



SPRING 2010

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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 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 unforgettable. For details on the Discovery Courses, see <http://lsdiscovery.berkeley.edu>.

This document was last updated on October 26, 2009.

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.

African American Studies 24, Section I
Researching "Mixed-Race" Identity and History in the United States (1 unit, LG)
Professor Stephen Small
Tuesday 10:00-12:00, 650 Barrows Hall, CCN: 00565

This seminar will meet week two through week eight of the semester, beginning January 26, 2010 and ending March 16, 2010.

People of mixed racial origins are one of the fastest growing populations in California, and across the USA. This course describes the various sources and methods available for studying the history and identity of people of various racial backgrounds, (including those of mixed Asian, Black, Chicano, Native American or white ancestry). We will review some of the main themes in writings about people of mixed racial origins; we will examine various sources for identifying mixed race populations, including census, biographies, literature and films; and we will consider various methods for carrying out research, including use of historical documents, interviews and analysis of images and representations. This course will equip students with basic research skills that can be utilized for other projects in African American Studies, Ethnic Studies, History, Sociology and Anthropology. We will watch a number of short videos and parts of films about people of mixed racial origins. Requirements include a number of short readings.

Dr. Stephen Small is Associate Professor and former Chair in the Department of African American Studies where he teaches courses on Black Family, Research Methods, Globalization and Minority Communities, and People of Mixed Racial Descent (cross listed with Ethnic Studies). He has written several articles on people of mixed racial descent in England, the Caribbean and the USA, and is currently writing a book on Blacks of mixed racial descent in the Caribbean and the United States in the nineteenth century.

Anthropology 24, Section I
Chocolate: History, Culture, and Science (1 unit, P/NP)
Professor Rosemary Joyce
Tuesday 11:00-12:00, 2251 College Avenue, Room 101, CCN: 02546

Food for Thought dining arrangements will be discussed in class.

Chocolate is an everyday part of life in the US today. Displays of chocolates next to cash registers give a sense of its global scope, with varieties boasting of coming from Belize, Venezuela, Indonesia, and Ghana. Meanwhile, fine chocolates are associated with Belgium, France, and Emeryville. What is less obvious to the chocolate consumer is the world of chocolate research, which ranges from studies of DNA and medical potential to identifications of the oldest traces of the parent plant, cacao, and its use for a wide range of foods, drinks, and medicinal preparations. In this seminar, we will delve into the world of chocolate research, finding out what commonly held ideas are being debunked, and asking questions as yet unanswered about the culture, history, and science of chocolate. **This seminar is part of the Food for Thought Seminar Series.**

Rosemary Joyce has participated in archaeological field research in northern Honduras since 1977, and co-directed a project investigating the earliest evidence of village life in that country where she recovered evidence of chocolate dating to 1150 BC. The sites she has worked at span the entire known sequence of occupation in Honduras, from the Early Formative (before 1500 BCE) to the twentieth century. Since 1992, she has coordinated her field work with the cultural resources management goals of the Honduran Institute of Anthropology and History, working in the lower Uluá Valley to record information about sites being destroyed for economic development. Her publications include many books, the most recent "Ancient Bodies, Ancient Lives" (2008, Thames and Hudson), as well as dozens of journal articles and book chapters on topics including gender, sexuality, pottery, burials, and of course, chocolate.

Anthropology 24, Section 2

Food Culture and Behavior through Film (1 unit, P/NP)

Professor Stanley H. Brandes

Thursday 3:30-5:00, 2251 College Avenue, Room 101, CCN: 02548

This seminar will meet on nine weeks on the following dates: January 21, January 28, February 4, February 11, February 18, February 25, March 4, March 11, and March 18, 2010.

This course is designed to explore through film what and how we eat, as well as the multiple social and symbolic meanings of consumption patterns around the globe. Through an analysis of both documentary and feature films, we will analyze the consequences of food habits for individual and group identity (gender, class, ethnic, and national identity), for the production and dissolution of social boundaries, and for the reinforcement of religious prescriptions and proscriptions, among other topics. Students will prepare for each class by viewing the assigned film for the week. Seminar sessions will be devoted to lively discussions of the weekly offering. The overall goal of the course is to demonstrate how film can be used to enhance our understanding of ourselves and the world around us. Some of the films we might view include "Like Water for Chocolate," "Ratatouille," "Tampopo," "Chocolat," "Babette's Feast," "Fast Food Nation," "Food, Inc.," and "Super-Size Me."

Stanley Brandes received his Ph.D. in Anthropology at UCB and has been a long-time member of the Cal anthropology faculty. His recent research includes the analysis of food and drink, ritual and religion, pets and their people, and the social dimensions of visual media, especially photography and film.

Astronomy 24, Section 1

Cosmology and the Early Universe (1 unit, P/NP)

Professor Steven Beckwith

Thursday 3:00-5:00, 544 Campbell Hall, CCN: 06656

This seminar will meet the first ten weeks of the semester. Food for Thought dining arrangements will be discussed in class.

The course will discuss the modern theory of the origin of the universe, how the early evolution of matter shaped the universe we see today, and why we believe it is all true. This course will use an interplay of observations and theory to explore how science helps us understand our own origins. It will introduce the students to quantitative reasoning on a grand scale without relying on advanced mathematics. We'll explore predictions of the standard Big Bang cosmology and how our most powerful telescopes see the evolution of matter from early times. **My aim is to introduce interested students to modern cosmology and give them the tools to reason about the universe. I welcome students from all backgrounds and interests who are curious about the cosmos and prepared to embrace new concepts and tools to satisfy their curiosity. Although we will not use advanced mathematics, we will stress quantitative reasoning and the use of numbers and numerical predictions as a**

method of understanding nature. This seminar is part of the Food for Thought Seminar Series.

Steven Beckwith is the Vice President for Research and Graduate Studies for the UC system and a Professor of Astronomy at Berkeley. He came to Berkeley most recently from Baltimore, Maryland, where he was the Director of the Space Telescope Science Institute, responsible for the science operations of the Hubble Space Telescope, and a Professor of Astronomy and Physics at Johns Hopkins University for nine years. Previously, he was Director of the Max Planck Institute for Astronomy in Heidelberg, Germany for seven years and a Professor of Astronomy at Cornell University for thirteen years. His research interests include the creation of galaxies in the early universe, the formation of planets around other stars, and the detection of life on extrasolar planets.

**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: 10553**

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? Are we supposed to buy electric cars? 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 especially 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. For more information regarding Professor Reimer, please visit his faculty web page at <http://india.cchem.berkeley.edu/~reimer/>.

**Chemical Engineering 24, Section 2
Chemical Engineering: What Is It and Where Is It Going? (1 unit, P/NP)
Professor David B. Graves
Tuesday 3:00-4:00, 121 Latimer Hall, CCN: 10556**

This course is intended to be an introduction to chemical engineering, with descriptions of both traditional careers and the variety of new directions being taken in the profession. Traditional areas of employment include process, design and control engineering in the chemical, petroleum, food and pharmaceutical industries. Newer areas include biotechnology and life-science applications, environmental applications, and semiconductor manufacturing. The goal is to provide some context for students who have chosen chemical engineering as a major or who are simply interested in a better understanding of chemical engineering and its evolution as a profession. Basic chemical engineering concepts in physical and mathematical models will be illustrated in a series of case studies.

David B. Graves is a Professor in the Chemical Engineering Department. His research area is plasma processing for microelectronics manufacturing: the use of ionized gases for surface modification of thin solid films. He serves as a consultant to several semiconductor equipment and chip manufacturing companies.

Civil and Environmental Engineering 24, Section I
Two Field Trips in Environmental Engineering (1 unit, P/NP)
Professor John Dracup
Wednesday 6:00-7:00, 534 Davis Hall, CCN: 13908

This seminar will begin with a course orientation on Wednesday, January 20, 2010 from 6:00 - 7:00 p.m. in 534 Davis Hall. It will also meet for two pre-field trip lectures/discussions concerning the science/engineering aspects of each field trip on Wednesday, March 31st and Wednesday, April 7th from 6:00 - 7:00 p.m. in 534 Davis Hall. The stream restoration field trip will be on Saturday, April 3rd from 9:00 a.m. - 3:00 p.m. and the wetland restoration field trip will be on Saturday, April 10th 9:00 a.m. - 3:00 p.m. Pizza and soft drinks will be provided at the Wednesday evening class meetings, which could possibly run a little longer than one hour. Lunch arrangements at the Field trips will be discussed in class.

Two Saturday field trips will be to 1. A wetland restoration site and 2. A stream restoration site. All field trips will be in the San Francisco Bay area and last approximately six hours in duration. Transportation will be provided to and from the Berkeley campus. Attendance is mandatory at all three seminar meetings and both field trips for a passing grade in the class. Field trips will be interactive: wear clothing that you don't mind getting wet or dirty. **Enrollment is limited to twenty freshmen interested in environmental issues. This is a Beyond the Classroom Theme seminar.**

Dr. John Dracup is a Professor of the Graduate School in the Department of Civil & Environmental Engineering. He has taught and conducted research at UCLA and U.C. Berkeley for forty-three years. His expertise is in water resource engineering and hydrology. His recent awards include 1. Inaugurated into the "Order of the Black Blouse" by the Water Rights Court of Valencia, Spain; 2. Designation as a Diplomat of the American Academy of Water Resource Engineers of the American Society of Civil Engineers; and 3. Awarded an Honorary Professorship at the Universidad Católica San Antonio De Murcia, Spain. Professor Dracup swims competitively with Pacific Masters Swimming. His other interests are hiking, scuba diving, fly fishing and traveling.

Classics 24, Section I
Apuleius and Augustine (1 unit, P/NP)
Professor Dylan Sailor
Friday 3:00-4:00, 262 Dwinelle Hall, CCN: 14727

Apuleius' Golden Ass is a Roman novel of the second century AD that tells of a man's magical transformation into an ass, his experiences as he travels around in that new form, and his eventual rescue. Augustine's Confessions are an account offered by a fifth-century AD bishop of his lascivious and ambitious youth and his eventual conversion to Christianity. By reading alongside each other these two, superficially rather different, books, we will explore a central preoccupation that they share: the relationship between life and text, between living and reading and writing. We'll look at the idea of the world as a text to be interpreted, at storytelling as a way of affecting the world, at the tension between reading for pleasure and reading for edification, at the dangers and ironies of using stories as a guide for life, and at ancient ideas of fiction and truth. **Ideally this seminar will attract students who don't absolutely hate reading, since we'll be reading and talking about two books. Apart from that, it should be accessible to most students, in one way or another.**

Dylan Sailor studies the literature and history of ancient Rome. He has published articles, mainly on Roman historical writing, and is the author of a recent book on the Roman historian Tacitus. At the undergraduate level, he regularly teaches Classics 10B: Introduction to Roman Civilization, as well as intermediate and senior-level classes in Latin and ancient Greek. Originally from the state of Washington, he received his Ph.D. from the Classics Department here at Berkeley in 2002, and after teaching for three years at UC San Diego returned to Berkeley as a professor in 2005.

Classics 24, Section 2

Cleopatras (1 unit, P/NP)

Professor Todd Hickey

Tuesday 1:00-2:00, 479 Bancroft Library, CCN: 14730

In this seminar we will explore representations of Cleopatra from Antiquity to the present day; our sources will include literature, art, movies, and advertising. **The only prerequisite is an interest in this (in)famous queen and our extraordinarily persistent fascination with her.**

Dr. Todd Hickey was educated at the Universities of Pennsylvania and Chicago. He has been The Bancroft Library's Assistant Research Papyrologist since 2001 and in 2004 joined the Department of Classics as an Assistant Professor. At the Bancroft Library, he curates the largest collection of papyri in the Americas (ca. 35,000 pieces). He is an editor of Greek and Egyptian texts on papyrus and researches the social, cultural, and economic history of Graeco-Roman Egypt. For more information, please see <http://tebtunis.berkeley.edu>.

Classics 24, Section 3

Helens (1 unit, P/NP)

Professor Leslie Kurke

Wednesday 3:00-4:00, 262 Dwinelle Hall, CCN: 14733

This course will focus on the figure of Helen in classical Greek texts. Helen is a strange figure in Greek mythology—the only daughter born to Zeus and a mortal woman, a being of uncanny and terrible beauty, and a universal object of desire. I am particularly interested in exploring how Helen is associated with mimesis, and how persistently she destabilizes the narratives in which she appears. In narrative terms, she is a locus of ambiguity; in anthropological terms, she is a sign exchanged between men—but a sign that has become wayward and uncontrollable. I wish to consider the intersection of these social and narrative problematics. We will trace her portrayal through excerpts of Homer, Greek lyric, tragedy, and rhetorical texts. **This course does not require any previous knowledge of ancient Greek literature, but ideally seeks students who are interested in the complexities of literary texts, the workings of narrative, signification, and gender.**

Leslie Kurke is Professor of Classics and Comparative Literature, specializing in ancient Greek literature and culture.

Earth and Planetary Science 24, Section 2

Oceans in the News (1 unit, P/NP)

Professor Jim Bishop

Wednesday 10:00-11:00, 325 McCone Hall, CCN: 19033

Not one week goes by without major articles about the oceans in print/online media such as The San Francisco Chronicle, New York Times, etc. News items: Pollution?, an ice-free Arctic Ocean?, Law of the Sea?, Fisheries?, Economics and Commerce?, Sea Level Rise?, An ocean fix for the CO₂ problem?, Ecological discoveries? and more. We'll delve into the details of several of these focus areas over the course of the term. Students will be graded on active participation, short written assignments, and in-class team presentations. Participants will have an opportunity to experience the San Francisco Bay from the water. **The seminar will close within two weeks of the start of classes. This is a Beyond the Classroom Theme seminar.**

Jim Bishop is a Professor in the Department of Earth and Planetary Sciences. His research focuses on understanding how the oceans sequester atmospheric carbon dioxide. He loves to go to sea and has logged about 1.5 years at sea during 32 oceanographic expeditions. For more information regarding

Professor Bishop, visit his faculty webpage at
http://eps.berkeley.edu/development/view_person.php?uid=212268.

**Energy and Resources Group 24, Section I
The Science, Technology, Policy, and Politics of California Air Pollution (1 unit,
P/NP)**

Professor Robert Sawyer

Wednesday 2:00-4:00, 74 Hesse Hall, CCN: 27403

This seminar will meet six Wednesdays plus two field trips on dates to be announced.

California experiences the nation's worst air quality. Its innovative regulatory program is a model for the nation and the world. This seminar examines current California air pollution and climate change regulatory issues including the science behind the regulations. The seminar requires a short paper and presentation. **This is a Beyond the Classroom Theme seminar.**

After forty years on the Berkeley faculty, Professor Sawyer, the Class of 1935 Professor of Energy Emeritus, accepted the appointment of Governor Schwarzenegger to head California's air quality and climate programs as chair of the California Air Resources Board, a position he held for eighteen months. While at Berkeley, his teaching and research included air pollutant formation and control, motor vehicle emissions, energy and environment, and regulatory policy. This seminar is an unusual opportunity to explore air pollution and climate change issues with a professor who also led California's regulatory program.

**Environmental Science, Policy, and Management 24, Section I
Issues in Natural Resource Conservation (1 unit, P/NP)**

Professor David Wood

Friday 9:00-10:00, 106 Mulford Hall, CCN: 28957

There is one optional field trip to a Bay Area location on a Saturday or Sunday 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. **This is a Beyond the Classroom Theme seminar.**

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.

French 24, Section I

Incest and Tragedy: the Case of Racine's Phèdre (1 unit, P/NP)

Professor Timothy Hampton

Wednesday 1:00-2:00, 205 Wheeler Hall, CCN: 32320

Jean Racine's 1677 tragedy Phèdre, or Phaedra, as it is known in English, is widely considered to be the greatest dramatic text in French literature, a play rivaled only by Shakespeare's Hamlet in its density and

complexity. Our seminar will be built around a visit to San Francisco to watch the American Conservatory Theater's presentation of the highly acclaimed Stratford Shakespeare Company's production of the play. Before and after our visit to the A.C.T. we will read and discuss *Phèdre* in detail. We will study it in dialogue with earlier versions of the same story by Euripides and Seneca. We will look carefully at the themes of incest and cosmic vengeance that power the play, and place them in the context of the early modern European culture in which Racine was working. And we will look briefly at passages by several modern writers (notably Proust and Stendhal) as a way of gauging the play's influence. Depending on student interest we may also pay some attention the production history of *Phèdre*. **No knowledge of French is required. All readings and discussion will be in English. Enrollment is limited to fifteen freshmen. This is a Beyond the Classroom Theme seminar.**

Timothy Hampton is a Professor of French, Comparative Literature and Italian Studies. He teaches and writes widely on early modern European literature and culture.

French 24, Section 2

Films of the French New Wave (1 unit, P/NP)

Professor Nicholas Paige

Monday 5:00-7:00 and Tuesday 11:00-12:00 , two locations - see below, CCN: 32323

This seminar will meet on Mondays for mandatory screenings in 100 Wheeler Hall and on Tuesdays for discussion in 89 Dwinelle Hall.

This seminar will introduce students to a number of representative films of the French New Wave, perhaps the most important and emblematic moment in modern cinema, and a point of reference for filmmakers ranging from Quentin Tarantino and Martin Scorsese to John Woo and Wong Kar-Wai. Along the way, we will look at the theoretical and cultural factors that help explain this extraordinary flowering of filmmaking talent in the late 1950s and early 1960s. We will also be reading some important short essays from the period that will help bring the films' originality into focus. **General enrollment, no prior experience necessary. No knowledge of French is necessary.**

Professor Paige teaches a variety of classes on French literature, film, and culture. His current research mostly centers on history of the novel, though he has published as well on the iconic films of Jean-Luc Godard.

German 24, Section I

The Good Life (1 unit, P/NP)

Professor Niklaus Largier

Wednesday 4:00-5:00, 2305 Tolman Hall, CCN: 37466

What does it mean to live a happy, good, blessed life? Since antiquity, philosophers and poets have been thinking and writing about this question. We will read and discuss some of these writings and their meaning for our modern lives.

Niklaus Largier is Professor of German and Comparative Literature. He has published a number of books and essays on religion, the history of emotions, and the history of sexuality.

Integrative Biology 24, Section I

The Darwinian Revolution (1 unit, LG)

Professor Brent Mishler

Thursday 10:00-11:00, 5053 Valley Life Sciences Building, CCN: 43003

The Darwinian Revolution was one of the greatest upheavals in human thought, involving the very basis of our self-awareness: Where did we come from? What is or should be the basis for our ethics and social behavior? Where are we going? Topics to be considered include: historical antecedents of Darwin's theories; the scientific evidence for evolution and natural selection; the impact of Darwinism on religion, social theory, and ethics; later scientific developments and recent challenges by latter-day creationists. The goal is to use these interdisciplinary topics as an exemplar of scientific methods and change, and of the unsteady relationship between science and the public. In addition to attending and participating in each week's lecture/discussion, each student will be required to write a short paper (five pages maximum) due at the end of the semester.

Brent Mishler is Professor in the Department of Integrative Biology and Director of the University and Jepson Herbaria. His research interests are in the systematics and evolution of plants, especially mosses. His lab applies methods ranging from microscopy and computer-assisted morphometrics, through tissue culture and DNA sequencing. He is also interested in the theory of systematic biology, as well as the philosophy and history of science.

Integrative Biology 24, Section 2

Plants of the UC Berkeley Botanical Garden (1 unit, P/NP)

Professor David Ackerly

Wednesday 12:00-2:45, UC Berkeley Botanical Garden, CCN: 43006

The class will meet alternate Wednesdays at 12:00 p.m. at the Hearst Mining Circle to take the shuttle bus to the Botanical Garden, and return to the Mining Circle by 2:40 p.m. The first seminar meeting will be on Wednesday, January 20, 2010. Additional meeting dates will be announced before the semester starts.

The UC Botanical Garden is home to thousands of wild-collected plant species from all over the world. In this seminar, we will spend each class in a different part of the garden and adjoining areas along Strawberry Creek, examining plants from California, the New World deserts, the tropics, and more. Based on our observations, we will pose questions about the diversity of plant form and function: why are some leaves small and others big? Why are desert plants often succulent? How did cactus get their thorns? One class will be devoted to crop plants and a discussion of Michael Pollan's 'Omnivore's Dilemma'. In the final several classes, students will work in small groups to conduct independent mini-projects, and then share the results with the entire group. Our goal is to learn how scientists turn simple observations into hypotheses and research projects, and at the same time to enjoy the great diversity of the Botanical Garden's plant collection. **This seminar is intended for students who enjoy being outdoors and are curious to learn more about plant ecology and evolution. The seminar is open to all freshmen; it is also a good introduction for those who are interested in the Integrative Biology major. Enrollment is limited to fifteen freshmen. This seminar is part of the On the Same Page initiative: <http://onthesamepage.berkeley.edu> and is a Beyond the Classroom Theme seminar.**

Professor Ackerly joined the faculty at UC Berkeley in 2005. His research focuses on the ecology and evolution of plant diversity, focusing on the form and function of woody plants. He has worked in temperate and tropical forests of New England, Japan, Brazil and Mexico, and currently focuses his research on the flora of California.

Integrative Biology 24, Section 4

The Age of Dinosaurs: What Do We Know? (1 unit, LG)

Professor Kevin Padian

Tuesday 1:00-2:00, 5192 Valley Life Sciences Building, CCN: 43012

Dinosaurs were big funny animals, and "Jurassic Park" was cool. But what's behind all this? In this seminar we use dinosaurs to explore how we know what we know about extinct life, and the methods and

approaches that scientists use to study evolution in general. We also explore common myths, such as the idea that dinosaurs were slow and slow-witted, and that an asteroid drove them to extinction. Berkeley's Museum of Paleontology is the largest collection of fossils in any university in the world, and we use it on a weekly basis in this course. A notebook, some writing, and strong initiative in participation are required. **You don't need any preparation for this course except an interest in the subject and the desire to understand how science is constructed. This is a Beyond the Classroom Theme seminar.**

Kevin Padian has been teaching at Berkeley for thirty years, mostly courses in evolution, paleontology, and the history of these fields. Research in his lab centers on how large-scale changes get started in evolution, particularly the major new adaptations in vertebrates such as flight, the emergence of dinosaurs, and the evolution of unusual structures and behaviors. He also spends a lot of time on the creation-evolution issue, educating the public about what science is and isn't.

Linguistics 24, Section 1
Language Myths (1 unit, P/NP)
Professor Larry Hyman
Wednesday 11:00-12:00, 186 Barrows Hall, CCN: 52257

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.

Linguistics 24, Section 2
Language and Politics in Southern Africa (1 unit, P/NP)
Professor Sam Mchombo
Monday 11:00-12:00, 186 Barrows Hall, CCN: 52260

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.

Materials Science and Engineering 24, Section 2
Physics and Materials Science of Skateboarding (1 unit, P/NP)
Professor Daryl Chrzan
Thursday 10:00-11:00, 72 Evans Hall, CCN: 53203

The popularity of skateboarding and other extreme sports is increasing at a rapid pace. The sports are termed extreme in part because they place the participants and their equipment under extreme conditions. This seminar will explore the extreme conditions associated with skateboarding, and how materials science has been used to evolve the original sidewalk surfers into the modern-day skateboard. Topics to be discussed include the physics of skateboarding (including an analysis of the inevitable slam) and the implications of this physics for the design of wheels, boards, bearings, trucks and safety equipment. **There are no special prerequisite constraints—just an interest in skateboarding, physics and materials science.**

Professor Daryl C. Chrzan received his Ph. D. in Physics, specializing in condensed matter theory, from UC Berkeley in 1989. From 1990 to 1995, he was a Senior Member of the Technical Staff at Sandia National Laboratories, Livermore. In 1995, Professor Chrzan joined the (now) Department of Materials Science and Engineering at UC Berkeley. His research emphasizes the prediction of the physical properties of metals and semiconductors based on knowledge of the atoms composing the materials. He has published over 70 papers, and presented over 40 invited talks at universities, laboratories, and international meetings. Professor Chrzan spent much of his youth on a skateboard, and can often be found carving the bowls at nearby skateparks.

Materials Science and Engineering 24, Section 3
Materials and Weapons of War through History (1 unit, P/NP)
Professor J. W. Morris Jr.
Friday 2:00-3:00, 348 Hearst Mining Building, CCN: 53206

For most of known history, advances in materials technology have appeared primarily in two areas: objects of art and weapons of war. The former build civilization. The latter have often set its course, as critical military engagements from Kadesh to Kosovo have most often been dominated by the forces with the superior technology. In this seminar, we shall use the development of weapons through history as a vehicle to understand the important properties of different types and classes of materials, and trace their technological development and technical significance across the millennia.

Professor Morris has been a member of the Berkeley faculty since 1971, and was Program Leader for the Advanced Metals Program at the Lawrence Berkeley Laboratory for almost twenty years. He has taught the introductory course Material Science and Engineering 45 for most of that period, and is a recipient of the University's Distinguished Teaching Award.

Mathematics 24, Section 2

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

Professor Jenny Harrison

Tuesday 5:00-6:00, 891 Evans Hall, CCN: 54149

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.

Mathematics 24, Section 3

Quantum Mechanics with Matrices (1 unit, P/NP)

Professor Maciej Zworski

Tuesday 4:00-5:00, 736 Evans Hall, CCN: 54151

In this freshman seminar we will exploit the basis of mathematical quantum mechanics and linear algebra without assuming any prior knowledge of either. Although it sounds intimidating we will start with systems of linear equations with two unknowns and build simple models from that. By the end of the semester we will hopefully see some aspects of the classical/quantum correspondence. This should elucidate the fact that our macroscopic world is "classical" (that is the way it is) despite the fact that it is governed by mysterious quantum principles.

Maciej Zworski is a Professor of Mathematics at UC Berkeley. His research interests include partial differential equations and mathematical physics. For more information regarding Professor Zworski, visit his faculty web page at <http://math.berkeley.edu/~zworski/>.

Mechanical Engineering 24, Section 1

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

Professor Benson Tongue

Wednesday 12:00-1:00, 201 Giannini Hall, CCN: 55803

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.

Molecular and Cell Biology 90A, Section I
Evolution–Creatures, Not Creation (1 unit, LG)
Professor Jeremy Thorner
Friday 12:00-1:00, 2030 Valley Life Sciences Building, CCN: 57865

The advent of molecular biology, recombinant DNA methodology, and the capacity to obtain the complete nucleotide sequence of any genome (from a bacterium to a human) has confirmed the close relationships among all organisms at the genetic and biochemical level, and has confirmed the major tenets of the theory of evolution that were based on the fossil record and other more circumstantial and empirical evidence based on field observations of populations. This course will discuss the unique physical and chemical properties of both water and carbon, and other molecules and elements on which the life forms on our planet are based; the principles of the scientific method and its application to our observations of the natural world; how the term "theory" is applied in science; and the forces that influence organismal survival, adaptation and speciation. Readings will range from Charles Darwin to Steven Jay Gould to James D. Watson. **This course is designed to be taken for a letter grade. Students who elect to take this seminar should enroll under the letter grade option.**

Jeremy Thorner is a Professor in the Division of Biochemistry and Molecular Biology in the Department of Molecular and Cell Biology. He joined the Berkeley faculty on 1 July 1974, and has been here on this campus ever since. His current research addresses the mechanisms by which cells respond to and decode changes in their extracellular environment and induce the appropriate changes in metabolism, growth and proliferation rate, and cell shape, that allow the cell to cope properly with the changed circumstances. For more information regarding Professor Thorner, please visit his faculty web page at <http://mcb.berkeley.edu/faculty/BMB/thornerj.html>.

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, 2066 Valley Life Sciences Building, CCN: 57868

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 90D, Section I
Critical Challenges for Modern Health Care (1 unit, P/NP)
Professor Mark Schlissel
Wednesday 3:00-4:00, 106 Dwinelle Hall, CCN: 57877

We will discuss issues of importance to modern health care from a physician's perspective including a) how medical schools choose students; b) how doctors are educated; c) comparisons between health care systems in the U.S. (now and 30 years ago), Europe, and the developing world; d) political and scientific aspects of emerging infectious diseases (swine flu); e) mandating vaccination for infectious diseases (the cervical cancer vaccine controversy); f) economics of health care reform; g) career alternatives for physicians; h) issues in clinical research; i) new drug discovery; j) funding biomedical research. This seminar will require class presentations by students and a modest amount of reading each week.

Freshmen considering careers in medicine, public health, or related fields are encouraged to enroll in this seminar.

Dr. Schlissel received his undergraduate degree from Princeton University as a Biochemistry major and was trained in both clinical medicine and basic biology at Johns Hopkins University School of Medicine (M.D. & Ph.D.) and is Board Certified in Internal Medicine. He did a post-doctoral fellowship at the Whitehead Institute at MIT in the lab of the Nobelist David Baltimore. Dr. Schlissel was a professor at Hopkins Medical School from 1991-1999 before joining the faculty at Berkeley in 1999. He has served as the Vice-Chair of Molecular and Cell Biology, has taught MCB 150 (Molecular Immunology) and Bio 1A, and is currently the Dean of Biological Sciences. Dr. Schlissel leads a twelve-person research lab studying the developmental biology of cells in the immune system and the origins of leukemia.

Molecular and Cell Biology 90E, Section I
Brain Science in Fact, Fiction, and Film (1 unit, P/NP)
Professor Walter Freeman
Friday 12:00-1:00, 2070 Valley Life Sciences Building, CCN: 57880

This seminar will offer you the opportunity to learn how brain science plays a role in society. The exchange is in both directions. Scientific discoveries of how brains work are learned by writers and used in novels and scripts for movies. Imaginative scenarios invented by visionary writers provide insights into human behavior that inspire scientists to investigate the neurobiological mechanisms. The topic this spring is 'brainwashing': how it is done, what the brain mechanisms are, and what it means in terms of your experience and understanding of reality, of your self-identity, and your expectations of responsibility for actions by yourself and others. The format of this seminar requires active participation in speaking, reading and writing. I will assign references to books and films on reserve in Moffitt Library. On alternate weeks you will read a book or watch a movie. In the week in which you read the assigned book, you will write a brief book review [1 or 2 paragraphs] and post it on the class web site.

Walter J Freeman studied physics and mathematics at MIT, electronics in the US Navy in WWII, philosophy at the University of Chicago, medicine at Yale University, internal medicine at Johns Hopkins, and neuropsychiatry at UCLA. He has taught brain science in the University of California, Berkeley since 1959 and is now Professor of the Graduate School. He received his M.D. cum laude (1954), the Bennett Award in Biological Psychiatry (1964), Guggenheim (1965), NIMH MERIT Award from (1990), and Pioneer Award from IEEE Neural Networks Council (1992). Professor Freeman was President of the International Neural Network Society (1994) and is Life Fellow IEEE (2001). He has authored over five hundred articles and five books.

Molecular and Cell Biology 90E, Section 2

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

Senior Lecturer David E. Presti

Wednesday 3:00-4:00, 2030 Valley Life Sciences Building, CCN: 57883

Music has a deep and largely mysterious impact on human behavior. We will engage in exploration of things known and unknown in the relationship of music, the brain, and the human mind—ranging in our discussion from the neuroscience of auditory perception to the roots of music in human culture. Non-science majors are encouraged to enroll.

David Presti has taught neuroscience at UC Berkeley for nearly twenty years. For the past several years, he has also been teaching neuroscience to Tibetan monks in India.

Natural Resources 24, Section 2

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

Professors James Bartolome and Lynn Huntsinger

Thursday 5:00-6:00, Foothill 4 - Classroom A (4301 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 and is a Beyond the Classroom Theme seminar.**

James Bartolome is a Professor in the Ecosystem Science Division of the Department of Environmental Science, Policy and Management. He received a B.A. in Biology from UC Santa Barbara and a Ph.D. in Wildland Resource Science from UC Berkeley. His research interests are conservation, use and restoration of rangeland ecosystems.

Lynn Huntsinger is a Professor in the Department of Environmental Science, Policy and Management (ESPM). Her expertise is in agriculture, ecological history, and rangeland ecology and management.

Near Eastern Studies 24, Section 1

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

Professor Carol Redmount

Tuesday 1:00-2:00, 252 Barrows Hall (first meeting) and Exhibit Gallery in Hearst Museum, CCN: 61415

The first seminar meeting will be in 252 Barrows 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. This is a Beyond the Classroom Theme seminar.**

Carol Redmount is an Associate Professor in the Near Eastern Studies Department. She specializes in the archaeology of Egypt and directs the 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 has worked in the Middle East for some thirty years and lived for extended periods of time in Egypt, Israel and Jordan. Her archaeological experience also includes fieldwork in Cyprus, 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

Tuesday 10:00-11:00, 115 Barrows Hall, CCN: 61418

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.

Nuclear Engineering 24, Section 2

Detecting Illicit Nuclear Material (1 unit, P/NP)

Professor Edward Morse

Wednesday 3:00-4:00, 201 Giannini Hall, CCN: 64003

There is some risk of nuclear weapon materials becoming available to terrorists and other third parties. This seminar will focus on identifying the nature of this threat, discussing possible venues for illicit nuclear materials entering the United States and its allies, and possible means of detecting clandestine transportation attempts involving this material. The problem will be addressed as a public policy issue in addition to its physics basis. **No special knowledge of nuclear physics is required, but some simple physical concepts will be presented. Emphasis will be placed on discussions and role-playing exercises.**

Professor Edward Morse has been at UC Berkeley since 1978 and has been conducting experiments and theoretical research in fusion energy. He currently heads a multi-disciplinary team, named Domestic Nuclear Threat Security (DONUTS) carrying out research to improve domestic security by developing better methods of detecting nuclear material. This effort has been funded by a multi-year grant from the Academic Research Initiative, a partnership between the National Science Foundation and the Department of Homeland Security's Domestic Nuclear Detection Office. The initiative seeks to build the nation's intellectual capital in nuclear sciences.

Nutritional Sciences and Toxicology 24, Section 1

Classic Asian Martial Arts Movies (1 unit, P/NP)

Professor George Chang

Wednesday 11:00-1:00, Unit Two All Purpose Room, CCN: 64617

Food for Thought dining arrangements will be discussed in class.

Do you like classic Asian martial arts films? Or wonder how Jet Li and Jackie Chan became stars? Or want to see the early work of today's greatest martial arts director? Do you want to see the obscure Japanese movie that inspired the Star Wars films? Then this is the seminar for you. In some weeks we will screen films in class. In others, teams of students will lead discussions about certain aspects of these films. We'll start with 'Crouching Tiger, Hidden Dragon,' and then move on to classics such as the 'Seven Samurai,' Jet Li's 'Shaolin Temple,' Bruce Lee's 'Chinese Connection,' Jackie Chan's 'Snake in the Eagle's Shadow,' and Toshiro Mifune's 'Hidden Fortress' (the inspiration for Star Wars). In spring 2010, "Classic Asian Martial Arts Movies" will be held in the Unit 2 All-Purpose 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, where he also studied boxing, and a Ph.D. in biochemistry from Cal, where he also studied Tai Chi. He has been a martial arts movie fan for over four decades. In 2005 Professor Chang became the inaugural professor in Cal's new Residential Faculty Program.

Physics 24, Section I

Siege Engines: High Tech for an Agrarian World (I unit, P/NP)

Professor Bob Jacobsen

Thursday 11:00-12:00, 397 LeConte Hall, CCN: 69434

Food for Thought dining arrangements will be discussed in class.

The ballista, trebuchet and catapult were the high-tech wonder gadgets of the medieval age: If you had one, you could start a conversation just about anywhere. In this seminar, we'll study the physics, history, physics, technology, and physics of these devices. We'll examine how they were built, how they worked, and how they were used. This is the first time this seminar is being offered. We intend to build several model engines and measure their performance, but it is not yet clear how far that will go. There will be some reading required; involvement in building is optional. **No physics, engineering, technical, or mathematical background is required. Curiosity and willingness to get involved are required; this is not a seminar for leaning back and listening to what's happening in the front of the room. 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.

Rhetoric 24, Section I

Arguing with Judge Judy: Popular "Logic" on TV Judge Shows (I unit, LG)

Professor Daniel F. Melia

Monday 2:00-3:00, 283 Dwinelle Hall, CCN: 77857

Food for Thought dining arrangements will be discussed in class.

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, public disputation, 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. This seminar is part of the Food for Thought Seminar Series.**

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.

Spanish 24, Section 1

Hispanic Cultures in the Bancroft: from Sor Juana and the Mexican Inquisition to Spanish Civil War Posters and Handmade Books in Cuba (1 unit, TBA)

Professor Emilie Bergmann

Tuesday 11:00-12:00, 214 Haviland Hall, CCN: 86172

This seminar will introduce students to the treasure trove of the Bancroft Library, rich in manuscripts and printed books on Spanish and Spanish-American colonial and contemporary literary and political history. This newly reopened collection is one of North America's richest repositories of documents on the long history of the Hispanic presence in California. Among its unique items are a chivalric romance, the kind of book that inspired Don Quixote; manuscript transcriptions of Mexican Inquisitorial trials; seventeenth-century illustrated scientific studies by Athanasius Kircher, an inspiration to Sor Juana Ines de la Cruz; letters, photographs, poetry, and posters from the Spanish Civil War (1936-39); rare copies of twentieth-century Spanish American and U.S. Latina/o poetry, novels, and short story collections; and books created as unique artworks by Editorial Vigia in Havana. **This is a Beyond the Classroom Theme seminar.**

Professor Emilie L. Bergmann is Professor of Spanish and co-editor of *Mirrors and Echoes: Twentieth-century Spanish Women's Writing*, and *Approaches to Teaching Sor Juana Ines de la Cruz* (MLA 2007), as well as numerous articles on Sor Juana. Her teaching and research interests are focused on gender and visual culture in the historical watershed of early modern Spain and colonial Spanish America, and contemporary Spanish, Spanish American, and U.S. Latin women's writing.

Spanish 24, Section 2

Talking Funny: Language Variation in Spanish and English Literary Texts (1 unit, LG)

Professor Milton Azevedo

Thursday 10:00-11:00, 201 Gianinni Hall, CCN: 86175

This seminar analyzes language through the literary representation of regional and social varieties of Spanish and English (as in Mark Twain's *Adventures of Huckleberry Finn* or Guillermo Cabrera Infante's *Tres Tristes Tigres*) and discusses social and cultural implications of language variation. It is taught in English with readings in both English and Spanish. Regular class attendance is a strict requirement, and grades will be based on required participation in class discussions and a final oral presentation on an individual project. The reader will be available at the Copy Central on 2560 Bancroft Avenue. **The ability to read and understand spoken Spanish is essential to follow this course successfully. PLEASE NOTE: THIS IS NOT A CONVERSATION COURSE. Students interested in taking a course focusing on conversation or otherwise improving their ability to speak Spanish should see the Undergraduate Assistant in the Department of Spanish and Portuguese.**

Professor Milton Azevedo specializes in Hispanic Linguistics and his research focuses on applications of linguistics to literature. He has taught Freshman Seminars since spring 1999.

Vision Science 24, Section I
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? **This is a Beyond the Classroom Theme seminar.**

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.

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.

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 at the door outside 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. "Guidelines Concerning Scheduling Conflicts with Academic Requirements" by the Committee on Educational Policy state: "If unforeseen conflicts arise during the course of the semester students must promptly notify the instructor and arrange to discuss the situation as soon as these conflicts (or the possibility of these conflicts) are known" and "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 39K, Section I
Information Technology Goes to War! (2 units, P/NP)
Professor Randy H. Katz
Wednesday 4:00-6:00, 310 Soda Hall, CCN: 26254

Necessity drives invention. In this seminar, we will examine the intertwined historical development of information technology, broadly defined as computing, communications, and signal processing, in the twentieth century within the context of modern warfare and national defense. Topics include cryptography/cryptanalysis and the development of the computer; command and control systems and the development of the Internet; the war of attrition and the development of the mathematics of operations research; military communications and the development of the cellular telephone system; precision munitions and the development of the Global Positioning System. While we will endeavor to explain these developments in technical terms at a tutorial level, our main focus is to engage the students in the historical sweep of technical development and innovation as driven by national needs, and discuss whether this represents a continuing framework for the twenty-first century. **This course requires NO background in information technology or computer science—ANY freshman or sophomore student at Berkeley has the necessary technical background. An interest in military affairs, economics, politics, history, and/or technology is essential. This is not a lecture class—class meetings are organized around live play where students form teams and interact with each other to illustrate the concepts to be discussed. A desire to participate and "play along" is important—no "wall flowers" please!** This seminar may be used to satisfy the Historical Studies breadth requirement in Letters and Science.

Randy Howard Katz received his undergraduate degree from Cornell University, and his M.S. and Ph.D. degrees from the University of California, Berkeley. He joined the Berkeley faculty in 1983, where since 1996 he has been the United Microelectronics Corporation Distinguished Professor in Electrical Engineering and Computer Science. He is a Fellow of the ACM and the IEEE, and a member of the National Academy of Engineering and the American Academy of Arts and Sciences. In 2007, he received an honorary doctorate from the University of Helsinki. He has published over 250 refereed technical papers, book chapters, and books. His textbook, *Contemporary Logic Design*, has sold over 100,000 copies in two editions, and has been used at over 200 colleges and universities. He has supervised 45 M.S. theses and 39 Ph.D. dissertations (including one ACM Dissertation Award winner and ten women). His recognitions include thirteen best paper awards (including one "test of time" paper award and one selected for a 50 year retrospective on IEEE Communications publications), three best presentation awards, the Outstanding Alumni Award of the Computer Science Division, the CRA Outstanding Service Award, the Berkeley Distinguished Teaching Award, the CS Division's Diane S. McEntyre Award for Excellence in Teaching, the Air Force Exceptional Civilian Service Decoration, the IEEE Reynolds Johnson Information Storage Award, the ASEE Frederic E. Terman Award, the ACM Karl V. Karlstrom Outstanding Educator Award, and the ACM Sigmobility Outstanding Contributor Award. In the late 1980s, with colleagues at Berkeley, he developed Redundant Arrays of Inexpensive Disks (RAID), a \$15 billion per year industry sector. While on leave for government service in 1993-1994, he established *whitehouse.gov* and connected the White House to the Internet. His BARWAN Project of the mid-1990s introduced vertical handoffs and efficient transport protocols for mobile wireless networks. His current research interest is the architecture of Internet Datacenters, particularly frameworks for datacenter-scale instrumentation and resource management. Prior research interests have included: database management, VLSI CAD, high performance multiprocessor (Snoop cache coherency protocols) and storage (RAID) architectures, transport (Snoop TCP) and mobility protocols spanning heterogeneous wireless networks, and converged data and telephony network and service architectures.

Engineering 39B, Section I
Introduction to Computational Engineering Science (1.5 units, P/NP)
Professor John Verboncoeur
Tuesday 3:30-5:00, 283 Dwinelle, CCN: 27759

This seminar introduces the program in Computational Engineering Science, a multidisciplinary field linking together elements of biology, chemistry, applied mathematics, physics, and all great areas of engineering. The course includes a series of lectures and guest speakers with topics ranging from multidisciplinary real-world projects to introductions to modeling and simulation. Small projects illustrate the progression from problem definition to modeling to simulation to interpretation and comparison with experiment and observation. There are no prerequisites. **Priority is given to Engineering Science students.**

John Verboncoeur is an Associate Professor-in-Residence in the Department of Nuclear Engineering. His research interest is computational physics.

German 39H, Section I
The World of Yesterday: Vienna 1900 (3 units, LG)
Professor Elaine C. Tennant
MWF 10:00-11:00, 282 Dwinelle Hall, CCN: 37472

For a few decades at the end of the nineteenth century, Vienna witnessed an extraordinary and unprecedented flowering of the arts, politics, philosophy, and industry. This cultural surge made Vienna the "city of dreams" and not a few nightmares. The capital of Austria-Hungary, Vienna had doubled in population since 1840; and while the mostly failed Revolution of 1848 had not succeeded in toppling the Habsburg monarchy, it had given the empire a constitution. Along the newly constructed Ringstrasse, a parade of monumental public buildings and grand residences separated the old central city from the suburbs that were mushrooming beyond it. Vienna in this period was a city of great variety, contrasts, and contradictions-ethnic, social, political, and economic. It was at once splendid and squalid, progressive and decadent. Fin-de-siècle Viennese society looked backward and forward at the same time. From the Hofburg and the Schönbrunn palace at the edge of town, Emperor Franz Josef maintained the aristocratic, Catholic tradition of the monarchy through social policies that were alternately enlightened and repressive. Downtown, artists, intellectuals, musicians, and businessmen from around the city and across the empire formed the coffeehouse set whose ideas shaped the Viennese Art Nouveau, the Zionist movement, the theory of psychoanalysis, and the Russian Revolution. This was the Vienna of Freud and Herzl, Hofmannsthal and Schnitzler, Bruckner and Mahler, Kokoschka and Schiele, Otto Wagner and Adolf Loos, as well as conservative Mayor Karl Lueger. Vienna in these years was preoccupied with beauty, feeling, and style, but also with class, racial, and ethnic prejudice. This brilliant chapter of the city's history, which saw the rise of the Secession, Young Vienna, and the Wiener Werkstätte, ended with the Great War. This seminar is about the remarkable aesthetic production that burgeoned in the conflicted social and intellectual climate of Vienna around 1900. We will concentrate primarily on literary and journalistic writers of the period, but will also sample the work of some of the great painters, decorative artists, and musicians who contributed to the unique atmosphere of Vienna in the prewar period. The syllabus is likely to include texts by Sigmund Freud, Arthur Schnitzler, Hugo von Hofmannsthal, Theodor Herzl, Robert Musil, and Franz Kafka; paintings and decorative art objects by Joseph Hofmann and Gustav Klimt; and a film by Max Ophüls. Students should have sophomore standing and an interest in the subject of the course. Previous knowledge of German is not required. Students with a background in German, however, are welcome (indeed encouraged) to do some of the assigned readings in the original language. This seminar may be used to satisfy the Arts and Literature breadth requirement in Letters and Science.

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Elaine Tennant took her Ph.D. in Germanic Languages and Literatures at Harvard. Her main areas of research are the Habsburg court society in the 15th and 16th centuries, information management in the first century of printing, the development of the German language at the end of the Middle Ages, and the Middle High German narrative tradition. She conducts most of her primary research in Austria. Her publications include a monograph on the emergence of the German common language, a study of vocalism in sixteenth-century German primers, and essays on such topics as Gottfried's Tristan, word and image in

early modern Germany, gender dynamics in the Nibelungenlied, New Historicism, intellectual property, and European responses to the discovery of the Americas.

Interdisciplinary Studies 39A, Section I
Karl Marx and his Concept of Human Rights (2 units, LG)
Professor Renate Holub
Monday 4:00-6:00, 83 Dwinelle, CCN: 45002

Karl Marx [1818-1883] is one of the most controversial European intellectuals of the past 150 years. His books were burned under national socialism in Germany, and his name—invariably linked to communism—was anathema during the McCarthy era in the United States. In this seminar, we will critically examine early and late writings of Marx in order to determine the main elements of his concept of 'human rights.' We will then develop a brief overview of the location of Marx's concept of 'human rights' in the context of the predominant philosophical traditions that preceded him [Vico, Kant, and Hegel] as well as in those that followed him [liberal theory, neo-liberal theory, neo-marxist theory, feminist theory, postmodernist theory, postcolonialist theory, etc.].

Professor Renate Holub received her Ph.D. from the University of Wisconsin (1983) after completing a dissertation on Giambattista Vico, a precursor of Marx. Her book on Antonio Gramsci (Antonio Gramsci. Beyond Marxism and Postmodernism) focused on the intellectual relations between the Italian Marxist Gramsci and the neo-Marxist positions of the critical theory of the Frankfurt School. Over the past decade, she has pursued research for a study of intellectuals, rights, and states. Currently, she is in the process of writing a volume on Human Rights before the State: On Vico's Theory of Global Justice.

Legal Studies 39D, Section I
Current Political and Moral Conflicts and the U.S. Constitution (2 units, LG)
Mr. Alan Pomerantz
Monday 10:00-12:00, 203 Wheeler Hall, CCN: 51503

The U.S political and moral debate has moved steadily into the realm of the Supreme Court. Some have strongly argued that the Court's interpretation and application of the Constitution have adversely affected our fundamental rights, usurped powers from other branches of government, disregarded all notions of federalism, upset the separation of powers necessary for a stable democracy, and created an "Imperial Judiciary." Others have argued as strongly that the Court has acted properly to protect fundamental freedoms and individual rights in the face of unprecedented political and governmental efforts to limit them, and in doing so has fulfilled the role envisioned for the Court by the Constitution. Conducted by the Socratic method, the seminar examines current controversial moral and political issues that have a constitutional basis and the Court's participation in the debate. Topics include gay rights (including gay marriage), abortion, euthanasia, capital punishment, college speech codes, "hate" speech, and racial and ethnic profiling. Participants will read the relevant Supreme Court cases, and political and legal commentary from across the political spectrum. **The course is designed for students who wish to learn how to think--not what to think. Accordingly, students will be asked to develop and apply critical thinking skills to the course work, and learn not only what the Justices of the Court think, but also why they think as they do. Students are expected to develop and support their own views and opinions regarding the relevant topics**

Alan J. Pomerantz, Esq., is a practicing lawyer and Senior Counsel of Orrick, Herrington & Sutcliffe, a major international law firm. A graduate of the NYU School of Law, he also studied in Chile and received an advanced legal degree from the University of Amsterdam (Netherlands). He has lectured and taught widely, including at the NYU School of Law, NYU College of Arts and Science, the University of Amsterdam, Columbia Graduate School, and the University of Concepcion (Chile). He has published numerous articles and contributed to several treatises on legal topics. Mr. Pomerantz is recognized by several peer publications as one of the world's leading lawyers. Mr. Pomerantz has participated in

important and controversial matters affecting individual rights, including death penalty appeals, right of public artistic expression, right of privacy for acts of consenting adults, and numerous free speech cases.

Mathematics 39A, Section I
Seminar for Teaching Math in Schools (2 units, LG)
Mr. Emiliano Gomez
Monday 2:00 - 4:00, 31 Evans Hall, CCN: 54167

The course includes a field placement in a local school. Students will have to log in observations in an online journal. There will be three main components to the course:

1. Important mathematics content for school mathematics; 2. Collaborative problem solving;
3. Discussions about classroom observations and issues of teaching practice. The last two strands will take up much more time than the first. Grading will be based on participation in the discussions, homework, and a final project: a lesson plan appropriate for the classroom of each students' field placement. There will be no required text. There will be short weekly homework to do. **Prerequisite: Math IA**

Emiliano Gomez has a PhD in mathematics from UC Berkeley (2000). For the past six years, he has been involved in the professional development of mathematics teachers, and in the mathematics of K-12 schools. He is also director of the UC/CSU Mathematics Diagnostic Testing Project for the UC Berkeley site.

Physics 39, Section I
Teaching Science (2 units, P/NP)
Professor Roger Falcone
Friday 12:00-2:00, 200 LeConte Hall, CCN: 70218

Students will be expected to support science teaching in a local K-12 classroom throughout the course of the semester.

The seminar is for students who are interested in improving their ability to communicate scientific knowledge, and considering a career in teaching science in K-12 schools. It will combine instruction in inquiry-based science teaching methods and learning pedagogy with supervised teaching activities in a local school. Students will practice, with support and mentoring, communicating scientific knowledge through presentations and hands-on activities. The seminar builds on the successful Communicating Science series for upper-division students, which is taught in collaboration with the Lawrence Hall of Science. This seminar is an introduction to a new program for undergraduates called Cal Teach, which is described at <http://calteach.berkeley.edu/>. It is the first in a series of courses that will prepare undergraduate students in the sciences, mathematics, and engineering for careers in teaching at the K-12 level, while supporting their regular programs for the bachelor's degree in these subjects.

Professor Falcone has been teaching at UC Berkeley in the Physics Department since 1983 and served as Department Chair from 1995 to 2000. He is also affiliated with the Energy and Resources Group on campus, Lawrence Berkeley National Laboratory, and the Stanford Linear Accelerator Center. His research group conducts experiments in atomic, molecular, and solid state physics using ultrafast-pulse lasers and x-rays. His other activities include working with Berkeley's Lawrence Hall of Science and other groups on kindergarden-to-twelfth-grade education issues, and occasional studies related to national security.

Mr. John Erickson has been teaching at the Lawrence Hall of Science since 1986. He has taught in all subject areas at LHS, with an emphasis in physical sciences and astronomy, for students at the level of preschool through adult. His work includes curriculum development and teacher training in the content and methods of LHS curriculum materials.

Dr. Greg Schultz received his PhD from the UCLA Astronomy & Astrophysics program in 1999, and since then has been with UC Berkeley's Center for Science Education at the Space Sciences Lab (CSE@SSL; <http://cse.ssl.berkeley.edu/>). He came to Berkeley as a National Science Foundation (NSF) Science Education Postdoctoral Fellow, and is now on staff as an Education/Outreach Scientist and Teacher Educator. His work has been primarily focused on teacher education, teacher professional development, and science curriculum development, in particular within the subjects of astronomy, space science, physics, and earth science. He works closely in these regards with colleagues at the Lawrence Hall of Science.

Psychology 39J, Section I

Unnatural Causes . . . Is Inequality Making Us Sick? (2 units, LG)

Professor Darlene Francis, Dr. Emily Jacobs and Professor Katherine Saxton

Friday 12:00-2:00, 3105 Tolman Hall, CCN: 74080

This interdisciplinary seminar will explore the large and disturbing socio-economic and racial/ethnic disparities in health . . . and search for their causes. Growing evidence suggests that there is more to health than bad habits, no access to medicine or unlucky genes! The social circumstances in which we are born, live and work become 'biologically embedded' and put us at risk for stroke, heart disease, asthma, diabetes, poor mental health and academic achievement. This seminar will explore why some populations get sicker more often in the first place, i.e. the role of inequality, racism, poverty, segregation and neglect in breeding disease and despair. **We hope to attract students from diverse academic backgrounds interested in understanding and exploring the interface between the social and biological worlds.**

Darlene Francis is trained as a neurobiologist. Her basic research interests focus on understanding how social factors become biologically embedded to affect health and well-being.

Emily Jacobs is a cognitive neuroscientist. Her research explores individual differences in cognition from a genes and hormones perspective.

Kat Saxton is an epidemiologist studying the effects of stress and social place (in childhood) on development and gene expression.

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, Unit 3 2400 Durant Ave L 15, CCN: 83212

In this seminar, students will read approximately twenty-five 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 three-page criticism of the stories assigned 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 breadth requirement in Letters and Science.

Kausalya Hart (M.A., Annamalai University, 1962) is the author of Tamil for Beginners, Tamil Madu, and Tamil Tiraipadam (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.

Theater, Dance, and Performance Studies 39A, Section I
Sea of Poppies by Amitav Ghosh: The Greatest Novel EVER (1 unit, LG)
Professor Abigail De Kosnik
Tuesday 12:00-2:00 , 340 Moffitt, CCN: 88062

Seminar will begin January 19, 2010 through March 9, 2010.

Sea of Poppies (2008), by renowned Indian author Amitav Ghosh and the first of a projected trilogy of novels, has garnered international praise (it is the winner of the top two literary prizes in India, and was shortlisted for the prestigious Man Booker Prize in the U.K.). I argue that it is the greatest novel ever written. Sea of Poppies is about the opium trade in nineteenth-century India (and China), and its heroes and villains are a motley crew of Indians of all castes, eccentric Britons, a multilingual/multicultural Frenchwoman, an opium-addicted Chinese man, and one free black American sailor who passes for white. All of these amazing characters come together under the most fantastic circumstances on a Baltimore schooner called the Ibis. In this seminar, we will read Sea of Poppies and discuss its relationship to Moby Dick, Jane Eyre, and other classic nineteenth-century novels; British colonialism, U.S. slavery, and the slave and coolie trades; the role that opium played in the growth of China and Britain's economies; and the present-day Iraq war, Afghanistan war, and U.S. financial crisis. Students do not have to read the novel in advance of the seminar, but students who do read it ahead of time should not spoil it for others.

Abigail De Kosnik is an Assistant Professor in the Department of Theater, Dance & Performance Studies and the Berkeley Center for New Media. She teaches courses on Performance & Technology, Performance & Television, and Asian/American Performance Across Media. She usually teaches in the field of media studies, but is making an exception for this seminar because this book is the most exciting thing she's read in years.

Undergraduate and Interdisciplinary Studies 39B, Section I
Archival Research: Working with Primary Sources in the Humanities, Sciences, and Engineering (1.5 units, LG)
Professor James Casey
Wednesday 3:00-4:30, Stone Room, 373 Bancroft Library, CCN: 89006

This seminar offers undergraduates from any major the opportunity to perform original research using primary sources from the archives of the Bancroft Library, or from other specialized libraries at the University or in the San Francisco Bay Area. Students will have direct access to the unique collections of original manuscripts, papers, early printed editions, maps, photographs, paintings, and other items in the Berkeley archives. These cover literary, historical, philosophical, social, cultural, scientific, engineering, and artistic areas, spanning many centuries and different cultures. Bancroft has an especially rich collection of primary sources on California during the nineteenth and twentieth centuries (e.g., manuscripts, drawings, and paintings from the Gold Rush era; reports, engineering drawings, and photographs for the Golden Gate and Bay Bridge projects; an extensive archive on the poetry and fiction of the Beat Generation; and the papers of the Sierra Club and the Free Speech Movement). After some introductory sessions on the use of primary documents and artifacts in research, we will explore the Bancroft archives in areas of interest to the group. By mid-semester, students will begin working individually or in pairs on a topic of their own choosing, but based on archival materials. Creativity and ingenuity in research are encouraged and everyone is expected to participate vigorously in the discussions. Library specialists will provide technical assistance. A presentation and research report will be due at the end of the semester. **In the past, we have found that the seminar works best when our students come from diverse cultural and academic backgrounds and are eager to engage in academic dialogue. We are particularly interested in attracting students from the sciences and engineering in addition to the humanities and arts, so that problems can be discussed from different angles, and interdisciplinary collaborations can take place. Enrollment is limited to twenty students and attendance is mandatory.**

James Casey is a Professor in the Mechanical Engineering and Bioengineering Departments. He works on theoretical mechanics, but also has an interest in the history of the mathematical sciences. He is a passionate proponent of discourse that crisscrosses disciplinary boundaries.

David Farrell is both Curator of the History of Science and Technology Program at Bancroft and University Archivist.

Peter Hanff, Deputy Director of the Bancroft Library, has an intimate knowledge of the archives at Bancroft and other Bay Area libraries, and a great commitment to the value of primary sources in undergraduate education.

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 I
Food and Film (2 units, P/NP)
Professor Julia Bader
Monday 2:00-5:00, 300 Wheeler Hall, CCN: 28118

We will examine the representation of food and meals in the setting and narrative structure of films in contemporary cinema in various genres from comedy to horror, looking at Woody Allen, Bunuel, Ang Lee, Hitchcock and others. Connections to ethnic identity, eroticism, aggression and communal regulation will be explored with a range of critical approaches from close analysis to psychoanalytic and reception studies. This seminar may be used to satisfy the Arts and Literature breadth requirement in Letters and Science.

Professor Julia Bader teaches in the English Department and specializes in the modern period, both British and American, with an emphasis on fiction, film, and feminism.

Environmental Sciences 84, Section I
Discussions and Investigations of Campus Issues in Sustainability (1 unit, LG)
Professor William Berry
Wednesday 4:00-5:00, 55A McCone, CCN: 30824

There are a number of on-going campus programs on sustainability that include the climate change initiative, the planning of green buildings and issues in waste disposal. We will become familiar with these projects and take part in one or two of them. Students working on local environmental issues and those considering joining a student environmental issue group are encouraged to join the discussion to share their experiences.

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.

Integrative Biology 84, Section I
What's that animal doing? Behavioral research at Berkeley (1 unit, P/NP)
Professor Eileen Lacey
Tuesday 2:00-4:00, 5053 Valley Life Science Building, CCN: 43023

This seminar meets for eight weeks, beginning January 21 and ending March 11, 2010

Animal behavior is always interesting and often bizarre – how do biologists go about studying it? This eight-week seminar is designed to introduce students to the whys and the hows of behavioral research at Berkeley. During the first hour of each meeting, directed readings and class discussion will be used to introduce basic principles of behavioral research, including how to ask critical questions and test relevant hypotheses. During the second hour of each meeting, a different Berkeley faculty member who studies behavior will describe his or her research and demonstrate some of the techniques that he or she uses to understand animals. Thus, from spiders to hyenas and from VLSB to Tilden Park, students will gain a first-hand introduction to behavioral research on the Berkeley campus.

The seminar is open to all interested students, with the intent of informing them about the various majors on campus that include behavioral coursework and research. This is a Beyond the Classroom Theme seminar.

Eileen Lacey is a behavioral ecologist who studies the ecological and evolutionary bases for sociality in vertebrates, with an emphasis on mammals. Currently, Dr. Lacey's work focuses on the reasons for group living and cooperation in several species of South American rodents. Her analyses combine field studies of the behavior and ecology of these animals with molecular genetic analyses of patterns of parentage and kinship within social groups. At Berkeley, Dr. Lacey teaches courses in animal behavior, behavioral ecology, and mammalogy.

**Natural Resources 84, Section I
Global Environment Theme House Sophomore Seminar (1 unit, P/NP)
Professors Lynn Huntsinger and James Bartolome
Thursday 5:00-6:00, Foothill 4 - Classroom A (430I 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 and is a Beyond the Classroom Theme seminar.**

Lynn Huntsinger is a Professor in the Department of Environmental Science, Policy and Management (ESPM). Her expertise is in agriculture, ecological history, and rangeland ecology and management.

James Bartolome is a Professor in the Ecosystem Science Division of the Department of Environmental Science, Policy and Management. He received a B.A. in Biology from UC Santa Barbara and a Ph.D. in Wildland Resource Science from UC Berkeley. His research interests are conservation, use and restoration of rangeland ecosystems.