemic); often inadequate schooling; the caste system, and religion and the family as foci of society; the roles and needs of men and women; and many other problems all contribute to the complex of issues that need to be faced in these environments. While these problems are enormous, individuals (singly or working together) can make a difference. There are opportunities, and these people are both cooperative and willing to share in their development. One must limit oneself to a defined problem set. In this symposium, we will explore this complex of issues, and the teacher will define those things he was/is able to achieve (and problems and difficulties encountered) in the field of eye and vision care during more than a decade of active participation in India. With India's population passing the one billion mark, the importance of addressing the very great needs of India and other developing countries are emphasized. Individuals will be encouraged to participate actively in discussions, and to examine situations in other countries to better understand both existing problems and opportunities. Students will be asked to prepare oral presentations and written materials on related issues of personal interest. This course is also listed as South and Southeast Asian Studies 39C (CCN: 83112). This seminar may be used to satisfy the International Studies or Social and Behavioral Sciences requirement in Letters and Science. This course is also listed as .

Dean Emeritus and Professor of the Graduate School Jay M. Enoch maintained a research laboratory in Madurai in Tamil Nadu State for many years. In 1985, he helped start a successful college in Madras (Chennai) in Tamil Nadu, and he is currently involved in developing graduate programs at the latter

institution to help train additional teachers/researchers, and is participating in the organization of additional new college programs in India.

Physics 39, Section I

Cellular Biophysics: Information and Energy Fluxes in Biology (1.5 units, LG)

Professor Jan Liphardt

Tuesday 10:00 - 11:30, 482 Stanley Hall , CCN: 69506

The goal of the seminar is to understand energy, matter, and information fluxes in cells and to learn how to treat and model those fluxes. During the first few weeks, we will cover basic cell organization, organelles, the benefits of compartmentalization, and membranes. Then we'll discuss basic cell energetics with a special emphasis on ion fluxes across membranes. Finally, we will study key cellular processes in which information, energy, or matter moves from one compartment to another: the transport of cargos into and out of the nucleus, the import of proteins into mitochondria, the charging and depolarization of neurons, signal transduction, and light harvesting. For each of these processes, we will review the physical principles at work (electrostatics, diffusion, thermodynamics . . .) and the experimental methods used to investigate them. The course ends with a selection of current topics, such as the role of noise in regulating gene expression and the simulation of complex cell networks.

Prof. Liphardt joined the Berkeley Physics Dept. in 2004. He graduated from Reed College in 1996, and received his Ph.D. from Cambridge University in 1999. Since then, he has been developing new tools for characterizing single cells and enzymes, and also using synthetic biology approaches to construct cells with novel functions, such as light-powered *E. coli* cells.

Plant and Microbial Biology 39A, Section I

Environmental Microbiology (3 units, LG)

Professor Steven Lindow

MWF 1:00 - 2:00, 107 GPB, CCN: 71144

Microorganisms surround us and play major roles in everyday life. This course will provide a broad overview of those microorganisms that humans encounter knowingly or unknowingly every day. Emphasis will be on the importance of microbes to daily life. The usefulness of microbes in food and alcoholic beverage production, cleanup of toxic wastes, recovery of oil from below the ground, in making agriculture possible, and many other beneficial applications will be explored. The importance of microbes in processes important to the survival of the world ecosystem, such as their role in global warming, will also be addressed. Harmful microbes such as those that cause food poisoning and human and plant diseases will also be discussed. The role of microbes in biotechnology and careers in the biotechnology industry will also be explored. Lectures will be interspersed with video presentations, short field trips, laboratory demonstrations, and class readings and student discussions. This seminar may be used to satisfy the Biological Sciences requirement in Letters and Science.

Steven E. Lindow is a Professor in the Plant and Microbial Biology Department. He earned his B.S. in Botany from Oregon State University in 1973 and his Ph.D. in Plant Pathology from the University of Wisconsin, Madison in 1977. His area of study is in molecular and ecological studies of plant-associated bacteria.

Plant and Microbial Biology 39B, Section I

Introduction to Microbial Biology (2 units, P/NP)

Professor N. Louise Glass

Monday 4:00 - 5:00 pm, 104 Genetics and Plant Biology Building, CCN: 71147

In the past decade, a microbial renaissance has occurred with the realization that ~99% of the microbial flora on earth remains undiscovered. In this seminar, we will examine the diversity of microorganisms

(bacteria, archaea, fungi and protists) and how these organisms contribute to the biology of the planet, including their role in geochemical cycles, pathogenesis, symbiosis and ecology. Microbes rule!

Professor N. Louise Glass received her Ph.D. at the University of California, Davis on bacterial-plant interactions in 1986. Her post-doctoral work was performed at the University of Wisconsin, Madison, where she worked on mating type regulation in the filamentous fungus *Neurospora crassa*. From Madison, Dr. Glass moved to an Assistant Professor position in the Biotechnology Laboratory/Botany Department at the University of British Columbia in 1989. In 1999, Dr. Glass moved to UC Berkeley, in the Department of Plant and Microbial Biology. The Glass laboratory studies the molecular mechanisms of communication and self-signaling mechanisms mediating hyphal fusion, and nonself recognition mechanisms resulting in programmed cell death using the filamentous fungus *Neurospora crassa* as a model system to understand microbial cell specialization and cell communication.

**Plant and Microbial Biology 39C, Section I
Genome Dark Matter (2 units, P/NP)**

Tuesday 4:00 - 5:30, 321 Haviland, CCN: 71150

We will discuss recent literature on the nature of the epigenome and genome dark matter and the role of small RNA-mediated regulatory mechanisms in genome and epigenome structure, function and evolution. Recent whole genome sequencing and analysis (genomics) is allowing scientists to see the complete set of genes in a genome and analyze their evolutionary origins and complex interactions at the systems level. Genomics has also revealed important information between the genes. Genomic dark matter, analogous to dark matter of the universe, has emerged as the major component of genomes. Genes exist as islands in a sea of repetitive, highly compacted non-genic DNA, termed heterochromatin, for which no function could previously be detected. However, analysis of whole-genome transcription has revealed that RNA originates from nearly all parts of the genome including the dark matter. New discoveries are showing that the vast spaces between genes can govern cellular responses to the environment and guide growth and development. **This seminar is ideal for students curious about cutting-edge research in an emerging area of biology that includes research on the roles of small RNA-mediated regulatory mechanisms in genome structure, function and evolution. Students should have an understanding of basic molecular biology concepts.**

**Political Science 39B, Section I
Problems in East Asian Politics (2 units, P/NP)
Professor Lowell Dittmer
Tuesday 5:00-7:00, TBA, CCN: 71477**

This seminar is designed to introduce beginning students to some of the leading problems in Asia. We begin with a broad survey that attempts to generalize about some of the basic political and cultural characteristics of this vast and diverse subcontinent. We then attempt to focus on one basic problem and three empirical cases. The basic problem is that of the frustration of national identity despite bitter, long-standing struggle to resolve the issue. The three cases are those of China vis-a-vis Taiwan, North/South Korea, and the Indo-Pakistani standoff over Kashmir. These three situations not only are cases of unresolved national identity crisis but also have become consistent regional sources of tension that threaten to trigger a crisis (perhaps nuclear) involving many other countries, perhaps including our own. As this is a seminar rather than a large lecture class, grades will be based on class discussions of presentations plus several short papers rather than the passive absorption of lectures and regurgitation in exams. Course meetings will be chronologically divided into segments to discuss each of a series of issue areas. Students will sort themselves into teams to organize presentations on each issue area, each student being expected to participate in at least one of these teams. The team will assign (by e-mail) specific readings to the rest of the class for each week's discussion. Aside from participation in these team presentations, each student will be required in the course of the semester to write four brief (three-to-

four-page) essays: one on the Korean problem, one on the China-Taiwan problem, one on the Kashmir problem, and finally an essay comparing these three problem cases and their possible solutions. There will also be occasional guest lectures and films illustrating course topics. This seminar may be used to satisfy the International Studies or Social and Behavioral Sciences requirement in Letters and Science.

Professor Dittmer received his Ph.D. from The University of Chicago in 1971. His scholarly expertise is the study of contemporary China. He teaches courses on contemporary China, Northeast Asia, and the Pacific Rim. His current research interests include a study of the impact of reform on Chinese Communist authority, a survey of patterns of informal politics in East Asia, and a project on the China-Taiwan-US triangle in the context of East Asian regional politics. Professor Dittmer's recently published books and monographs include *Sino-Soviet Normalization and Its International Implications* (University of Washington Press, 1992), *China's Quest for National Identity* (with Samuel Kim, Cornell University Press, 1993), *China Under Modernization* (Westview Press, 1994), and *South Asia's Nuclear Crisis* (M.E. Sharpe, 2005).

South and Southeast Asian Studies 39C, Section I
The Developing World: Profound Challenges, Needs, and Opportunities—An Example Applied to Eye Care in India (2 units, P/NP)

Professor Jay Enoch

TuTh 2:30-4:00, 394 Minor Hall, CCN: 83112

This seminar will meet the first five weeks of the semester. There are also two late afternoon and evening sessions which will be added towards the end of the period of time in which the class meets.

The developing world and its profound problems will remain with us throughout our lifetime. Continued population growth, rapid aging of these populations and provision of care for the aged; questionable adequacy of harvests, greatly increased health needs (for example, the HIV-AIDS epidemic); often inadequate schooling; the caste system, and religion and the family as foci of society; the roles and needs of men and women; and many other problems all contribute to the complex of issues that need to be faced in these environments. While these problems are enormous, individuals (singly or working together) can make a difference. There are opportunities, and these people are both cooperative and willing to share in their development. One must limit oneself to a defined problem set. In this symposium, we will explore this complex of issues, and the teacher will define those things he was/is able to achieve (and problems and difficulties encountered) in the field of eye and vision care during more than a decade of active participation in India. With India's population passing the one billion mark, the importance of addressing the very great needs of India and other developing countries are emphasized. Individuals will be encouraged to participate actively in discussions, and to examine situations in other countries to better understand both existing problems and opportunities. Students will be asked to prepare oral presentations and written materials on related issues of personal interest. This course is also listed as Optometry 39B (CCN: 65503). This seminar may be used to satisfy the International Studies or Social and Behavioral Sciences requirement in Letters and Science. This course is also listed as .

Dean Emeritus and Professor of the Graduate School Jay M. Enoch maintained a research laboratory in Madurai in Tamil Nadu State for many years. In 1985, he helped start a successful college in Madras (Chennai) in Tamil Nadu, and he is currently involved in developing graduate programs at the latter institution to help train additional teachers/researchers, and is participating in the organization of additional new college programs in India.

South and Southeast Asian Studies 39G, Section I
“Think Gender” in Indian Short Stories (2 units, LG)

Lecturer Kausalya Hart

Friday 8:00 - 10:00, 210 Dwinelle, CCN: 83115

In this seminar, students will read approximately 20-25 short stories from various languages of India translated into English. The stories will describe the relationships between men and women and how the society looks at the roles of men and women in Indian culture. The students will be expected to read the stories and to discuss and critique them in class. They will also be expected to write a two-page criticism of the stories for each class. **Enrollment is limited to fifteen students.** This seminar may be used to satisfy the Arts and Literature or Social and Behavioral Sciences requirement in Letters and Science.

Kausalya Hart (M.A., Annamalai University, 1962) is the author of Tamil for Beginners, Tamil Madu, and Tamil Tiraippadam (advanced Tamil textbooks). She has prepared numerous Tamil language teaching aids (including a collection of Tamil movie videos), and a dictionary for modern Tamil. Her current research involves the preparation of a dictionary of Tamil inscriptions. Her interests include Tamil literature, grammar, and inscriptions.

Statistics 39D, Section I

Teaching Statistics with Demos, Activities, and Projects (2 units, P/NP)

Professor Deborah Nolan

Thursday 3:30-5:00, 344 Evans Hall, CCN: 87416

The seminar is for students who are interested in improving their ability to communicate statistical concepts. It will include supervised teaching activities in a local elementary or middle school and the design and implementation of a hands-on activity for teaching a statistical concept.

This seminar is intended for students interested in majoring in statistics, or who are exploring the possibility of becoming a mathematics teacher.

Deborah Nolan has taught at Berkeley since 1986. She is co-director of Cal Teach, a program to increase the number of credentialed math and science teachers graduating from Berkeley. Her interests include the use of technology in education and the teaching of statistics. She has co-authored two books: Stat Labs: Mathematical Statistics through Applications (2000, Springer-Verlag) with T.P. Speed; and Teaching Statistics: A Bag of Tricks (2002, Oxford University Press) with A. Gelman.