



FALL 2014

<http://fss.berkeley.edu/>

**Freshman and Sophomore Seminars
University of California, Berkeley
231 Evans 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 August 19, 2014.

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
Language and Politics in Southern Africa (1 unit, P/NP)
Professor Sam Mchombo
Wednesday 1:00-2:00, 54 Barrows Hall, CCN: 00572

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 African American Studies and was a member of the Department of Linguistics faculty from 1988 to 2009. 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.

Faculty web site: <http://africam.berkeley.edu/faculty/mchombo.html>

Anthropology 24, Section I
The Polynesians: Anthropological Perspectives (1 unit, P/NP)
Professor Patrick V. Kirch
Wednesday 10:00-11:00, 225I College Avenue, CCN: 02488

The Polynesians make up a family of related cultures whose ancestors discovered and settled the islands within a vast triangular region of the Pacific Ocean, with apices at Hawai'i, New Zealand, and Easter Island. The origins and migrations of the early Polynesians puzzled explorers and scholars during the eighteenth and nineteenth centuries, and became the subject of serious anthropological study in the twentieth century. Bringing to bear the different perspectives of archaeology, comparative ethnography, biological anthropology, and linguistics, scholars have shed an increasingly clear light on the story of the remarkable Polynesian diaspora—and of the subsequent evolution of these island cultures. This seminar will explore these different approaches within anthropology and how they have unraveled the history of the Polynesian peoples.

Professor Patrick Kirch has studied the island cultures of the Pacific for more than four decades, carrying out original fieldwork from Papua New Guinea in the west to Mangareva in the east. His particular specialty in anthropology is prehistoric archaeology, but he has also done original research in Polynesian ethnography and linguistic anthropology. He is especially interested in the origins and dispersals of the Polynesians, their interactions with their island ecosystems, and the evolution of their societies from simple chiefdoms to archaic states.

Professor Kirch is a member of the U. S. National Academy of Sciences and the American Philosophical Society.

Faculty web site: <http://arf.berkeley.edu/projects/oal/index.html>

Chicano Studies 24, Section I
Chicano Civil Rights Movement (1 unit, P/NP)
Professor Carlos Muñoz Jr.
Monday 10:00-11:00, 180 Barrows Hall, CCN: 13320

The seminar will consist of examining the multifaceted dimensions of the 1960s Chicano Civil Rights Movement via documentary films. **Students who took Chicano Studies 24: Chicano Civil Rights Movement may not take this freshman seminar. This seminar is part of the On the Same Page initiative.**

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

Faculty web site: <http://ethnicstudies.berkeley.edu/faculty/profile.php?person=21>

Civil and Environmental Engineering 24, Section I
Ethical Problems in the Investigation of the Collapse of the World Trade Center (1 unit, P/NP)
Professor Abolhassan Astaneh
Wednesday 10:00-11:00, 544 Davis Hall, CCN: 14003

The Seminar focuses on the tragic collapse of the World Trade Center and how ethical issues affected the post-disaster investigation. This seminar discusses skyscrapers first and how they are designed and constructed. Then, the causes of the collapse of the World Trade Center will be discussed. For the remainder of the semester, our discussions will be on the ethical issues related to the failure of the investigation into the causes of collapse by a team organized by the American Society of Civil Engineers and funded by FEMA.

Professor Astaneh is a member of the faculty in the Department of Civil and Environmental Engineering. His area of specialty is behavior and design of structures to withstand gravity, seismic and blast loads. He has conducted several major research and design projects on long span bridges and tall buildings. He

teaches graduate and undergraduate courses in structural engineering. He has studied extensively the existing as well as the new Bay Bridge, including the ethical aspects of its design and construction, for more than twenty-four years.

Faculty web site:

<http://www.ce.berkeley.edu/people/faculty/astaneh?destination=people%2Ffaculty%2Fastaneh>

**Civil and Environmental Engineering 24, Section 2
The Design and Construction of Household Clean Water Techniques for Developing Countries (1 unit, P/NP)**

Professor John Dracup

See days and times below. , 212 O'Brien Hall, CCN: 14005

Class will meet: Thursday, August 28, 6:00-8:00 pm; Saturday, August 30, 9:00 am - 12:00 pm; Saturday, September 13, 9:00 am - 12:00 pm; and Tuesday, September 16, 6:00-8:00 pm

UNESCO and WHO report that 4,000 to 6,000 children under the age of five die each day in the developing world from the lack of clean water and sanitation. This is equivalent to twelve Boeing 747 jet passenger planes crashing each day of the year. However, there are simple cheap technologies available to mitigate this problem: the biosand and membrane water filters.

Biosand and membrane water filters have recently become widely used in the developing world as a means of purifying drinking water for individual household use. They provide a cheap and effective system of removing turbidity and pathogens (i.e. viruses, bacteria and worms) from polluted water. Biosand filters can be readily made from local sources of sand and gravel. The bio layer, one of the main combatants of pollutants, is located at the top of the sand column and takes up to a few weeks to grow, feeding off the influent initially poured through the sand and gravel column. The outer container can be made from plastic or concrete, materials that are commonly available in the developing world. The pipes and connections are usually made of one-inch PVC pipes. Membrane water filtration is a method to remove bacteria and other contaminants from water by passing raw water through a micro porous membrane. Most membrane filters for drinking water start with thin semi-permeable materials made from a synthetic polymer—manufactured as flat sheet stock or as hollow fibers. Many small, individual membranes are then bundled and formed into one of hundreds of different types of membrane modules.

The purpose of this CE 24 class will be to build and test three different biosand filter containers and three different membrane filters. The class of 18 freshman students will be divided into six teams, with three students per biosand filter team and three students per membrane team. Each team will test and assess its own unique filter.

To obtain a passing grade, attendance at all of the four class meetings is mandatory. There will be no exceptions. Please check your schedule carefully before registering for this class.

Dr. John Dracup is a Professor of the Graduate School in the Department of Civil & Environmental Engineering. His expertise is in water resource engineering and hydrology. His recent awards include being inaugurated into the "Order of the Black Blouse" by the Water Rights Court of Valencia, Spain; the designation of a Diplomat of the American Academy of Water Resource Engineering of the American Society of Civil Engineers; a Honorary Professorship at the Universidad Catolica St. Antonio of Murcia, Spain; and the "Agua para Todos" award from the Region of Murcia, Spain; he was a Senior Fulbright Scholar to Australia and he is a Fellow of the AGU, ASCE, AAAS and the AWRA. He is active in providing clean water to developing countries as a volunteer for Rotary International.

Faculty web site: <http://www.ce.berkeley.edu/faculty/faculty.php?id=205>

Classics 24, Section 2

Aphrodite and Eros in Ancient Greece (1 unit, P/NP)

Professor Donald Mastrorarde

Wednesday 3:00-4:00, 205 Wheeler Hall, CCN: 14736

In this seminar we will read and discuss several short works and excerpts from ancient Greek literature and philosophy that offer representations of Aphrodite, the goddess of love, and Eros, the divine personification of love, or those that represent proper and improper sexual relations in ancient Greek society. After a brief consideration of the Greek Pantheon and Greek religion, the Greek drink-party, and Greek weddings, we will consider one tragedy (Euripides' Hippolytus) and two dialogues by Plato (Symposium and Phaedrus) as well as short excerpts from Homer and Sappho and Greek orators. All readings will be in English translation.

Professor Mastrorarde was educated at Amherst College, Oxford University, and the University of Toronto. He has taught at Berkeley since 1973 and has served as Chair of the Department of Classics and Director of the Center for the Tebtunis Papyri. He is author of a widely-used textbook (Introduction to Attic Greek, 2nd ed. 2013) and several books on aspects of Greek tragedy (most recently The Art of Euripides: Dramatic Technique and Social Context, 2010).

Faculty web site: http://classics.berkeley.edu/people/faculty/person_detail.php?person=5

Comparative Literature 24, Section I

Reading and Reciting Great Poems in English (1 unit, P/NP)

Lecturer Stephen Tollefson

Monday 4:00-5:00, 106 Dwinelle Hall, CCN: 17290

People today do not have enough poetry in their heads, and everyone should be able to recite one or two favorite poems. In addition to its purely personal benefits, knowing some poetry by heart has practical applications: in a tough job interview, you can impress the prospective boss by reciting just the right line, say, from Dylan Thomas: "do not go gentle into that good night/rage rage against the dying of the light." Or at a party some time, you'll be able to show off with a bit of T.S. Eliot: "in the room the women come and go, talking of Michelangelo." In this seminar, we will read a number of classic poems as well as a number of other (perhaps lesser, but still memorable) poems, and discuss them. The poems cut across centuries and types. Students will be encouraged to find other poems for the group to read. Participants will be required to memorize and recite 50-75 lines of their choice, and to prepare a short annotated anthology of their favorite poems.

Steve Tollefson, a lecturer in the College Writing Programs, is the author of four books on writing and grammar as well as articles on a variety of subjects and several short stories. He is a recipient of the campus Distinguished Teaching Award.

Faculty web site: <http://blogs.berkeley.edu/author/stollefson/>

Earth and Planetary Sciences 24, Section I

Weather and Climate (1 unit, P/NP)

Professor David Romps

Wednesday 4:00-5:00, 325 McCone Hall, CCN: 19045

This seminar will give an introduction to Earth's atmosphere, its weather and climate, and the underlying physical processes. Topics will include the basic structure of the atmosphere, the forces that drive the winds, clouds and their role in weather and climate, the formation of rain, weather systems, and climate change. **This overview will be at a fairly non-mathematical level: we will use an occasional equation, but no calculus.**

David Romps is an Assistant Professor in the Department of Earth and Planetary Science and a Faculty Scientist in the Earth Sciences Division at Lawrence Berkeley National Laboratory. David received his B.S. in math and B.S./M.S. in physics from Yale University and received his Ph.D. in physics from Harvard University. Motivated by concerns about climate change, he left the field of string theory to work on climate policy at the Woods Hole Research Center and then atmospheric dynamics at Harvard's Center for the Environment. In 2011, David joined the faculty at UC Berkeley, where his group uses theory, simulation, and observation of clouds and atmospheric dynamics to improve our understanding of Earth's climate.

Faculty web site: <http://romps.berkeley.edu>

Electrical Engineering 24, Section I
Gadgets Electrical Engineers Make (1 unit, P/NP)
Professor Jeffrey Bokor
Wednesday 10:00-11:00, 125 Cory Hall, CCN: 24566

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

Jeffrey Bokor received the B.S. degree in electrical engineering from the Massachusetts Institute of Technology in 1975, and the M.S. and Ph.D. degrees in electrical engineering from Stanford University in 1976 and 1980, respectively. After 12 years at the legendary Bell Labs, Dr. Bokor joined the faculty of the EECS department at UC Berkeley in 1993, with a joint appointment at the Lawrence Berkeley National Laboratory (LBNL). His current research activities include new devices for nanoelectronics, and ultrafast processes in magnetic materials.

Faculty web site: <http://www.eecs.berkeley.edu/~jbokor/>

English 24, Section I
Reading Art Spiegelman's Maus (1 unit, P/NP)
Professor Hertha D. Sweet Wong
Tuesday 2:00-4:00, 346 Kroeber Hall, CCN: 27853

First seven Tuesdays of the semester: September 2, 9, 16, 23, and 30, and October 7 and 14

Art Spiegelman has been called “one of our era’s foremost comics artists” and “perhaps the single most important comic creator working within the field.” In this seminar we will devote ourselves to a close reading of his Pulitzer Prize-winning graphic memoir, *Maus*, informed by a small dose of comics criticism. The required texts for this seminar are 1) *Maus*. Volume I: A Survivor’s Tale, My Father Bleeds History; 2) *Maus*. Volume II: A Survivor’s Tale, And Here My Troubles Began; and 3) *Understanding Comics: The Invisible Art*. Students should be prepared for active involvement and at least six pages of informal writing.

Hertha D. Sweet Wong is Associate Professor in the Department of English and Chair of the Department of Art Practice. She is the author of books and essays on Native American literature, autobiography, and visual culture. Currently, she is completing a book tentatively entitled *Visualizing Identity: The Pictorial Turn in Late Twentieth-Century American Autobiography* that examines late twentieth-century American subjectivity as it is represented in visual-verbal forms: story quilts, artists' books, comic books, experimental autobiographies, word paintings, and photo-autobiographies.

Faculty web site: <http://english.berkeley.edu/profiles/75>

English 24, Section 2

Crime and Punishment (I unit, P/NP)

Professor Robert Tracy

Monday 3:00-5:00, Room L20, Unit II (2650 Haste), CCN: 28703

Meets for 8 weeks starting September 8, 2014.

In *Crime and Punishment* (1866) the main characters are two intelligent young men (temporarily college dropouts because they cannot afford the tuition) and two remarkable young women in St. Petersburg, Russia about the time of the American Civil War. There are two murders, an astute detective, a "holy fool," a young prostitute, and a villain. Dostoevsky's characters are as fully developed as those of Dickens, but at the same time they are walking/talking ideas; the conflict between murderer and detective is also a conflict between "Western" ideas and "Russianness." This seminar will examine the conflict of ideas, but will equally focus on how to read a serious and complex psychological novel. We will be looking at WHAT Dostoevsky does with his characters, actions, and ideas, but also HOW he does it—how he sets scenes, manipulates characters and plot. I am hoping for close readers, and while I expect we will all reach the last page (551), I am primarily interested in your response to the book's ideas and your understanding of how Dostoevsky used the devices of a novelist to dramatize those ideas. **This is an interactive seminar, not a lecture course. Reading assignments are intended to provoke discussion among seminar participants. I expect you to come to class prepared to talk about what you have read. Please read *Crime and Punishment, Part I, Chapters 1 and 2 (pages 1-27) before the first meeting.***

Text: Fyodor Dostoevsky, *Crime and Punishment*, translated by Richard Pevear and Larissa Volokhonsky (Vintage paperback).

Robert Tracy is Emeritus Professor of English and of Celtic Studies. He has served as Visiting Professor of Anglo-Irish literature at Trinity College, Dublin; of American literature at Leeds University; and of Slavic Studies at Wellesley; and has been Associate Director of the University of California Dickens Project. His publications include a study of Trollope's novels, editions of works by Synge, Trollope, Le Fanu, and Flann O'Brien, and Stone, a translation from the Russian of poems by Osip Mandelstam. His *The Unappeasable Host: Studies in Irish Identities* was published in Dublin in July 1998. In 2008-09 he was President of the Dickens Society.

English 24, Section 3

Free Speech Movement (I unit, P/NP)

Professor Morton D. Paley

Friday 10:00-12:00, 305 Wheeler Hall, CCN: 28745

There will be seven two-hour meetings, starting on September 19, 2014 and ending on November 7, 2014. There will be no class on October 24.

In this course we'll study the aims, history, rhetoric, and degree of success of the Free Speech Movement, along with the ways in which it was presented by the media and perceived by the public. For this purpose we have at our disposal the Free Speech Archive at the Bancroft Library and recordings and videos in our Media Resources Center. Using these and other collections, we will try to reconstruct the main events that took place from September 29, 1964 to January 4, 1965.

Text: *Mario Savio* by Robert Cohen. (You have, or should have, received this book as a gift from L&S.)

Seminar requirements are: regular attendance and participation, a limited archival project resulting in a 15-minute seminar presentation, and a written 500-word summary of your presentation, and at the end of the course a one thousand word essay on a related subject of your choice. **For our first meeting, please read two speeches by Mario Savio in the Cohen book: "Bodies Upon the Gears" (pp. 326-328) and "An End to History" (pp. 329-332), and bring the text to class (or photocopies if you don't want to carry the book). In addition, please look at the Free Speech timeline at <<http://bancroft.berkeley.edu/FSM/chron.html>>**

This seminar is part of the On the Same Page initiative.

Usually when I teach a course, students have the option of seeing my credentials as a scholar in the Oski catalog. This time it's different (something that could have been said about FSM itself). I have not published anything on this subject. My credentials here are experiential. After the mass arrests at Sproul Hall during the Free Speech Movement, Mario Savio asked me to speak on behalf of FSM. I and two other faculty members did so, sustained by the presence and singing of Joan Baez, before an enormous audience. You can see me in the photo on the English Department's website at english.berkeley.edu, under the tab "Announcement of Classes." I am the man wearing dark glasses behind the REE of "free". I went on supporting the movement publicly, and I also was a participant in or a witness to a number of FSM events.

Faculty web site: <http://english.berkeley.edu/profiles/98>

**Environmental Science, Policy, and Management 24, Section 1
Issues in Natural Resource Conservation (1 unit, P/NP)
Professor David Wood
Friday 10:00-11:00, 214 Haviland, CCN: 28969**

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; opal mining in Australia; the Keystone XL pipeline; Canada Tar Sands; De-extinction research -- Woolly Mammoth and the Passenger Pigeon; and many more topics to be selected by the students. The seminar will include a voluntary field trip to Muir Woods.

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. In 1995 he was awarded the Berkeley Citation for distinguished service to the University.

Among his numerous publications, he recently co-authored three research papers, one that is published in *Forest Ecology and Management*. Two others have been accepted for publication, one in *Forest Science* and one in *Environmental Entomology*.

Faculty web site: http://ourenvironment.berkeley.edu/people_profiles/david-wood/

**Environmental Science, Policy, and Management 24, Section 2
Environmental Problem Solving (1 unit, P/NP)
Professor Gordon Frankie
Wednesday 11:00-12:00, 107 Mulford Hall, CCN: 28972**

We will look at current conservation and environmental problems facing California and other states. We will examine each problem and its historical and ecological roots and then discuss the kinds of solutions available for addressing the problems. Students will be asked to suggest the problems, and then they will

offer to report on them through PowerPoint or other media of presentation. One or two DVDs will be used to show details of some classic solutions, for example the "Saving the Bay" story, focusing on the three women credited with starting the movement that changed the way we now protect coastlines in California, the United States, and around the world.

All case history information will be discussed critically and constructively. The instructor will offer historical context to many of the discussions. This contribution is based on requests received in past seminars from students. **The tradition in my courses is to enroll students who are interested in the topic.**

Dr. Gordon Frankie is a faculty member in the Department of Environmental Science, Policy, and Management (ESPM) and teaches several courses on the environment and especially to students in the Conservation and Resource Studies Major in the Department of ESPM. Some of these courses are taught off campus in workshop or in field courses. Dr. Frankie's research specialties are conservation biology, pollination ecology, native bee ecology, urban ecology, environmental education, and tropical ecology. He does his field work throughout California and in selected regions of Costa Rica.

Faculty web site: http://ourenvironment.berkeley.edu/people_profiles/gordon-frankie/

Environmental Science, Policy, and Management 24, Section 3
Democratizing Science (1 unit, P/NP)
Professor Louise Fortmann
Wednesday 12:00-2:00, 132 Mulford Hall, CCN: 28975

The course will run from September 3 through October 22, 2014.

We will explore the contributions to science made by people without academic degrees and the way these contributions are encouraged or dismissed.

Louise Fortmann is a rural sociologist who has worked in East and Southern Africa, New York and California. She is the editor of *Participatory Research in Conservation and Rural Livelihoods: Doing Science Together*, in which half the chapters are authored by peasant farmers, forest products harvesters, Native Americans and residents of a Swedish forest community. Her inability to milk a cow has been the source of much hilarity in African villages where she has worked.

Faculty web site: <http://cnr.berkeley.edu/fortmann/>

Environmental Science, Policy, and Management 24, Section 4
Soil Pollution and Remediation (1 unit, P/NP)
Professor Céline Pallud
Wednesday 12:00-1:00, 107 Mulford Hall, CCN: 28978

This seminar will explore environmental quality from the aspect of soil science. Soil degradation is the decline in soil quality due to agricultural, industrial or urban activities. Soil degradation is a global problem that encompasses physical, chemical and biological deterioration. Soils play crucial roles in the quality of our environment, affecting, for example, food and water quality and quantity, and supporting many living organisms. This seminar will focus on soil pollution, and on remediation, which is the removal of pollutants and contaminants. An understanding of soil properties and processes is essential to understand how pollutants behave in soil, and how to design (bio)remediation strategies. The seminar will introduce students to basic soil properties and will include current topics, relevant problems and discussion of emerging approaches to soil remediation, with a focus on bioremediation and phytoremediation (using soil microorganisms or plants to clean up soils).

C. Pallud has been teaching soil science and doing research on soil and environmental quality at UC Berkeley for the last five years. Her research and background are strongly multidisciplinary, at the interface between soil physics, soil chemistry and soil microbial ecology. Her research is focused on understanding how those nutrients and contaminants cycle in the environment, with implications for maintenance of water and soil quality, evaluation of pollution risks, and design of (bio)remediation strategies.

Faculty web site: <http://celinepallud.com/>

Environmental Science, Policy, and Management 24, Section 6
Discussions on Evolutionary Biology (1 unit, P/NP)
Professor Philip Spieth
Wednesday 2:00-3:00, 332 Giannini Hall, CCN: 28983

Discussions on Evolutionary Biology is a seminar for freshmen that explores the intellectual excitement of evolutionary biology and examines its significance for understanding the world we live in. Weekly readings and roundtable discussions introduce basic facts and principles of evolutionary biology, including both historical perspectives and contemporary issues. Attention is given to popular misconceptions of biological evolution.

Philip T. Spieth is an Emeritus Professor in the Department of Environmental Science, Policy, and Management who worked with computer models of evolution and studied genetic variation in natural populations of fungi. He joined the faculty of the former Department of Genetics in 1971 and taught population genetics for thirty years at UC Berkeley in both introductory genetics courses and in courses for advanced undergraduates and graduate students and has been a co-author of a general genetics textbook. He created and has taught Discussions on Evolutionary Biology since the inception of the freshman seminar program in the early 1990's. For eleven years he served as director of operations for the National Center for Science Education, a nonprofit organization devoted to the teaching of evolutionary biology and climate change science in public schools.

Faculty web site: http://ourenvironment.berkeley.edu/people_profiles/philip-spieth/

Geography 24, Section 1
What Does It Mean to be Modern? (1 unit, P/NP)
Professor Michael Watts
Monday 12:00-1:00, 55A McCone Hall (Library), CCN: 36256

Exhibits and performance dates and arrangements will be discussed in class.

What does it mean to be modern, or live in a modern society? What distinguishes the modern from the non-modern? How might we think about words like modernity, modernization and modernism? To what do they refer and what are their origins? This seminar will explore these questions by reading some key texts by a variety of intellectuals and thinkers who have explored the various and complex meanings of being modern and the fundamental contours of modern life. We shall read works by Karl Marx, Hanna Arendt, Charles Baudelaire, Michel Foucault, Friedrich Nietzsche, Max Weber and others who help us explore what stands at the heart of modernity and being modern. We will also attend exhibits and performances on campus and discuss modernism as it is expressed in the visual and performing arts.

Bright, eclectic and motivated students with any background or interest who have an interest in exploring challenging ideas and in reading a wide variety of materials, often of a philosophical orientation. This is a Creating Change Theme Seminar. This seminar is a Berkeley Arts Seminar. Admission to the on-campus arts events included in this course will be provided at no cost to students.

Michael Watts is Class of '63 Professor of Geography and Development Studies. A Guggenheim Fellow in 2003, he served as the Director of the Institute of International Studies from 1994-2004. His research has addressed a number of development issues, especially food and energy security, rural development, and land reform in Africa, South Asia and Vietnam. Over the last twenty years he has written extensively on the oil industry in West Africa and the Gulf of Guinea. Watts has served as a consultant to the Ford and Rockefeller Foundations and a number of NGOs and foundations. Watts is currently the Chair of the Board of Trustees of the Social Science Research Council and serves on a number of Boards of non-profit organizations including the Pacific Institute.

Faculty web site: http://geography.berkeley.edu/people/person_detail.php?person=21

German 24, Section I
Nietzsche at the Movies (1 unit, P/NP)
Professor Karen Feldman
Wednesday 3:00-4:00, 221 Wheeler Hall, CCN: 37266

In this freshman seminar we will read and discuss short excerpts from the work of Friedrich Nietzsche and relate those excerpts to popular films. We will focus on the following topics: Apollo vs. Dionysus; strength and weakness; truth and representation; history; and repetition. The goal is to develop a cursory understanding of some central Nietzschean concepts.

Karen Feldman is Associate Professor of German. She works on aesthetics, critical theory and literary theory.

Faculty web site: <http://german.berkeley.edu/people/professors/karen-feldman/>

History 24, Section 2
The Free Speech Movement and the 1960s (1 unit, P/NP)
Professor Waldo E. Martin
Wednesday 1:00-2:00, 123 Dwinelle Hall, CCN: 39213

We will discuss the historical origins, development, meanings, and legacy of Berkeley's Free Speech Movement. Several key issues will guide our investigation: relevant historical notions of free speech and interrelated free speech practices; the history of key student movements at Berkeley and other colleges/universities, in the US and beyond; and, why, how, and with what consequences Berkeley's Free Speech Movement evolved as it did. **This seminar is part of the On the Same Page initiative.**

Waldo E. Martin, Jr. is the Alexander F. and May T. Morrison Professor of American History and Citizenship at Berkeley. His most recent book, co-authored with Joshua Bloom, is *Black Against Empire: The History and Politics of the Black Panther Party* (2013). He's also the author of "Holding One Another: Mario Savio and the Freedom Struggle in Mississippi and Berkeley," in Cohen and Zelnik, *The Free Speech Movement* (2002).

Industrial Engineering and Operations Research 24, Section I
Overview of IEOR (1 unit, P/NP)
Professor Ken Goldberg
Wednesday 4:00-5:00, 3102 Etcheverry Hall, CCN: 41003

Field trip arrangements will be discussed in class.

Industrial Engineers look at the big picture of what makes societies perform best. We design optimal combinations of people, information, materials, and equipment that produce innovative and efficient

organizations. This seminar provides a general introduction to the field and profession. Each week a faculty member or graduate student from the IEOR Department will discuss his or her work in communications, ecommerce, entertainment, finance, food, health, logistics, manufacturing, medicine, pharmaceuticals, semiconductors, sports, travel, or transportation.

Ken Goldberg is Professor of IEOR at UC Berkeley, with appointments in EECS and the School of Information. Goldberg was named IEEE Fellow in 2005 and serves (2006-2009) as Vice-President of Technical Activities for the IEEE Robotics and Automation Society. He is Founding Chair of the IEEE Transactions on Automation Science and Engineering (T-ASE) Advisory Board. For more information regarding Professor Goldberg, visit <http://goldberg.berkeley.edu>.

Faculty web site: <http://goldberg.berkeley.edu/>

Industrial Engineering and Operations Research 24, Section 2
A Short History of Innovation in American Business and Technology (1 unit, P/NP)
Professor C. Roger Glassey
Wednesday 3:00-4:00, 1174B Etcheverry Hall, CCN: 41005

We will read and discuss "The Business of America" by John Steele Gordon. This is an unusual history because it consists of vignettes of individual people who were significant innovators. I expect each student to have a copy and be prepared to participate in discussions.

Professor Glassey's undergraduate degree was from Cornell in Mechanical Engineering, followed by a year at the University of Manchester, England, three years in the Navy, and six years as an engineer for Eastman Kodak. During this time, he completed a MS in Applied Mathematics at the University of Rochester. He then returned to Cornell for a PhD in Operations Research. Professor Glassey joined the Berkeley faculty in 1965. His research interests included planning and scheduling of semiconductor manufacturing, solid waste management, and modeling of energy-economic interactions. In 1980, he spent two years in the Energy Information Administration in Washington where he directed a group of individuals who built and ran several large-scale models to study that topic. Since retiring, he has taught robotics for undergraduates, using Lego Mindstorms kits.

Integrative Biology 24, Section 2
Night (and Day) in the Museum: What Really Goes on in Berkeley's Museum of Vertebrate Zoology? (1 unit, P/NP)
Professor Eileen Lacey
Wednesday 4:00-6:00, 3101 Valley LSB, CCN: 42121

This seminar will meet for seven weeks, beginning September 3, 2014 and ending October 15, 2014.

Ever wonder what museum curators really do? Through a combination of tours, hands-on exercises, and student projects, we will explore the diverse activities encompassed by modern natural history museums. This is a rare chance to go behind the scenes at one of the top vertebrate natural history collections in North America . . . and learn how you could become involved in museums-based studies of vertebrate evolution and conservation. We are hoping to recruit freshmen interested in potential long term involvement in the Museum of Vertebrate Zoology community as students, interns, and research assistants. This includes (but is not limited to) students interested in museum science, vertebrate biology, field research, ecology and evolution.

This seminar is part of the Connections@Cal initiative and students will prepare weekly blog posts about their experiences in the course. **This seminar is part of the Connections@Cal initiative.**

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.

Faculty web site: <http://ib.berkeley.edu/labs/lacey/>

Integrative Biology 24, Section 3

The Stone Age (1 unit, P/NP)

Professor Tim White

Wednesday 3:00-5:00, 5053 Valley Life Sciences Building, CCN: 42124

This seminar will meet the first eight weeks of the semester, ending October 22.

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

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

Faculty web site: <http://ib.berkeley.edu/people/faculty/whitet>

Integrative Biology 24, Section 4

How and Why Do Birds Sing (1 unit, P/NP)

Professor George Bentley

Tuesday 2:00-3:00, 4110 Valley LSB, CCN: 42127

Do you ever wonder why some birds sing and others just call? Would you like to know how songbirds produce such melodious tunes? What about the dawn chorus? Sexual attraction? Aggression? It's just the day-to-day life of songbirds. Come and learn about the anatomy and physiology of birdsong, from the specialized organs to highly evolved brains. Find out how bird song can cause hormones to surge. This seminar will cover the hows and whys of vocal communication in birds with an emphasis on what classic and cutting-edge research has taught us.

George Bentley received his B.Sc. in biology (1993), and his Ph.D. in zoology (1996) at the University of Bristol in the United Kingdom. Following receipt of his doctorate, Dr. Bentley joined the Behavioral Neuroendocrinology Group at Johns Hopkins University, initially as a postdoctoral fellow and later as an associate research scientist. In January 2000, Dr. Bentley moved to Professor John Wingfield's laboratory at the University of Washington as a research associate in the Departments of Psychology and Biology. Dr. Bentley moved to Berkeley in June of 2005, where he is an Associate Professor in the Department of Integrative Biology and his lab focuses on how the brain detects environmental cues and turns them into hormonal signals. These signals in turn affect the behavior and physiology of the organism itself, or organisms to which the behavior is directed. For example, a male bird's song can cause a female to solicit copulation and change her hormonal status. Exactly how the brain performs this feat is largely unknown, but birds are an excellent model for this type of research as they have extravagant auditory and visual

displays. The research in Dr. Bentley's lab is mostly performed on birds, but is not limited to this vertebrate class. Current projects in the lab involve sheep, horses, rats, mice, hamsters and humans; many of these projects are in collaboration with other labs around the world (Japan, New Zealand, Germany, United Kingdom). Undergraduates are especially encouraged to get involved in active research projects. Currently, there are nine undergraduates working in the Bentley lab on neuroendocrine mechanisms of regulation of reproduction and on the neural basis of song behavior.

Faculty web site: <http://ib.berkeley.edu/people/faculty/bentleyg>

Integrative Biology 24, Section 5
Ethnobiology, Nutrition, and Global Food Systems (1 unit, P/NP)
Dr. Thomas Carlson
Tuesday 10:00-11:00, 4110 Valley Life Sciences Building, CCN: 42130

In this seminar we will read Michael Pollan's Omnivore's Dilemma and other select literature on related topics. We will explore the ethnobiological systems around the world that generate thousands of different species of plants and animals eaten by humans. We will examine the historical, cultural, commercial, and biological factors that have resulted in the worldwide consumption of certain plant (e.g., corn) and animal (e.g., cow) species. We will also compare the nutritional qualities, health effects, and carbon footprint of industrial food, organic food, locally grown food, and food that is hunted or gathered. **This is a Creating Change Theme Seminar.**

Dr. Carlson is an ethnobotanist, botanist, and physician who has conducted food and medicinal plant research with numerous different ethnolinguistic groups in Africa, Asia, Oceania, and the Americas. He has published articles in a spectrum of different disciplines including pharmacology, chemistry, experimental biology, nutrition, botany, ethnobotany, and anthropology. Professor Carlson teaches courses in medical ethnobotany, botany, California plant life, evolutionary medicine, and human reproduction.

Faculty web site: <http://ib.berkeley.edu/people/faculty/carlsont>

Integrative Biology 24, Section 6
Forensic Genetics: From DNA to Society (1 unit, LG)
Professor Rori Rohlf
Wednesday 11:30-1:00, 4110 Valley LSB, CCN: 42133

The seminar will meet from September 3 through November 5, 2014.

We've all heard about unknown people being identified by their DNA through pop culture (CSI, Bones, NCIS, etc), the news, and our own experiences. Curious about the nuts and bolts of forensic genetic identification? Interested in the social impact of large-scale DNA databasing? In this class, we will discuss a number of technical identification methods (and the caveats of those methods) in plain language. We will also consider the social impact of policies regulating the use of these methods. Both non-STEM and STEM majors are welcome!

Rori Rohlf is a statistical geneticist investigating a number of topics including how population genetic assumptions influence practical outcomes in forensic identification. She is particularly interested in error rates for technologies with increased uncertainty (like familial searching and low-DNA copy number analysis). Rori additionally studies the evolution of gene expression.

Integrative Biology 24, Section 8
Randomness and Heritable Memories in Biology (1 unit, LG)
Professor Han Lim

Monday 10:00-11:00, 4110 VLSB, CCN: 42139

So you think you are the product of your genes and your environment? Well, that's only part of the picture. In this seminar series we will discuss how random biochemical events and the experiences of previous generations can shape an organism's phenotype. Learn why some decisions that determine an organism's fate are left to chance and how this impacts our strategies for preventing and treating bacterial infections. Discover how single cells can inherit memories. Find out how your grandparents' environment may have played a role in shaping your development.

Han Lim is in the Department of Integrative Biology and teaches systems biology to biology and bioengineering majors. Dr. Lim trained in medicine and surgery in Australia and has a PhD in pediatrics from the University of Cambridge. His lab studies gene regulation in bacteria using a combination of experiments and mathematical modeling in order to obtain insight into the fundamental processes involved in gene regulation, to better understand infectious disease and to uncover design principles that can be applied to synthetic biology.

Faculty web site: <http://ib.berkeley.edu/people/faculty/limh>

Integrative Biology 24, Section 9
The Age of Dinosaurs: What Do We Know? (1 unit, LG)
Professor Kevin Padian
Wednesday 12:00-1:00, 1101 Valley LSB, CCN: 42142

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. **Students don't need any preparation for this course except an interest in the subject and the desire to understand how science is constructed. 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. Students interested in the class should enroll and send the instructor a paragraph explaining their interest in the class by August 15 (to kpadian@Berkeley.edu). Applications (limited to 8) will be accepted on a rolling basis before then and the course closed on August 16.**

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.

Faculty web site: <http://ib.berkeley.edu/people/directory/detail/5468/>

Italian Studies 24, Section 1
Culture & Politics in Italy since World War II: The Case of Pier Paolo Pasolini (1 unit, P/NP)
Professor Steven Botterill
Tuesday 1:00-2:00, 633 I Dwinelle Hall, CCN: 46950

Pier Paolo Pasolini—poet, novelist, filmmaker, cultural essayist, and political journalist—was Italy's foremost public intellectual for twenty years beginning in the mid-1950s, and the passionate urgency of his work has lost none of its relevance to Italy's complex and often troubled cultural and political situation

since he was murdered in 1975. In this seminar we will read (in English translation) a rich selection of Pasolini's poetry, fiction, and essays; view some of his most important and controversial movies; and consider the state of Italy today in light of Pasolini's diagnosis of his country's ills forty years ago. **This seminar is designed to appeal to students from any academic background who are interested in Italy, politics, great movies, great literature, or any combination of the above.**

Steven Botterill (Ph.D., Cambridge) has taught Italian literature and culture at Berkeley since 1986. He specializes in the medieval period and is an internationally recognized authority on Dante's "Divine Comedy," but his interests range widely across all periods of Italian cultural history. His admiration for Pasolini's achievement has grown steadily since he first encountered it as an undergraduate in the late 1970s.

Faculty web site: <http://italian.berkeley.edu/people/profile.php?id=6>

Linguistics 24, Section 1
Language Myths (1 unit, P/NP)
Professor Larry Hyman
Thursday 10:00-11:00, 61 Evans Hall, CCN: 52357

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 lesser known languages that 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.

Faculty web site: http://linguistics.berkeley.edu/people/person_detail.php?person=19

Linguistics 24, Section 2
Language Myths (1 unit, P/NP)
Professor Sharon Inkelas
Monday 2:00-3:00, 201 Giannini Hall, CCN: 52360

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 lesser 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.**

Sharon Inkelas is a Professor in the Department of Linguistics, which she served as Department Chair from 2005-2013. She received her PhD in Linguistics from Stanford University in 1989. Her research

focuses on phonology (sound systems) and morphology (word structure) of the world's languages, focusing on cross-linguistic patterns and differences. She has also conducted research in child language acquisition.

Faculty web site: <http://www.linguistics.berkeley.edu/~inkelas/>

Mechanical Engineering 24, Section I
Art and Science on Wheels (I unit, P/NP)
Professor Benson Tongue
Wednesday 12:00-1:00, 122 Latimer Hall, CCN: 55253

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 likes to profess in the Department of Mechanical Engineering. His interests lie in the fields of vibrations, dynamics and controls, not to mention Scottish dancing, bicycling, fast cars, bird watching, photography and playing around with Photoshop. His books, *Principles of Vibrations and Dynamics: Analysis and Design of Systems in Motion*, make great bedtime reading.

Faculty web site: <http://www.me.berkeley.edu/faculty/tongue/>

Media Studies 24, Section I
Exploring the News (I unit, P/NP)
Professor Neil Henry
Wednesday 10:00-11:00, 267 Bancroft, CCN: 56735

This course will examine the forces shaping the news in American society, who produces it, by what means it is delivered, who consumes it, and what roles it plays in informing the public. Certain basics of news reporting and writing will also be covered. Keen attention to following the news—online, broadcast, and print journalism—will be required, as will consistent participation in classroom discussions. Several short writing exercises will be assigned.

Neil Henry worked for sixteen years as a staff writer for The Washington Post and Newsweek magazine prior to joining the faculty in 1993. A former national correspondent and Africa Bureau Chief for the Washington Post, Professor Henry has won awards from the John S. and James L. Knight Foundation, Associated Press, and Robert F. Kennedy Memorial for his reporting and writing. He is the author of a 2002 racial memoir, *Pearl's Secret*. His second book, *American Carnival*, which examines the news industry's adjustments to the digital age, was published in 2007. Between 2007 and 2011, Professor Henry served as dean of the Graduate School of Journalism, attracting three endowed chairs under the Hewlett Challenge and hastening the School's curricular transition to incorporate digital skills training. A graduate in Politics from Princeton University, Professor Henry earned his Master's degree from Columbia University's Graduate School of Journalism.

Faculty web site: <http://journalism.berkeley.edu/faculty/henry>

Molecular and Cell Biology 90A, Section I
Evolution—Creatures, Not Creation (I unit, LG)
Professor Jeremy Thorner
Friday 12:00-1:00, 430 Barker Hall, CCN: 57665

The advent of molecular biology, recombinant DNA methodology, and the capacity to obtain and computationally analyze 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 derived from field observations of existing 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 may 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, Biophysics and Structural Biology in the Department of Molecular and Cell Biology. He has been a faculty member at UC Berkeley since July 1974. 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, gene expression, growth, and proliferation rate, and cell shape that allow a cell to cope properly with the changed circumstances.

Faculty web site: http://mcb.berkeley.edu/index.php?option=com_mcbfaculty&name=thornerj

Molecular and Cell Biology 90A, Section 2
A Sampling of the Performing Arts at Berkeley (1 unit, P/NP)
Professor Jack Kirsch
Tuesday 5:00-6:00, 621 Stanley Hall, CCN: 57668

The purpose of this seminar, which is being offered for the fifth time, is to introduce incoming students to the wonderful variety of high quality performing arts opportunities, mainly on the Berkeley campus. We will view a classic film at the Pacific Film Archives, a student-produced play at either the Barestage or the Durham Studio theater, and one dance and one classical music performance at Zellerbach Hall. One or two related videos will be shown during class time. A limited number of off-campus opportunities may also be available. There is no cost to the students for the tickets. Each student will present a 25-minute talk related to the performances. **I would like a mix of science- and non-science-intended majors. This seminar is a Berkeley Arts Seminar. Admission to the on-campus arts events included in this course will be provided at no cost to students. This seminar is part of the Food for Thought Seminar Series.**

About the Instructor: I taught and did research in biochemistry and organic chemistry at Berkeley for many years, but always found some time for serious reading, attendance at concerts and the theater. I formally retired a few years ago, and have now reversed those areas of focus. I taught freshman seminars devoted completely to the performing arts in Fall 2011 and 2013 and Spring 2012 and 2014. On another occasion the seminar was focussed on merging the two cultures of arts and science. Our point of departure was the famous 1959 essay of CP Snow.

I regularly attend about 100 performances per year in Bay Area Theaters and concert halls, and also subscribe to the SF Ballet and Opera. I contribute to the support of several local theater groups, and have co-produced two plays and a musical.

Faculty web site: <http://chem.berkeley.edu/faculty/kirsch/index.php>

Molecular and Cell Biology 90B, Section 1
Insulin as a Window on Discovery in Biology (1 unit, P/NP)
Professor Randy W. Schekman

Monday 4:00-5:00, 262 Dwinelle Hall, CCN: 57674

Food for Thought dining arrangements will be discussed in class.

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. For additional information about insulin and its status as the first "miracle drug", use the related web site link below this seminar description to access an article that appeared in the New York Times. **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. This seminar is part of the Food for Thought Seminar Series.**

Randy Schekman is the past Chair of the Department of Molecular and Cell Biology and of the Chancellor's Advisory Committee on Biology. In 2013 he shared the Nobel Prize in Physiology or Medicine for his work on the mechanism of transport of membrane and secretory proteins within the eukaryotic cell (http://www.nobelprize.org/nobel_prizes/medicine/laureates/2013/schekman-facts.html).

Faculty web site: <http://www.hhmi.org/research/investigators/schekman.html>

**Molecular and Cell Biology 90E, Section I
Matter, Mind, Consciousness (1 unit, P/NP)
Senior Lecturer David E. Presti
Tuesday 3:00-4:00, 78 Barrows Hall, CCN: 57677**

All we know comes to us via our mental experience: our thoughts, feelings, perceptions, and conscious awareness. However, it is a deep mystery how the physical processes of our brain and body give rise to the subjective experience of consciousness. Some argue that the investigation of this mind-body connection is the most profound question in all of science. We will address this question from the perspectives of biology, philosophy, physics, and psychology --- cognitive science, broadly defined.

Students interested in all areas of the sciences, arts, and humanities are encouraged to enroll. This seminar is part of the Connections@Cal initiative.

David Presti has taught neuroscience at UC Berkeley for more than twenty years. For nearly ten years, he has also been teaching neuroscience to Tibetan monastics in India.

Faculty web site: <http://mcb.berkeley.edu/labs2/presti/>

**Music 24, Section I
Musical Theater from Rodgers & Hammerstein to Glee (1 unit, P/NP)
Professor Mary Ann Smart
Tuesday 1:00-2:00 pm, 242 Morrison Hall, CCN: 60323**

Musical theater is based on a wonderful but awkward combination of flashy song-and-dance numbers and more realistic plot and dialogue. In this course we'll think about what makes that mix work, how the relationship between songs and drama has changed over time, and how it's been treated differently by

different artists. We'll look at filmed versions of scenes from musicals and will attend at least one live performance. There will also be some assigned readings on the history and interpretation of the musical.

The course is open to any student who has an interest in musical theater. It would be especially interesting to have students who have performed musical theater or worked behind the scenes in shows, but students interested in the theory or history of theater and music would also have much to contribute. This seminar is a Berkeley Arts Seminar. Admission to the on-campus arts events included in this course will be provided at no cost to students.

Mary Ann Smart teaches music history and interpretation in the Department of Music. She has recently taught courses on the music of the eighteenth and nineteenth centuries, on opera, and a Big Ideas course on "music and meaning." Her research focuses on politics, gender, and performance in opera.

Faculty web site: <http://music.berkeley.edu/people/profile.php?person=14><http://>

Natural Resources 24, Section I

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

Professors J. Keith Gillless and Mary Firestone

Monday 5:00-6:00, 430I Foothill 4 - Classroom A, CCN: 61403

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.**

J. Keith Gillless is a professor of forest economics and dean of the College of Natural Resources. His degrees are in forestry and agricultural economics from Michigan State University and the University of Wisconsin. He has been a member of the Berkeley faculty since 1983. His research and teaching interests include wildland fire protection, environmental economics, international forestry development, biofuels and a lot of other things.

Faculty web site: http://ourenvironment.berkeley.edu/people_profiles/j-keith-gillless/

Mary K. Firestone is a professor of soil microbial ecology and associate dean of the College of Natural Resources. Her degrees are in microbiology and soil science from Michigan State University. She has been a member of the Berkeley faculty since 1979. Her research addresses the microbial bases of nutrient cycling, terrestrial system response to change, and plant-soil-microbial interactions. She teaches Introductory Environmental Science and Soil Microbial Ecology.

Faculty web site: http://ourenvironment.berkeley.edu/people_profiles/mary-firestone/

Near Eastern Studies 24, Section I

Egyptian Archaeology at Cal (1 unit, LG)

Professor Carol Redmount

Wednesday 12:00-1:00, 27I Barrows Hall, CCN: 61536

Cal enjoys important resources for studying the archaeology of ancient Egypt. The P.A. 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 collection come from excavations undertaken in the early 1900s by George Reisner, with funding provided by Phoebe Apperson Hearst. Because the museum is closed for renovations for the next two years, our access to the collection is unfortunately limited. The Museum has, however, made a display cabinet of artifacts available for class, and we will also review the history of the collection. The Bancroft Library on campus owns an important collection of papyri associated with the Hearst Museum collection; we will view some of these papyri at the library. The Bade Museum of the Pacific School of Religion also counts a few Egyptian objects among its collection; we will visit this museum. In addition, I have been directing a UC Berkeley archaeological expedition in Egypt since 2001; we will examine various aspects of this fieldwork, including recent looting of the site, in class.

Carol Redmount is an Associate Professor in the Near Eastern Studies Department. She specializes in the archaeology of ancient 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 career the summer of her freshman year in college and hasn't stopped digging since. She has worked in Egypt for over thirty years and lived for extended periods of time in Egypt, Israel and Jordan. Her archaeological experience includes fieldwork in Cyprus, Tunisia, Israel, Jordan and the United States. She is also an animal lover and shares her home with two parrots, a rescue dog and three rescue cats.

Faculty web site: http://nes.berkeley.edu/Web_Redmount/Redmount.html

Nuclear Engineering 24, Section I
How It's Made (1 unit, LG)
Professor Peter Hosemann
Monday 3:00-4:00, 203 Wheeler Hall, CCN: 64003

This class is an introduction to the conventional manufacturing techniques of components used in nuclear and other engineering applications. An introduction to metal fabrication will be given, including, but not limited to, a brief introduction to refining, casting, forming, machining and joining. After an overview of the techniques available to engineers, the students will be expected to perform a literature review and discuss how specifically chosen components can be manufactured. In addition, the students will be encouraged to participate in the campus-offered machine-shop training where basic skills in machining are taught after a short introduction by the professor to the shop tools. **This seminar is part of the Food for Thought Seminar Series.**

Originally from Vienna Austria, Peter Hosemann earned his MS in 2005 and his PhD in 2008 at the Montanuniversitaet Leoben in Austria in Materials Science. Professor Hosemann is interested in experimental materials science for nuclear applications. His main focus is on structural materials used for nuclear components (fission, fusion, spallation, etc.). His research focuses on developing a basic understanding of the materials degradation processes in a nuclear environment and resulting consequences to engineering application.

Physics 24, Section I
Making Mistakes Scientifically (1 unit, P/NP)
Professor Bob Jacobsen
Thursday 1:00-2:00, 325 Le Conte Hall, CCN: 69317

Science is all about making and correcting mistakes. Sometimes we call them "serendipity" and benefit hugely from them. Sometimes we mess up and don't even know about it until much later. Sometimes we cling to wrong ideas for a long time and pay huge prices. Sometimes we fool ourselves.

This seminar will examine examples of mistakes in science and real life. How do these things happen to people? How did they recover (if they did)? How should we think about mistakes in science? Is there really a silver lining to mistakes? Are they part of creativity? Or are they just mistakes?

A typical week will be reading a short article or two before class, followed by in-class discussion of the examples. **No specific knowledge of physics or any other science required beyond what is usually encountered in high school. In order to really enjoy the course, students should have some curiosity about science and a sense of irony. This seminar is part of the Connections@Cal initiative. This seminar is part of the Food for Thought Seminar Series.**

Bob Jacobsen is an experimental physicist, which means he spends a lot of time trying things that are not certain to work. His current experiment is a search for Dark Matter that's located almost a mile underground in an old gold mine outside Deadwood, South Dakota. The New York Times article on it was headlined "Dark Matter Experiment Has Detected Nothing, Researchers Say Proudly." Previously, Bob worked in several other fields. He's encountered many kinds of mistakes, in science and outside it, and thinks that they're fascinating.

Faculty web site:

http://physics.berkeley.edu/index.php?option=com_dept_management&act=people&Itemid=299&task=view&id=363

Plant and Microbial Biology 24, Section I
Encounters with Plants: First-hand Experiences with the Culture, Lore, and History of Plants (1 unit, P/NP)
Professor Lewis Feldman
Tuesday 11:00-12:00, 107 Mulford Hall, CCN: 70317

This seminar is meant to provide students the opportunity to explore ways plants have touched or influenced their lives, both personally and in an historical sense. Examples could include unique cultural uses of plants, perhaps as foods or medicines, or in a ceremonial way. As well, you could also use this seminar to explore an aspect of plants in which you may have an interest and about which you would like to learn more, such as the ways plants figure into art (e.g., Rousseau's Jungle paintings). Plants too have recently been associated with controversial issues, such as genetically engineered foods and with so-called crop circles. We want to use this seminar as a way of expanding our appreciation and understanding of this unique group of organisms. For the first few meetings we will have talks/discussions from individuals whose daily lives involve plants. For the remaining weeks each student will present a 20-minute "seminar" on a plant topic in which they have an interest. This talk should be based on readings and could also involve some personal, firsthand experiences with plants. Additionally, this seminar will expose students to the great breadth and variety of botanical resources available at Berkeley; it will include field trips to the Botanical Garden and the Herbaria, and a tour of the trees of the Berkeley campus.

Lewis Feldman teaches Introductory Biology (Biology 1B) in which he hopes to convey the wonder and satisfaction of working with plants. He also teaches upper division courses in plant structure and physiology, and for his research investigates the developmental biology of roots. In his spare time he also serves as an Associate Dean in the College of Natural Resources.

Faculty web site: <http://pmb.berkeley.edu/profile/lfeldman>

Political Economy 24, Section I
Political Economy in Contemporary Perspective (1 unit, P/NP)
Senior Lecturer Alan Karras
Tuesday 4:00-5:00, 225 Dwinelle Hall, CCN: 71203

This seminar will require students to engage with current events, international and domestic, through the lens of political economy. Those who are enrolled will be required to read The New York Times and/or the Economist each week, identify issues of political economy that are being discussed, and present them to their peers for discussion. Differing perspectives on the news, as well as the different ways in which political economy theorists would interact with the events, will be discussed. Students in this seminar will spend a week or two working on the ways in which the political economy interacted with the Ansel Adams photographs, and how we can use these photographs to raise new questions about the political economy of California and higher education. Students should expect vigorous engagement and critical thinking.

Alan Karras is Associate Director of and Senior Lecturer in the International and Area Studies Academic Program. He is the author of *Smuggling: Contraband and Corruption in World History*, as well as several other books and articles on similar subjects. He is currently the Lead Media Author for a forthcoming concise edition of a World History textbook, as well as working on his own book on corruption in the British East India Company. He previously served as the Chair of the AP World History Development Committee for the College Board (as well as several other committees). He is also a member of the Boards of Editors for Cambridge University Press's forthcoming *Dictionary of World History* and the nine-volume *Cambridge World History*. In addition to smuggling and corruption, his research interests are in eighteenth-century Caribbean history, especially as it relates to more recent global issues in political economy.

Faculty web site: <http://iastp.berkeley.edu/People-Detail/Alan%20Karras>

Portuguese 24, Section I

Hello Brazil: An Introduction to Brazilian Arts and Culture (1 unit, P/NP)

Professor Candace Slater

Thursday 2:00-3:00, 5125 Dwinelle Hall, CCN: 86606

This seminar offers a description of Brazil—a vast and varied country—through some of its major literary and artistic expressions. It provides a sense of roots for some of the challenges that Brazil is currently facing as well as a notion of its shifting identities. The title "Hello Brazil" comes from a celebrated film about cultural and economic change. **This course would be most engaging for students curious about Brazil. Students who have a more general interest in Latin America are welcome, but this is not required.**

Candace Slater teaches Brazilian Literature and Culture as well as courses on the Amazon. She is the author of seven books and numerous articles. Much of her writing and teaching relies on onsite research in varied corners of Brazil.

Faculty web site: <http://spanish-portuguese.berkeley.edu/our-faculty/>

Psychology 24, Section I

The Shattered Mind (1 unit, P/NP)

Professor Mark D'Esposito

Monday 12:00-1:00, 10 Giannini Hall, CCN: 73980

In this seminar, we will read and discuss chapters from a book entitled "The Shattered Mind" by Dr. Howard Gardner. As Dr. Gardner states, "It is my purpose in this book to demonstrate that a host of critical issues in psychology can be illuminated by a thoughtful study of the behavior and testimony of brain damaged individuals." Such topics will include aphasia, amnesia and the frontal lobe syndrome. The case studies that are presented in the book will be supplemented by patients seen and cared for by Dr. D'Esposito, who is a practicing neurologist.

I am a Professor of Neuroscience and Psychology, Director of the UC Berkeley Brain Imaging Center as well as a practicing neurologist.

Faculty web site: <http://despolab.berkeley.edu>

Rhetoric 24, Section I

Arguing with Judge Judy: Popular "Logic" on TV Judge Shows (1 unit, LG)

Professor Daniel F. Melia

Tuesday 10:00-11:00, 7415 Dwinelle Hall, CCN: 77850

TV "judge" shows have become extremely popular in the last three to five 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. I am interested in students who are interested in the deployment of logic in everyday life. This is NOT a law course or even a pre-law course.**

Professor Melia has taught in the Rhetoric Department since the 1970s and has offered a variety of Freshman Seminars. One of his favorite courses over the years was "disorienting books and films" in which classes have examined examples in which authors seem to be going to some lengths to confuse their readers. He has published on figures as disparate as Aristotle and George Lucas. He is a former Jeopardy! champion.

Faculty web site: http://rhetoric.berkeley.edu/people.php?page_id=1056&p=62

Spanish 24, Section I

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

Professor Milton Azevedo

Wednesday 11:00-12:00, 123 Dwinelle Hall, CCN: 86193

For centuries fiction authors have used literary dialects containing nonstandard spelling and regional syntax and vocabulary to represent colloquial and regional speech, foreigners' talk, and mixed languages. Our goal in this seminar is to read passages from some of their works, analyze the ways in which nonstandard speech is represented in writing, and use that analysis as a point of departure for commenting on social and cultural implications of language variation. Spanish and English literary works to be read will include Mark Twain's *Adventures of Huckleberry Finn* and Guillermo Cabrera Infante's *Tres Tristes Tigres*. The seminar 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 2576 Bancroft Avenue. **Although the seminar is conducted in English, students must be comfortable with Spanish—they need to understand spoken Spanish and be able to read Spanish with some fluency—about the equivalent of four years of high school Spanish minimum. 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 received his Ph.D. in Linguistics from Cornell University and has been at UC Berkeley since 1976. He has offered this seminar since spring 1999.

Faculty web site: <http://spanish-portuguese.berkeley.edu/our-faculty/>

Theater, Dance, and Performance Studies 24, Section I
Documentary Playmaking: School Integration, Little Rock, 1957-58 (1 unit, P/NP)
Professor Dunbar Ogden
Monday 2:00-4:00, 8 Zellerbach Hall, CCN: 88148

This seminar will meet for eight weeks, beginning September 8, 2014 and ending October 27, 2014.

On the fateful morning of September 4, 1957, a small group of African-American students walked up to the doors of Central High, Little Rock, to enroll in school—and were turned away by the armed National Guard. Arkansas State Governor Faubus had called out the Guard to surround the building. "Blood will run in the streets," said Faubus, "if Negro pupils should attempt to enter Central High School." A racist mob seethed out front. Eventually the courageous group of children did enter. The first of them graduated in the spring of 1958. They came to be known as the Little Rock Nine; Central High was the first major integrated public high school in the South. Nowadays many people regard their mentor, Daisy Bates, on a level with Martin Luther King, Jr. Each student in our Freshman Seminar will select a person who participated in the integration of Central High, study historical documents linked with that individual, and develop an original monologue in the role of the person, perhaps as one of the Little Rock Nine or as the Governor or as the principal of Central High. We will encourage each student to experiment with a role different from his or her own gender and cultural background. Daisy Bates' *THE LONG SHADOW OF LITTLE ROCK* and Melba Pattillo Beals' *WARRIORS DON'T CRY* will be the required books.

Professor Dunbar H. Ogden has just published a book entitled *MY FATHER SAID YES*, about the integration crisis at Central High School, Little Rock. He has developed this civil rights book in conjunction with students in his Freshman Seminars since 2000. Professor Ogden is also the author of books on actors, set design, and theatrical space.

Faculty web site: <http://tdps.berkeley.edu/people/emeritus-faculty/>

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 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?

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.

Faculty web site: <http://vision.berkeley.edu/VSP/content/faculty/facprofiles/vansluyters.html>

Vision Science 24, Section 2

How To Change Society: The Free Speech Movement and the Sixties (1 unit, P/NP)

Professor Stanley Klein

Tuesday 2:00-3:30, 394 Minor Hall, CCN: 66405

The US Declaration of Independence says we are endowed "with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness." This seminar will explore Berkeley in the sixties, a period in our history where battles for those rights were being fought. We will focus on the Free Speech Movement and will meet with two FSM veterans. We will ask what went well and what didn't. The seminar will explore how we can apply the lessons from the sixties to present situations on campus, in our surrounding communities and in the world, where our actions can make a difference.

In the beginning of the semester we will meet weekly for one hour and towards the end we will have longer meetings and skip some weeks, through a consensus of our seminar members. The criterion for passing will be class participation. This seminar is part of the On the Same Page initiative.

Stanley Klein is a physicist doing research on how our brains do vision. But relevant to this seminar is his commitment to finding approaches for our society to function better in meeting the challenges of the future such as climate change, resource depletion, income inequality, pursuit of happiness. One of his particular interests is how to resolve controversies. The Free Speech Movement has lessons to teach us on that topic.

Faculty web site: <http://cornea.berkeley.edu>

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.

Comparative Literature 39I, Section I

Why Read Ancient Literature? (3 units, LG)

Professor Kathleen McCarthy

Tuesday & Thursday 12:30-2:00, 222 Wheeler Hall, CCN: 17295

What can twenty-first century readers get out of reading works that were written in Greek and Latin thousands of years ago? Is the primary goal historical understanding? the pleasure of an engaging story? a meditation on human emotions that transcend vast shifts in culture and time? In this class we will read some central texts from Greco-Roman antiquity, with the goal of exploring different notions of why this practice makes sense and what we can do with it. Rather than start from the assumption that reading ancient texts is worth doing, this class will ask students to think critically about why and how such reading might matter or not matter. In fact, the questions we will ask are relevant for reading in general – what do we get out of texts that intersect with our own experience and what do we get from those very foreign to our own experience?

Kathleen McCarthy is an Associate Professor of Classics and Comparative Literature. Her own research and writing focuses on Latin poetry, but she enjoys teaching a wide variety of classical and post-classical texts.

Comparative Literature 39J, Section I

Mind Reading: Consciousness and Literature (4 units, LG)

Professor Dora Zhang

Tuesday and Thursday 11:00-12:30, 205 Wheeler Hall, CCN: 17515

One of the enduring appeals of novels is their ability to offer us access to other minds. Thus fictional characters can feel like close friends, and reading books can be a practice in empathetic imagination, giving us the chance (at least for a few hundred pages) to walk in another's shoes. But how do novelists create the fiction of being inside someone's consciousness? In this course we will investigate this question by paying attention to literary strategies and linguistic techniques, while also examining how the mind has been imagined and understood by writers, philosophers, psychologists, and scientists. Our focus will be on works of modernism (spanning the later nineteenth to the mid twentieth century), a literary movement characterized by an intense interest in the workings of consciousness. What is the role of memory, attention, and habit in creating a sense of self? What can we know about other people's mental states, and how do we know our own? How have the categories of "normal" and "abnormal" minds been constructed and defined, and how have they been applied to specific groups of people?

Dora Zhang is Assistant Professor of English and Comparative Literature. Her research encompasses twentieth-century modernist European fiction, history of philosophy, visual culture, and history of science.

Computer Science 39S, Section I

Photographic Technique in the Free Speech Movement and Today (2 units, P/NP)

Professor Brian Barsky

Tuesday 12:00-2:00, 606 Soda Hall, CCN: 25740

The objectives of this class are both to view and study photographs taken during the Free Speech Movement and to learn photographic technique, which will include assignments involving taking photographs. Students are required to take photographs on a weekly basis and these photographs will be critiqued in class as time permits. A background and experience in photography is recommended. Students must have access to a camera for the course assignments. Recommended specifications for the camera include manual control of exposure and focus and the capability of changing the focal length (wide-angle and telephoto). The class includes visits to campus museums, galleries, and archives. To hone photographic skills, aesthetic, semantic, and technical aspects of photography will be discussed. As time permits, possible photography topics may include quality of light, exposure control, depth of field, composition and patterns, perspective, color science, the human visual system, and perception. The seminar emphasizes civic engagement and is not intended to be primarily a photography course. Political discussion will be an integral part of the seminar. Class participation is essential. In addition to the requirement of completely weekly photographic assignments, 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." This seminar is not about the subject of computer science even though it is offered through the Computer Science Division. Students from all academic disciplines are welcome.

The first class session will not be held in the classroom, and all students enrolled or waitlisted for this seminar should be in direct contact with Professor Barsky in advance of the first class session for details about where to meet. Additional field trip information and Food for Thought dining details will be discussed in class. **A background and experience in photography is recommended. To complete the course assignments, students must have access to a camera. Recommended specifications for the camera include manual control of exposure and focus and the capability of changing the focal length (wide-angle and telephoto). This seminar is open to first-year students only. This seminar is part of the On the Same Page initiative. This seminar is a Berkeley Arts Seminar. Admission to the on-campus arts events included in this course will be provided at no cost to students. 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 include computational photography, contact lens design, computer methods for optometry and ophthalmology, image synthesis, computer aided geometric design and modeling, CAD/CAM/CIM, interactive and realistic three-dimensional computer graphics, visualization in scientific computing, computer aided cornea modeling and visualization, medical imaging, and virtual environments for surgical simulation.

Faculty web site: <http://www.cs.berkeley.edu/~barsky>

**Environmental Science, Policy, and Management 39B, Section I
Creaturely Lives, Catastrophic Times (2 units, P/NP)
Professors Anne-Lise Francois and Ignacio Chapela
Wednesday 4:00-6:00, 321 Haviland Hall, CCN: 30553**

Co-taught by a biologist and a literary scholar, this seminar explores the role of the study of literature and ecology in the face of ongoing ecological disasters and narratives of impending planetary doom. How can poetry teach us to perceive change so slow it defies the scale of human perception? What can it teach us about the perspective of other creatures? What roles do desire and pleasure play in the scientific understanding of non-human phenomena, especially as these interact with human societies? Given the popularity of end-of-world doomsday scenarios in contemporary environmentalist discourse, what alternatives exist to these often paralyzing, fear-inducing narratives? How can literary and scientific inquiry

together offer more complex responses and resources for living together in times of catastrophe? **We seek students from a range of backgrounds—pre-biology majors and students intending to major in English or Comparative Literature. We want to foster dialogue between those pursuing science degrees and those inclining toward the humanities, and we see the seminar as an opportunity to facilitate this discussion. This seminar is part of the Connections@Cal initiative.**

Anne-Lise François works in the modern period, comparative romanticisms; lyric poetry; the psychological novel and novel of manners; gender and critical theory; literature and philosophy; and ecocriticism. Her book—*Open Secrets: The Literature of Uncounted Experience* (Stanford University Press, 2008)—was awarded the 2010 René Wellek Prize by the American Comparative Literature Association. A study of the ethos of affirmative reticence and recessive action found in the fiction of Mme de Lafayette and Jane Austen, and the poetry of William Wordsworth, Emily Dickinson and Thomas Hardy, *Open Secrets* argues that these works offer a critique of Enlightenment models of heroic action, productive activity and energetic accumulation, by declining demands to make time productive and remaining content with non-actualized powers. Questions of how to value unused powers and recognize inconsequential action also inform her essay on Wordsworthian natural piety and genetically engineered foods (*Diacritics*, Summer 2003 [published 2005]), as well as an earlier article on the gentle force of habit in Hume and Wordsworth (*The Yale Journal of Criticism*, April 1994). Her current book project “Provident Improvisers: Parables of Subsistence from Wordsworth to Benjamin” focuses on figures of pastoral worldliness, provisionality, and commonness (with “common” understood in the double sense of the political antithesis to enclosure and of the ordinary, vernacular, or profane).

Faculty web site: http://complit.berkeley.edu/?page_id=157

Ignacio Chapela, Associate Professor of Microbial Ecology at the University of California, Berkeley, is a scientist by conviction and aspiring biologist by craft. Born as first-generation Mexican from the mix, common to that country, of indigenous, indigenized and immigrant stocks. Not a science-fiction buff, Ignacio belongs to the group of practicing scientists who find more wonderment in what exists than in what someone can write onto a page. This can create some trouble, since it tends to make people like him acutely sensitive to the loss of diverse biologies, ideologies, imaginations. They are also prone to stare at things beyond polite limits, and to have an affinity for complexity and non-linear storylines, the stuff of real ecology.

Faculty web site: <http://www.cnr.berkeley.edu/chapelalab/>

Jewish Studies 39I, Section I

Who are Arab Jews, Kurdish Jews, Berber Jews? Jewish Communities of the Middle East and North Africa (2 units, LG)

GSI Sarah Levin

Wednesday 2:00-4:00, 107 Mulford Hall, CCN: 47803

This course provides an introduction to the rich cultural diversity of Jewish communities of the Middle East and North Africa. Focusing primarily on the twentieth century through an interdisciplinary mix of texts—historical, ethnographic, memoir, folklore—as well as films, music, and foods, we will explore (and sometimes blur!) the boundaries of culture and religion. Central to our concerns will be considerations of identity: What are the possibilities of multi-faceted identities, and how are identities defined not just in opposition but also in relation to each other, each informing the other in the process? What was it like to be a Jewish Kurd in Iraq? or a Berber-speaking Jew in Morocco? Students will be encouraged to focus on a country or region of their choice for their final project. No linguistic or other prerequisites, just curiosity and an interest to explore. This seminar may be used to satisfy the Social and Behavioral Sciences breadth requirement in Letters and Science.

Sarah Levin is a PhD candidate in Jewish Studies. Her dissertation investigates twentieth-century Jewish-Muslim relations in Morocco, as remembered today through folklore and other oral traditions by members of both communities.

Journalism 39L, Section I

Prison Life in Movies and TV: Media Images of the Culture of Punishment 1930-2014 (1.5 units, LG)

Professor William J. Drummond

Monday 2:00-4:00, 109 Dwinelle Hall, CCN: 48011

The seminar will explore society's shifting notions of prison life, as evidenced by movies and TV programs. The students will view each week an important piece of cinema or television. Each example will be a launching pad into a discussion of themes of race, class and gender; identity; criminal justice; incarceration per se; crime; deviance and social control. The class will begin with vintage penitentiary movies (*The Big House*, starring Wallace Beery, 1930) and follow the evolution of the genre through the Netflix hit series, *Orange Is The New Black*. The viewing experience will be supplemented by readings, including McLennan, R.M. (2008) "The crisis of imprisonment." **This seminar is part of the Connections@Cal initiative. This seminar is part of the Food for Thought Seminar Series.**

William J. Drummond joined the faculty in 1983 after a career in public radio and newspapers. He has worked as an adviser to the *San Quentin News* since 2011. In 2014 *San Quentin News* was awarded the James Madison Freedom of Information Award from the Society for Professional Journalists for its work in raising the public's awareness about mass incarceration. From 1979 to 1983 Prof. Drummond worked in Washington for National Public Radio, where he was the first editor of Morning Edition before moving on to become National Security Correspondent. He has produced documentary-length radio programs on a wide range of subjects: Native Americans and welfare reform; jazz diva Betty Carter; Allensworth: the pioneering Negro colony in the California Central Valley; a profile of a psychiatrist whose specialty is interviewing serial killers; the early Jim Crow days in Las Vegas; an examination of why Americans are turned off by the political system; and a look at the tension between Malcolm X and Martin Luther King, as seen through the eyes of youth. His honors include a 1989 citation from the National Association of Black Journalists for "Outstanding Coverage of the Black Condition," the 1991 Jack R. Howard Award for Journalism Excellence, and a 1994 Excellence in Journalism Award from the Society of Professional Journalists' Northern California Chapter for an advanced reporting class experiment in civic journalism. He was a member of the planning committee that created the Public Radio International program *The World*.

Faculty web site: <http://journalism.berkeley.edu/faculty/drummond/>

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: 51506

The debate about morals has moved steadily into the realm of the Supreme Court, but people differ on what exactly the role of the Court should be. Some have strongly argued that the Court's interpretation and application of the Constitution have adversely affected our fundamental rights and usurped powers from other branches of government. This position claims the Court has created an "Imperial Judiciary." Others argue 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. This position claims the Court has, in fact, fulfilled the role envisioned for the Court by the Constitution. This seminar will follow the Socratic method in examining moral and political issues that have a constitutional basis and the Court's participation in the debate on topics such as gay rights (including gay marriage), gun control, abortion, privacy, symbolic speech, college speech codes, "hate" speech, euthanasia and racial profiling. We will read Supreme Court cases, as well as political and legal commentary from across the

political spectrum, and consider not only the opinions of the Justices, but also why they hold those opinions. Students will be asked to develop and apply critical thinking skills and are expected to develop and support their own views and opinions regarding the relevant topics. This seminar may be used to satisfy the Philosophy and Values or Social and Behavioral Sciences breadth requirement in Letters and Science.

Alan J. Pomerantz, Esq., is a practicing lawyer and Senior Counsel at Pillsbury Winthrop Shaw Pittman, 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.

Legal Studies 39F, Section I
Civil Disobedience (2 units, LG)
Professor Sarah Song
Friday 10:00-12:00, 225 Dwinelle Hall, CCN: 51508

In this seminar, we will examine historical and contemporary examples of civil disobedience to think about the value of free speech and the relationship between law and morality. We will read a range of classic texts, from Socrates and John Stuart Mill to Henry David Thoreau and Martin Luther King Jr. as well as examine contemporary legal cases and theories of free speech. We will also devote some time to thinking about Berkeley's Free Speech Movement by reading Robert Cohen's book on Mario Savio, *Freedom's Orator*, and watching Frederick Wiseman's documentary, *At Berkeley*.

Some of the questions we'll explore include the following: What is the value of freedom of speech for a democratic society? For what reasons might freedom of speech and expression be restricted? How has U.S. law approached conflicts over free speech? What should be the response to a speech or expressive act that violates the law? To what kind of "higher law," if any, can a speaker who is in violation of the law-on-the-books appeal to?

This seminar will involve lots of close reading, constructive participation by everyone, and weekly writing assignments. The goal of this seminar is to provide students with experience in close reading and interpretation of texts and practice in writing short argumentative, conceptual papers. **This seminar is part of the On the Same Page initiative.**

Sarah Song is Professor of Law and Associate Professor of Political Science at U.C. Berkeley. She is a political and legal theorist who teaches courses in contemporary political and legal philosophy, the history of American political thought, and citizenship and immigration law. She is the author of the book, *Justice, Gender, and the Politics of Multiculturalism* (Cambridge University Press, 2007), and a number of articles on issues of democracy, citizenship, and immigration.

Faculty web site: <http://www.law.berkeley.edu/php-programs/faculty/facultyProfile.php?facID=7246>

Materials Science and Engineering 39A, Section I
The Berkeley Experience (1.5 units, P/NP)
Professor Kal Sastry
Thursday 3:30-5:00, 237 Cory Hall, CCN: 53003

Please note that the class is regularly scheduled for one and one half hours each week; however, it may be extended two hours on two or three field trip days.

Accordingly, we may reduce the number of weekly meetings to adjust the total seminar hours to 21 in the semester. The first seminar meeting will be on August 28, 2014.

The University of California at Berkeley is a treasure house of resources: top quality students, staff and professors; remarkable lecture, lab and seminar classes and facilities; exciting athletic, student and political activities; and so on. The city of Berkeley and the San Francisco Bay Area themselves are unique and resource rich. At times, Berkeley may feel impersonal, even alienating for new freshman as well as for returning sophomore students, but increased awareness and prior planning will result in the greatest Berkeley experience. The Berkeley Experience seminar is intended not only for freshman but also for sophomores so they can share their first-year experiences with freshmen and work together. This is found to provide a mutually enriching experience of getting the best and most out of Berkeley and the Bay Area. To this end, the seminar activities will be highly action oriented and carried out at the individual, small group or class level and consist of 1) Workshop-style classroom sessions sharing mutual thoughts, priorities, and experiences; 2) Field trips to professors' offices, campus events, laboratories, libraries, local restaurants, and local area sites; and 3) Development of a personal plan for a unique Berkeley experience and beyond. This seminar is offered for P/NP and the grade will be assigned based on active and full participation in all the classroom sessions and field trips. **This seminar is part of the Connections@Cal initiative.**

Kal Sastry is a Professor Emeritus in the Department of Materials Science and Engineering. His teaching and research interests are in the broad field of minerals processing. He always enjoys working with freshmen and sophomores and loves to teach lower-division undergraduate classes including freshman seminars on "The Story of Gold" and "The Berkeley Experience." During the past several years, Professor Sastry has been extremely active with offering customized training programs to the minerals industry. This year, he looks forward to repeating the highly successful and exciting seminar on "The Berkeley Experience."

Native American Studies 90, Section 1
Myth, Memory, and History: Understanding Native America (4 units, LG)
Lecturer Diane Pearson
Monday, Wednesday and Friday 11:00-12:00, 587 Barrows Hall, CCN: 61227

This course provides an overview of the history of the indigenous peoples of the Western Hemisphere, and proceeds from the premise that knowledge of Native America is essential to the study of the Western Hemisphere. It will survey a number of societies, cultures, lifestyles, and contemporary and historical issues. This seminar may be used to satisfy the Social and Behavioral Sciences or Historical Studies breadth requirement in Letters and Science.

Dr. Pearson holds a Ph.D. in American Indian Studies and specializes in American Indian law and policy, societies and culture, and education.

Faculty web site: <http://ethnicstudies.berkeley.edu/faculty/profile.php?person=70>

Native American Studies 90, Section 2
Native Americans and the American Novel (4 units, LG)
Lecturer Enrique Lima
Monday, Wednesday, and Friday 4:00-5:00, 100 Wheeler Hall, CCN: 61230

The history and cultures of Native Americans continue to fascinate many people. But how does the way we imagine them relate to the challenges confronting Native American communities? In this seminar we will examine how Native Americans have been portrayed in four major American novels: *The Last of the Mohicans* by James Fenimore Cooper, *Death Comes for the Archbishop* by Willa Cather, *The Surrounded* by D'Arcy McNickle, and *Love Medicine* by Louise Erdrich. Along with learning how to read

literature closely, we will also investigate the problems facing Native Americans and discuss the possible solutions posed by these novels. This seminar may be used to satisfy the Arts and Literature breadth requirement in Letters and Science.

Enrique Lima has taught at the University of Oregon and has been teaching at University of California, Berkeley for the last three years. His primary research is in the novelistic representation of Native peoples throughout the Americas. There is little that he enjoys more than teaching novels.

Philosophy 39N, Section I

The Brothers Karamazov: Literature and Philosophy (2 units, P/NP)

Professors Hubert L. Dreyfus and Irina Paperno

Friday 2:00-4:00, 106 Wheeler Hall, CCN: 67180

This is team-taught and a cross-listed course between two departments. Students may choose to enroll in either Philosophy 39N or Slavic 39O.

When Dostoevsky's *The Brothers Karamazov* first appeared in 1879, its first readers experienced the novel as a call to personal, social, and political renewal. One reader wrote: "After the Karamazovs (and while reading it), I looked around in horror that everything went on as before, that the world did not shift on its axis..." Dostoevsky himself thought that the main question of the novel was the need for God and immortality, but many read the novel in a secular mode, asking: What is evil? Why do the innocent suffer? Where are the limits of each person's moral responsibility for the problems of the world? Is love before logic? The novel deals with some of our deepest anxieties: the feeling of aggression against one's own family, rebellion against established authority, and experience of sexual desire. Today, it speaks to our experience of isolation and appeals to forces that draw human beings joyfully together. The novel does not provide answers through logical argumentation: it is a complex literary form. This team-taught seminar will discuss the novel from the double perspective of literature and philosophy. **There are no prerequisites. Students should be prepared for intense reading and class discussions.**

Reading: Fyodor Dostoevsky, *The Brothers Karamazov*. This course is also listed as Slavic Languages and Literatures 39O, Section I (CCN: 79748).

Hubert L. Dreyfus is Professor Emeritus and Professor of Philosophy in the Graduate School. His major interests are phenomenology, existentialism, philosophy of psychology, philosophy of literature, the philosophical implications of artificial intelligence.

Faculty web site: <http://socrates.berkeley.edu/~hdreyfus/>

Irina Paperno is Professor and Chair in the Department of Slavic Languages and Literatures. She works as a literary scholar and intellectual historian, focusing on literature and experience.

Slavic Languages and Literatures 39O, Section I

The Brothers Karamazov: Literature and Philosophy (2 units, P/NP)

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Friday 2:00-4:00, 106 Wheeler Hall, CCN: 79748

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**Undergraduate Business Administration 39AC, Section I
Philanthropy: A Cross-Cultural Perspective (3 units, LG)
Instructor TBA
Thursday 8:00-11:00, 320 Cheit Hall, CCN: 08059**

This class will compare and contrast the variety of gift-giving, engagement and sharing traditions that make up American cultures. Both the cultural antecedents and their expression in this country today will be explored among a number of different ethnic groups. The goal is to gain greater understanding and appreciation of the many dimensions of philanthropy and community engagement as they are practiced in the United States today. This course fulfills the American Cultures requirement.

The instructor's bio will be published here when it is available.

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.

Astronomy 84, Section I
The Nature of Space and Time (1 unit, P/NP)
Professor Alex Filippenko
Friday 10:00-12:00, B1 Hearst, CCN: 05990

Professor will advise students of meeting dates at start of semester.

We will consider the nature of space and time, especially in the context of our understanding of the overall properties of the Universe. The major topics from the following best-selling book will be discussed: "A Briefer History of Time," by Stephen Hawking. Our journey will take us through the basics of the two pillars of modern physics: quantum mechanics and Einstein's general theory of relativity. We will also explore string theory, which attempts to unify these two great fields by postulating the existence of many hidden dimensions in which packages of energy vibrate. **Though the seminar is intended for nonscience majors, the discussion will be held at a fairly high level; thus, students must have already successfully completed (with a grade of "B" or higher) at least one of the following courses: Astronomy 10 (or C10), L&S C70U, Astronomy 7A, or Astronomy 7B.**

Alex Filippenko received his B.A. (1979, Physics) from UC Santa Barbara and his Ph.D. (1984, Astronomy) from the California Institute of Technology. He joined the UC Berkeley faculty in 1986. An observational astronomer who makes frequent use of the Hubble Space Telescope, the Keck 10-meter telescopes, and Lick Observatory, he engages in research on exploding stars, active galaxies, black holes, gamma-ray bursts, and observational cosmology. Having coauthored over 760 articles on his research, Filippenko has received numerous awards and is one of the world's most highly cited astronomers; he is also an elected member of the National Academy of Sciences. He was a member of both groups that showed that the expansion of the Universe is accelerating with time. This discovery was named the "Top Science Breakthrough of 1998" by the editors of Science magazine, and it was honored by the 2011 Nobel Prize in Physics to the team leaders. A dedicated and enthusiastic teacher, he has won the campus Distinguished Teaching Award and has been voted "Best Professor" a record 9 times in the Daily Cal's annual "Best of Berkeley" survey. He was also named the 2006 CASE/Carnegie National Professor of the Year among doctoral and research institutions, and he won the Astronomical Society of the Pacific's 2010 Emmons Award for undergraduate teaching of astronomy. Besides being an avid tennis player, skier, and hiker, he enjoys world travel and is addicted to observing total solar eclipses (13 out of 13 attempts, so far).

Faculty web site: <http://astro.berkeley.edu/people/faculty/filippenko.html>

Electrical Engineering 84, Section I
Hands-on Ham Radio (2 units, P/NP)
Professor Michael Lustig
Monday 10:00-12:00, 299 Cory Hall, CCN: 24632

Amateur Radio (Ham Radio) is a popular hobby and service in which licensed Amateur Radio operators (hams) operate communications equipment. Although Amateur Radio operators get involved for many reasons, they all have in common a basic knowledge of radio technology and operating principles, and pass an examination for the FCC license to operate on radio frequencies known as the "Amateur Bands".

These bands are radio frequencies reserved by the Federal Communications Commission (FCC) for use by ham radio operators.

The role of amateur radio has obviously changed with the presence of the internet. Remarkably, amateur radio today offers unique opportunities and capabilities due to its independence on commercial infrastructure. For example, it is a legal ground for hands-on experimenting with wireless communication technology and it allows communication in emergencies and from remote areas.

What can you do as a ham?

- *Talk to people (near and far)
- *Build stuff (amps, sdr's, antennas, receivers)
- *Emergency communications (emcom)
- *First person view (FPV) vehicles (drones) at much higher power
- *Hit satellites, moon, meteors, airplanes (with radio waves! ... not something else)
- *Digital communication with Automatic Positioning and Reporting System, packet radio
- *Use Repeaters covering bay-area, California and the United States, mesh networks

In the seminar we will learn about ham radio and experience it. The idea is that students will be able to take the ham licensing exam and become licensed radio operators at the end.

Michael (Miki) Lustig is an Assistant Professor in EECS. He joined the faculty of the EECS Department at UC Berkeley in Spring 2010. He received his B.Sc. in Electrical Engineering from the Technion, Israel Institute of Technology in 2002. He received his Msc and Ph.D. in Electrical Engineering from Stanford University in 2004 and 2008, respectively. His research focuses on medical imaging, particularly Magnetic Resonance Imaging (MRI), and very specifically, the application of compressed sensing to rapid and high-resolution MRI, MRI pulse sequence design, medical image reconstruction, inverse problems in medical imaging and sparse signal representation.

Faculty web site: <http://www.mlustig.com>

English 84, Section I

High Culture, Low Culture: Modernism and the Films of the Coen Brothers (2 units, P/NP)

Professor Julia Bader

Wednesday 2:00-5:00, 300 Wheeler Hall, CCN: 27956

We will concentrate on the high and low cultural elements in the noir comedies of the Coen brothers, discussing their use of Hollywood genres, parodies of classic conventions, and representation of arbitrariness. We will also read some fiction and attend events at the Pacific Film Archive and Cal Performances. **This seminar is part of the Connections@Cal initiative. This seminar is a Berkeley Arts Seminar. Admission to the on-campus arts events included in this course will be provided at no cost to students.**

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

Faculty web site: <http://english.berkeley.edu/profiles/11>

History 84, Section I

American High: Years of Confidence and Anxiety, 1952-1964 (2 units, P/NP)

Professor Samuel Haber
Wednesday 2:00-5:00, 214 Haviland, CCN: 39222

This seminar will meet the entire semester.

We will view and discuss movies made during these years in order to help us understand the era. In addition, we will make use of a reader of more conventional documents. This might help us address the question, "What are the advantages and shortcomings of using movies for an understanding of the era in which they were made? Can movies give us a sense of what it was like to be alive in such times?"

Students will be asked to write a one-paragraph response to each of the movies, and they will also be called upon to submit a ten-page interpretive essay at the end of the course. This course will be linked to the "On the Same Page" program. Professor Robert Cohen, the featured author, will come to one of our meetings and help us discuss the topic Mario Savio in the '50s.

This seminar is part of the On the Same Page initiative.

Samuel Haber is an Emeritus Professor of History at UC Berkeley.

Faculty web site: <http://history.berkeley.edu/faculty/Haber/>

Natural Resources 84, Section I
Global Environment Theme House Sophomore Seminar (1 unit, P/NP)
Professors J. Keith Gillless and Mary Firestone
Monday 5:00-6:00, 430I Foothill 4 - Classroom A, CCN: 61406

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.**

J. Keith Gillless is a professor of forest economics and dean of the College of Natural Resources. His degrees are in forestry and agricultural economics from Michigan State University and the University of Wisconsin. He has been a member of the Berkeley faculty since 1983. His research and teaching interests include wildland fire protection, environmental economics, international forestry development, biofuels and a lot of other things.

Faculty web site: http://ourenvironment.berkeley.edu/people_profiles/j-keith-gillless/

Mary K. Firestone is a professor of soil microbial ecology and associate dean of the College of Natural Resources. Her degrees are in microbiology and soil science from Michigan State University. She has been a member of the Berkeley faculty since 1979. Her research addresses the microbial bases of nutrient cycling, terrestrial system response to change, and plant-soil-microbial interactions. She teaches Introductory Environmental Science and Soil Microbial Ecology.

Faculty web site: http://ourenvironment.berkeley.edu/people_profiles/mary-firestone/

South and Southeast Asian Studies 84, Section I
Contemporary Southeast Asian Society and Culture through Film (2 units, LG)
Mr. Frank Smith, Dr. Maria Josephine Barrios-Leblanc and Mr. Bac Tran
Friday 4:00-6:00, 123 Dwinelle Hall, CCN: 83215

In this seminar we will examine contemporary Southeast Asian society and culture through the lens of contemporary Southeast Asian films, three each from Thailand, Vietnam and the Philippines. In discussions about the films in class we will seek to understand how these films mirror modern and traditional aspects of the societies in which they were produced. We will also consider the films as examples of current world cinema and vehicles of storytelling. In their four-page papers for each section of the course, students will address the above broad issues (referencing class discussions when appropriate) in relation to their own experiences and opinions, focusing either on one film or comparing two or three from the same country. **Students should plan to participate actively and consistently in class discussions, remembering that class participation makes up 25% of the grade in the course. Previous knowledge of or personal experience with Southeast Asian societies and cultures, and if possible Southeast Asian film, is desired but not required. Students with no previous knowledge of Southeast Asia who have experience watching and discussing a wide range of films from other countries with a critical eye are also welcome.**

This seminar is part of the Connections@Cal initiative.

Frank Smith has taught Khmer language since 1990 (since 2008 at UCB). He has done anthropological research on Khmer and Thai culture, taught a workshop on subtitling Southeast Asian film, taught classes on the Ramayana in Southeast Asian adaptation, and previously lived in Thailand for six years.

Faculty web site: <http://sseas.berkeley.edu/people/faculty/frank-smith>

Joi Barrios has a Ph.D. in Filipino and Philippine Literature. She is the author of five books, among them the poetry collection *To Be a Woman is to Live at a Time of War* and her research, *From the Theater Wings: Grounding and Flight of Filipino Women Playwrights*.

Faculty web site: <http://sseas.berkeley.edu/people/faculty/joi-barrios-leblanc>

Bac Hoai Tran has a Master's degree in English with a concentration in Linguistics from San Francisco State University. He is the author of the textbook *Conversational Vietnamese* (2008), and is a coauthor of the *Vietnamese Practical Dictionary* (2010) and *Living with English* (2001). He is a co-translator of the collection of short stories titled *The Stars, The Earth, The River* (1997), as well as several other short stories in the anthologies *The Other Side of Heaven* (1995), *Vietnam: A Traveler's Literary Companion* (1996), *Night, Again* (1996), *Virtual Lotus: Modern Fiction of Southeast Asia* (2002), and *Crossing the River* (2003).

Faculty web site: <http://sseas.berkeley.edu/people/faculty/bac-hoai-tran>

Vision Science 84, Section I
Comparative Eye Design: Are All Eyes Designed the Same and if Not, Why Not? (1 unit, P/NP)
Professor Christine Wildsoet
Thursday 4:00-6:00, 394 Minor Hall, CCN: 66406

This seminar will meet approximately every other week and will begin the first week of the semester.

The eyes have it in terms of diversity of design. There are lessons to be learned from comparing eye designs across the animal kingdom. This seminar will review and compare the structure of various

components of the eye and its motor and neural accessories, by way of understanding the diversity of eye designs, as well as their strengths and limitations from a functional perspective. Examples where such analyses have spawned new bioengineering lines of research will be given. The course includes hands-on activities and an excursion. **This seminar is designed for students interested in eyes and/or vision and curious about biological design and evolution, with possible career goals of vision research or eye-related health professions.**

Professor Wildsoet is on the faculty of the School of Optometry, where she is involved in both clinical and pharmacology teaching. She is also a member of the Vision Science group. Her research is multidisciplinary as is her research group, which includes basic scientists, clinicians and bioengineers. The focus of research in the her lab is myopia (nearsightedness), specifically the mechanisms underlying the development of myopia and its clinical management. The overriding goal of this research is the development of treatments for myopia. Under optimal conditions, young eyes adjust their eye growth to correct neonatal focusing errors. Understanding how this growth regulatory process is derailed in myopia can provide the keys to new treatments. Over the course of her research career, Professor Wildsoet has had the opportunity to work with a range of animals and birds to address other questions related to eye design.

Faculty web site: http://wildsoetlab.berkeley.edu/index.php?title=Wildsoet_Lab

Vision Science 84, Section 2
Current Topics in US Healthcare (1 unit, P/NP)
Professor Kenneth Polse
Thursday 11:00-1:00, 491 Minor Hall, CCN: 66409

This seminar will meet for seven weeks on the following dates: August 28, September 4, 11, 18, 25, and October 2, 9.

Problems associated with affordability and accessibility of health care in the US began to escalate in the late 1980s. Over the past twenty-five years both Republican and Democratic administrations have attempted to address these problems, but without success. In 2008, President Obama was elected on a mandate to change the health care system in a way that would provide affordable and accessible care to all Americans. After debate, controversy and compromise, on March 23, 2010, President Obama signed the Patient Protection and Affordable Health Care Act of 2010 (ACA). This was the most significant health care legislation passed since the Medicare Act of 1964. Even though ACA is law and its constitutionality has been upheld by the US Supreme Court, the path to accessible, affordable, and high quality health care has a long way to go. This seminar examines some of the major hurdles/controversies in US healthcare delivery. We will explore health care in other developed countries as well as the US in order to understand both what is wrong with our current system and possible solutions. Typically, the class will review a news story, media presentation, or editorial that will serve as the beginning for class discussion/debate. Some of the topics will include single payer vs. third-party medical coverage; factors driving the cost of medical care; strategies to control medical costs; the role of insurance companies, pharmacological and device manufacturers, health care delivery in other developed countries; and other topics related to health care delivery. **Students interested in healthcare should find this seminar interesting and timely. Enrollment is limited to ten sophomores. This seminar is part of the Connections@Cal initiative.**

From 1972-2003 Professor Polse served as faculty member, Clinic Director, and Associate Dean in the School of Optometry, University of California, Berkeley (UCB). Recently retired, Dr. Polse is currently Professor of Graduate Studies at UCB. His research developed from years of clinical experience, convincing him that it is the clinician's astute observations that often drive the research agenda. He also believes that discovery and clinical implementation require close collaborative efforts between basic and clinical scientists, a principle that has guided his research career. Some of Professor Polse's professional services and honors include President, International Society for Contact Lens Research; memberships on the AOA Council on Research and the National Advisory Eye Council (NIH); a Senior Fulbright

Fellowship; AAO Garland Clay Award; AAO Max Shapero Lecture; BCLA Principal Keynote Speaker; UCB Sarver Endowed Chair; and Montague Ruben Medal. Since 1974, Professor Polse has had many students, residents, and post-doctoral fellows participate in his laboratory. He has received continuous research support from NIH and Industry for thirty years, resulting in many successful studies (including two NIH-sponsored randomized clinical trials) and over 140 papers published in peer-reviewed journals.

Faculty web site: <http://optometry.berkeley.edu/research/overview-bcsdp>

Vision Science 84, Section 3
Introduction to Vision Science (1 unit, P/NP)
Professor Susana Chung
Tuesday 4:00-6:00, 394 Minor Hall, CCN: 66412

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

This is an introductory course on visual impairment. When a person's vision cannot be corrected to the standard 20/20 with glasses or contact lenses due to disorders of the eye, he or she may be functionally limited by the reduced vision. This is referred to as "visual impairment." In this course, we will discuss various causes that can lead to a visual impairment, what are the difficulties facing people with visual impairment, and what can be done to help these people lead a successful life.

Dr. Susana Chung is a Professor of Optometry and Vision Science. She teaches courses on visual perception to graduate students in the Optometry Program and the Vision Science Graduate Program.

Faculty web site: <http://optometry.berkeley.edu/faculty/susana-chung-od-phd-faa0>