



FALL 2016

<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

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 23, 2016.

FRESHMAN SEMINARS

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

African American Studies 24, Section I
Researching “Mixed-Race” History and Images in the United States (1 unit, LG)
Professor Stephen Small
Tuesday 10:00-12:00, 190 Barrows Hall, Class number: 33468

Class will meet on Tuesdays from August 30 through October 18.

People of mixed racial origins are one of the fastest growing populations in California and across the United States. This course provides an overview of their contemporary circumstances and describes some sources and methods available for studying these populations (including those of mixed Asian, Black, Chicano, Native American or white ancestry). We will review some of the main themes in writings about people of mixed racial origins; and we will examine various sources for identifying mixed race populations, including census, biographies, literature and films. This course will equip students with basic research skills that can be utilized for other projects in African American Studies, Ethnic Studies, History, Sociology, Anthropology and Cultural Studies.

This seminar is designed for freshman students interested in thinking about people of mixed race origins in the United States.

Stephen Small, Ph.D. (UC, Berkeley) is Associate Professor in the Department of African American Studies where he has taught since 1995. He teaches courses on contemporary race and ethnic relations, public history and collective memory, globalization, people of mixed race, and qualitative research methods (including historical archives, ethnography and interviewing). His current research includes public history and collective memory, the Black Diaspora in Europe, and people of mixed origins. He has carried out research in Europe (England, Netherlands and Spain), in the Caribbean (Jamaica and Curacao) and in Brazil. His Ph.d. research was on people of mixed race in the Caribbean and the United States during slavery. He is co-editor of *Global Mixed Race*, with Rebecca Chioko King O’Riain, Minelle Mahtani, Miri Song and Paul Spickard, New York University Press, 2014. He was born and raised in Liverpool, England, a city with a large population of mixed origins. His origins are English and Jamaican.

Anthropology 24, Section I
The Polynesians: Anthropological Perspectives (1 unit, P/NP)
Professor Patrick V. Kirch
Tuesday 11:00-12:00, 225I College 101, Class number: 33750

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.
Wednesday 11:00-12:00, 204 Dwinelle Hall, Class number: 13632

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

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
The Design, Construction and Testing of Household Clean Water Filters for Developing Countries (1 unit, P/NP)
Professor John Dracup
See days and times below. , 212 O'Brien Hall (first meeting), Class number: 33600

Class will meet: Thursday, August 25th, 6:00-8:00 pm; Saturday, August 27th, 9:00 am - 3:00 pm; Saturday, September 10th, 9:00 am - 3:00 pm; and Wednesday, September 14th , 6:00-8:00 pm.

UNESCO and WHO report that approximately 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, biosand, membrane and ceramic water filters are simple and cheap technologies available to mitigate this problem.

These water filters have recently become widely used in the developing world as a means of purifying drinking water for individual household use. They provide an inexpensive 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 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 1-inch PVC pipes.

Membrane water filtration is a method to remove viruses, bacteria and other contaminants from water by passing raw water through a microporous 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. Ceramic filters remove viruses, bacteria and other contaminants by passing the raw water through a wall of ceramic material.

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

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>

**Civil and Environmental Engineering 24, Section 2
Ethical Problems with the Investigation of Collapse of the World Trade Center (I unit, P/NP)**

Professor Abolhassan Astaneh

Tuesday 2:30-3:30, 544 Davis Hall, Class number: 33601

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 of the causes of collapse by a team organized by the American Society of Civil Engineers and funded by FEMA. **Only Freshmen are admitted to this course. No auditors are allowed.**

Maximum number of students enrolled in this course is 20.

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 3
Waves – Ideal, Real, and In Between (I unit, LG)**

Professor Evan Variano

Wednesday 12:00- 1:00, 544 Davis Hall, Class number: 33602

Predicting sinusoidal wave motion has been one of the great successes of calculus and is a centerpiece of basic physics. However, many of the wave types observed in nature do not fit into this rather narrow mathematical description. This course will take a broad view of waves, exploring a wide variety of different wave types. Examples will be drawn from fields including biology, ecology, and physics, with a particular emphasis on the water waves encountered in environmental engineering. For each wave type we explore, we will consider the simplified mathematical models that try to capture the essence of the wave. We will explore the limits of these models and discuss the practical implications of making engineering decisions based on idealized models. The class will follow Gavin Pretor-Pinney's armchair science book, "The Wave Watcher's Companion," with supplementary material presented in class to motivate and support group discussions. **This seminar is part of the Food for Thought Seminar Series.**

Dr. Variano studies fluid motion in the environment, with a special focus on the air-water interface. As an innovator of laboratory techniques, he has found ways to directly observe fluid behavior in new and revealing ways. He uses his measurements to describe the underlying physical processes that control the motion of pollutants, nutrients, and plankton in the world's oceans. The constant tension between observing the world in all its complexity and simplifying it for engineering purposes is what drives his research program; this tension is a central theme that we discuss in the seminar. Undergraduates contribute in significant ways to his research efforts, with several students joining the lab each year. He has also published a paper on best practices for integrating research experiences and classroom learning.

Classics 24, Section 1

Lucretius' "On the Nature of the Universe" (1 unit, P/NP)

Professor Dylan Sailor

Monday 3:00-4:00, 204 Dwinelle Hall, Class number: 31498

In this seminar, we will read together and discuss one brilliant and fascinating poem, Lucretius' "On the Nature of the Universe." Written in Latin more than two thousand years ago, within the context of the late Republic of ancient Rome, the poem seeks to remove your fear of the gods and of death so that you can live a happy life. For Lucretius, the key to losing your fear is to understand the physical laws of the universe. In this philosophical treatise, written in beautiful poetry, Lucretius describes a theory of the universe according to which nothing exists but atoms and void, argues that the soul is made of these and dissolves upon the death of the body, explains the operation of the senses, considers the origin of the world and the beginning of civilization, and surveys a wide range of natural phenomena (especially weather, seismic events, bodies of water, magnetism, and disease). This is a poem likely to be interesting to people interested in poetry and literature, in science, in philosophy, or in ancient Rome. Please note: we will read "On the Nature of the Universe" in English translation, and no knowledge of Latin is expected.

Dylan Sailor is from Washington state and received his PhD from Berkeley in 2002. His research focuses on Latin literature written in ancient Rome and he teaches a variety of courses in the languages, literatures, and cultures of ancient Greece and Rome.

Classics 24, Section 2

Indiana Jones and the Elgin Marbles: The Myth and Reality of Archaeology (1 unit, P/NP)

Professor Kim Shelton

Wednesday 2:00-3:00, 204 Dwinelle Hall, Class number: 31499

What does someone need to be an archaeologist? A pith helmet? A leather jacket? A whip? Hollywood would like us to believe that treasure-hunting heroes are searching for treasure and saving the world in one of the most adventurous and romantic careers possible – archaeology.

The reality is something quite different but even more interesting. Archaeology is the study of the human

past, a window into the cultures and times from which the world of today developed. With insight into the lives of the ancients, we learn a tremendous amount about ourselves and our future potential. Today, archaeology is about history, art, science, cultural heritage, and international law. To be an archaeologist you need to be inquisitive, imaginative and incredibly enthusiastic – especially about holding a simple object that someone dropped hundreds or thousands of years ago and using your mind like a time-machine to meet that individual in the context of his life. This seminar will be an opportunity to analyze the romantic legends, figures, and stereotypes of archaeology and to discover the exciting real elements and adventures of today's archaeologist.

The course will be class discussion primarily based on readings. Requirements: Regular attendance and participation in class once a week; several short written assignments on questions and/or topics of discussion.

Kim Shelton is a faculty member in the department of Classics and the Director of the Nemea Center for Classical Archaeology. She has three excavation projects in Greece, including the UC Berkeley Excavations at the Sanctuary of Zeus at Nemea and at the prehistoric Bronze Age site of Mycenae. She began excavating at a very young age and has never looked back. Her experience includes thirty years of fieldwork in this country and abroad, as well as twelve years of full-time research living in Greece.

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

Computer Science 24, Section I
Berkeley Through the Lens (1 unit, P/NP)
Professor Brian Barsky
Wednesday 12:00-2:00, 606 Soda Hall, Class number: 33260

The class will be held for seven weeks; contact Professor Barsky for details.

Students in this seminar will actively examine UC Berkeley "through the lens" on a photographic journey emphasizing activism and political engagement on campus, both historically and recently. In addition to exploring photographic technique in general, this seminar will stress awareness of both historical and current events. The objectives of this class include improving skills for both photographic technique and civic engagement. This seminar will study photographs and learn photographic technique. The seminar has photography assignments: students are required to take photographs on a weekly basis. 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 to do 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). 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, dynamic range, 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. The class generally includes visits to campus museums, galleries, and archives.

In addition to the requirement of completing weekly 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 and encouraged to enroll.

This class will be held for seven weeks. The first class session will not be held in the classroom. 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. 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. 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, vision correcting displays, and virtual environments for surgical simulation.

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

**Earth and Planetary Science 24, Section 1
"An Ocean of Air": Exploring how we know what we know about the atmosphere (1 unit, P/NP)**

Professor Kristie Boering

Tuesday 11:00-12:00, 401 McCone Hall, Class number: 33741

In this seminar course, we will use the beautifully-written and well-researched book by Gabrielle Walker titled "An Ocean of Air" as a vehicle for discussing how we have come to know what we know about the atmosphere. With lively and informative chapters—from how early scientists solved the mystery of what air is made of to how more recent scientific detective work solved the mystery of what causes the Antarctic Ozone Hole—this book is an interesting and lively launch point for further discussions on how human activities affect the atmosphere, from smog to climate change, and, from a scientist's perspective, what we have done and can do in the future to lessen these impacts.

Attendance is required.

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

Professor Boering studies atmospheric chemistry and climate through measurements on high altitude aircraft and scientific balloons, complemented by laboratory experiments and computer modeling, and was excited to learn as an undergraduate at UC San Diego that interesting chemistry problems can be studied outside, free of white lab coats and fluorescent lighting. After graduating from UCSD in 1985 with a BA in Chemistry with a Specialization in Earth Science, she received her PhD in physical chemistry from Stanford (1992) and did research at Harvard before joining the UC Berkeley faculty in 1998.

Faculty web site: <http://eps.berkeley.edu/people/kristie-boering>

**Earth and Planetary Science 24, Section 2
Earthquakes in your Backyard: Effective Scientific Communication (1 unit, P/NP)
Professor Richard Allen and Visiting Researcher/Lecturer Horst Rademacher
Tuesday 1:00-2:00, 220 McCone Hall, Class number: 33947**

Earthquakes are a key to the future prosperity of California and many other economic hubs that lie in earthquake prone regions. Understanding the threat that they pose and what we can do to reduce the

risk is important for everyone living in earthquake country.

In this seminar we will discuss these issues in the context of a new textbook being written by the two instructors. The new textbook is for use in classes like EPS C20/L&S C70Y "Earthquakes in Your Backyard" taught around the world. The seminar will provide a forum to review the topics, identify what is important, and advise on the presentation of this material in the new book.

This is an opportunity for students to guide the development of a new textbook for use by students around the world. **Students must also enroll in EPS C20/L&S C70Y "Earthquakes in Your Backyard." Class numbers are 14791 for EPS C20 and 17623 for L&S C70Y.**

Richard Allen is the Director of the Berkeley Seismological Laboratory, a Professor and Chair of the Department of Earth and Planetary Science at UC Berkeley. He is an expert in earthquake alerting systems, developing methodologies to detect earthquakes and issue warnings prior to shaking and tsunamis. His group uses seismic and GPS sensing networks, and is experimenting with the use of a global smartphones network called MyShake. Testing of the ShakeAlert warning system for the US west coast is currently under way. His research has been featured in Science, Nature, Scientific American, the New York Times and dozens of other media outlets around the world. He also developed the "Earthquakes in Your Backyard" class and taught it for many years before becoming department Chair. He has a BA from Cambridge University, a PhD from Princeton University, and was a Postdoctoral Fellow at Caltech.

Faculty web site: <http://www.seismo.berkeley.edu/~rallen/>

Horst Rademacher is a visiting researcher/lecturer at the Berkeley Seismological Laboratory (BSL) in the Department of Earth and Planetary Science at UC Berkeley. His research specialty is seismic instrumentation with years of industry experience. He has developed and taught courses and training classes on seismic instrumentation and their applications at many academic institution around the world. Horst also has extensive experience in public outreach, having written several popular books on topics in Earth Science. He is the author of the Seismo-Blog, published by the BSL. Currently, he is teaching a reorganized and expanded version of "Earthquakes in your Backyard." He has a M.S. from the University of Cologne, Germany.

Education 24, Section I

Hot Topics in Higher Education (1 unit, LG)

Ms. Ellen Switkes

Wednesday 3:00-5:00, 768 Evans Hall, Class number: 33454

This seminar will meet the first eight weeks of the semester, beginning August 24. The instructor will hold office hours after class or by arrangement.

This seminar will focus on current topics of interest in higher education such as admissions policy, why college costs are so high, athletics, student speech codes and academic freedom, the student social scene, internationalization of higher education and high-school-to-college transition. Student-selected topics will also be included.

Ellen Switkes is Assistant Vice President Emeritus in the University of California Office of the President, and currently she is program coordinator at the Center for Studies in Higher Education.

English 24, Section I

Reading Walden Carefully (1 unit, P/NP)

Professor Mitchell Breitwieser

Wednesday 4:00-5:00, 180 Barrows Hall, Class number: 32242

We will read Thoreau's *Walden* in small chunks, probably about thirty pages per week. This will allow us time to dwell upon the complexities of a book that is much more mysterious than those who have read the book casually, or those who have only heard about it, realize. We will also try to work some with online versions of the book, using the wordsearch command to identify words such as "woodchuck" or "dimple" that reappear frequently, in order to speculate on patterns Thoreau is trying to establish. Regular attendance and participation, along with a loose five-page essay at the end, are required.

Mitchell Breitwieser has taught American literature in the Berkeley English department for thirty-seven years.

Faculty web site: <http://english.berkeley.edu/profiles/19>

English 24, Section 3

Graphic Journalism: Reading Joe Sacco's *Palestine* (1 unit, P/NP)

Professor Hertha D. Sweet Wong

Tuesday 9:00-11:00, 575 McCone Hall, Class number: 33712

The class will meet for the first seven weeks of the semester.

"The landmark work of comics journalism," Joe Sacco's *Palestine* is "a political and aesthetic work of extraordinary originality." In this seminar, we will devote ourselves to a close reading of *Palestine*, informed by comics scholarship. Maintaining an open and inclusive discussion, we will consider the comics form and its possibilities for reportage and narrative, Sacco's representation of the Occupied Territories, and Sacco's self-representation in relation to his encounters with diverse Palestinian perspectives. Students should be prepared for active participation and at least six pages of informal writing.

Required Texts

Scott McCloud. *Understanding Comics: The Invisible Art*. 1993. New York: Paradox Press, 2000.

Joe Sacco. *Palestine*. Seattle Fantagraphics Books, 2001.

Hertha D. Sweet Wong is Associate Professor and Assistant Chair in the Department of English. She is the author of books and essays on Native American literature, autobiography, and visual culture. Currently, she is completing a book tentatively entitled *Look Here! Readings in Contemporary American Interart Autobiography* that examines late twentieth-century American subjectivity as it is represented in image and text: story quilts, photo-autobiographies, comic books, artists' books, experimental autobiographies, and word paintings.

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

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, 332 Giannini Hall, Class number: 25153

There is one optional field trip to Muir Woods on a Saturday or Sunday from 8:00 am to 3:00 p.m. to be arranged.

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

competition for water; fracking; global warming and geoengineering; and many more topics to be selected by the students.

Professor Wood's research interests include host-selection behavior of forest insects, chemical ecology, the biology and ecology of bark beetles, forest pest management, the biodeterioration of wood by insects, and insect/pathogen/tree interactions. 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*, 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
Foresters, Forests and Forestry (1 unit, P/NP)
Professor Kevin O'Hara
Monday 3:00-4:00, 332 Giannini Hall, Class number: 25154**

What is forestry and what does a forester do? These are the central questions to be explored in this seminar. Forests cover much of the terrestrial surface of our planet and provide the habitat for much of the world's diversity. It is important that forests be sustained to provide these values in the future. Foresters play a key role in sustaining forests by understanding how forest ecosystems function and how they can be managed to sustain the many ecosystem services they provide. We will take a historical look at the role of foresters and discuss how a forester isn't someone who gives tours in a national park or lives in a lookout tower. The modern forester understands how forests change over time and the potential effects of climate change and increasing human populations on forests and forestry. This seminar will include a mixture of readings, videos, discussions, and guest lecturers to determine what forestry is and what it isn't. **Target students are first-year students majoring in Forestry and Natural Resources, related majors, or students interested in forestry. This seminar is part of the Food for Thought Seminar Series.**

Kevin O'Hara is Professor of Forestry in the Department of Environmental Science, Policy and Management. His area of specialization is silviculture which is the culture of forests. His work takes him all over the world researching issues related to sustainably managing forests. He is a licensed forester in California and a Certified Forester by the Society of American Foresters. He is director of the long-running Forestry Field Camp program and faculty adviser for the Forestry and Natural Resources major.

Faculty web site: http://ourenvironment.berkeley.edu/people_profiles/kevin-ohara/

**Environmental Science, Policy, and Management 24, Section 3
A Scientific Skeptic's Approach to the Internet (1 unit, P/NP)
Professor Kip Will
Monday 4:00-5:00, 132 Mulford Hall, Class number: 25155**

A weekly, critical discussion of topical and controversial items gleaned from the internet with an emphasis on exploring how to detect pseudoscience, recognize logical fallacies, and understand our own cognitive biases. Items will mostly be topics in biological sciences and human health, but there is no limit on the topic areas and we will follow current news and what's viral. No cat videos.

Kip Will is an Associate Professor/Insect Systematist in the Department of Environmental Science, Policy and Management and Director of the Essig Museum of Entomology. His areas of research are systematics, taxonomy and defensive chemical evolution of beetles. He travels worldwide on entomological expeditions.

**Environmental Science, Policy, and Management 24, Section 4
Conservation and Environmental Problem Solving: California and Beyond (1 unit, P/NP)**

Professor Gordon Frankie

Wednesday 11:00-12:00, 107 Mulford Hall, Class number: 25156

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. **All students from all disciplines are welcome.**

Professor of ESPM with research interests in native bee ecology and plant reproductive biology in urban, wild, and agricultural environments in CA and Costa Rica. Also interested in the relationships between native bees, plants, and people. This three-part relationship has led to several projects in science-based outreach to the general public.

Faculty web site: <http://helpabee.org>

**Environmental Science, Policy, and Management 24, Section 5
Soil Pollution and Remediation (1 unit, P/NP)**

Professor Céline Pallud

Wednesday 11:00-12:00, 332 Giannini Hall, Class number: 25158

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

Tuesday 3:00-4:00, 332 Giannini Hall, Class number: 25159

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/

Ethnic Studies 24, Section I

Just Mercy: Within the History of De-colonial Imagining (1 unit, LG)

Dr. Victoria Robinson

Wednesday 1:00-2:00, 279 Dwinelle Hall, Class number: 15198

The use of prisons and jails as solutions to some of the nation's most complex and deeply entrenched social problems, such as poverty, mental illness, homelessness, and intimate abuse, is a story too familiar. And yet, so is the contestation and challenge to these 'solutions.' Centuries of progressive and abolitionist movements lie at the heart of dismantling a system of racially inscribed injustice of legal and extra-legal punishment systems. These movements call for abolition of the death penalty, of the removal of life without parole for children, and of the cruel and unusual judicial conditions that the mentally disabled have been tangled within. Our seminar will use the book 'Just Mercy' by Bryan Stevenson, to consider the architecture of our modern criminal justice system. We will focus on both those trapped within the deepest trenches of the system, and also those individuals and communities who fight for true justice.

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

Victoria Robinson is a Lecturer of Ethnic Studies, and Director of the American Cultures Center and the AC Engaged Scholarship program. She teaches courses addressing the intersection of mass incarceration/immigration detention and deportation. She has been a contributing researcher of the European Migration Observatory and Observatory on Xenophobia and Racism, and an adjunct fellow at the Public Policy Institute of California (PPIC).

French 24, Section I

The Digital Humanities in Practice: Not Reading English Novels, 1750 to 1830 (1 unit, P/NP)

Professor Nicholas Paige

Wednesday 3:00-4:00, 4125 A Dwinelle Hall, Class number: 33707

In literature departments, much talk has turned toward new kinds of research opened up by digital tools: with the availability of full-text databases containing hundreds and sometimes thousands of novels, literary historians can ask questions they couldn't when they were still dependent on the close reading of a relatively few well-known texts. Close reading is great, but there are times when we may wonder what other writers beside Jane Austen or Charles Dickens are doing: does the work of great writers do the same thing as that of lesser writers, only better? does it "change the game," causing other people to write

like the greats? or is the work of such individuals in fact exceptional, that is, not at all representative of what's going on at the level of the literary "system"? and how do such systems evolve, exactly?

This Freshman Seminar will quickly introduce students to some issues in digital humanities before undertaking an actual project on the English novel from around 1750 to 1830. The nature of the project is quantitative: we won't be reading novels, we'll be tagging them for certain features and then making calculations. Since the project is not based on computerized text searches, no particular digital expertise is necessary. Students will need only a laptop with wifi to bring to the class, which will be run as a lab. Eventually, the work undertaken in this lab will be incorporated into Professor Paige's next book, where seminar participants will be duly credited. Come be part of the new wave of humanities research at Berkeley! **Note that although this course is being offered in the French Department, the actual subject is English novels and no knowledge of French is demanded.**

Professor Paige teaches mainly classes in seventeenth- and eighteenth-century French literature and culture, with special interest in the history of the novel.

Faculty web site: <http://french.berkeley.edu/people/detail.php?person=12>

Gender and Women's Studies 24, Section I
Gender and Sexuality Studies for Guys*: What would it look like? (1 unit, P/NP)
Professor Charis Thompson
Thursday 10:00-11:00, 602 Barrows Hall, Class number: 33685

This seminar will convene a group of freshmen to brainstorm what a Gender and Sexuality Studies class that was explicitly trying to include heterosexual male-identified students might look like for the new generation. It is a response to a pressing need for gender and sexuality literacy across the entire campus, and a recognition that historically Gender and Women's Studies classes have been perceived as being 'not meant for me' by many groups of students. Together we will build a dream syllabus that addresses this current gap. **This seminar is open to anyone but is especially geared toward male-identified students. This seminar is part of the Food for Thought Seminar Series.**

Charis Thompson is Chancellor's Professor and Chair, Department of Gender and Women's Studies. She is the author of *Making Parents: The Ontological Choreography of Reproductive Technologies*, and *Good Science: The Ethical Choreography of Stem Cell Research*. She works in the fields of Science and Technology Studies and Transnational Feminist Theory.

Faculty web site: <http://womensstudies.berkeley.edu/faculty/charis.html>

History 24, Section I
Endangered Children and Youth in Contemporary Africa: Documentaries (1 unit, P/NP)
Professor Tabitha Kanogo
Tuesday 10:00-12:00, 3205 Dwinelle Hall, Class number: 16161

This two-hour seminar will meet for the first seven weeks of the semester.

Scheduled to meet for the first half of the semester only, this once-a-week two-hour seminar will analyze documentaries that explore and expose the endangerment of children and youth in contemporary Africa. Documentaries on child trafficking and enslavement, child brides, child laborers, street children and youth, victims of FGM, child soldiers, HIV/AIDS orphans and urban youth gangs will be viewed in class. The goal of the seminar is to examine the complex local, regional, and at times global factors behind the extensive abuse and endangerment of children and youth in Africa. In order to historicize and contextualize the study, we shall, in addition to the documentaries, refer to a limited number of published articles.

I am a professor of African History at the Department of History. A social historian, my research interests include gender, women, missions, labor and social movements, children and youth, and biographies.

Faculty web site: <http://history.berkeley.edu/people/tabitha-kanogo>

History 24, Section 3
African American Activism in History (TBA, P/NP)
Professor Waldo E. Martin
Tuesday 1:00-2:00, 2303 Dwinelle Hall, Class number: 34210

The class will meet for 10 weeks, from August 24 through November 9. Class will not be held on October 19.

This seminar will explore the history and politics that shape contemporary African American concerns as expressed in movements like Black Lives Matter. Centering the enduring African American Freedom Struggle, our principal focus will be twofold: 1) the fundamental role of African American activism; and 2), the impact of beliefs in and practices of democracy and equality. We will also necessarily explore the historical origins, development, meanings, and consequences of contemporary colorblind racism: the persistence and depth of structural white supremacy in our own time. One of our core readings will be Bryan Stevenson's *Just Mercy*, the *On the Same Page* text.

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 the University of California, Berkeley. With Joshua Bloom, he is co-author of *Black Against Empire: The History and Politics of the Black Panther Party* (2013). With Deborah Gray White and Mia Bay, he is the co-author of *Freedom on My Mind: A History of African Americans with Documents* (2013). With Patricia A. Sullivan, he is the co-editor of *Civil Rights in the United States: An Encyclopedia* (2000). He is the author of *No Coward Soldiers: Black Cultural Politics in Postwar America* (2005), *Brown v. Board of Education: A Brief History with Documents* (1998), and *The Mind of Frederick Douglass* (1985). His current book project is "A Change is Gonna Come," a cultural analysis of the modern African American Freedom Struggle.

History of Art 24, Section 1
Sojourner Truth, Photography and the Fight Against Slavery (1 unit, LG)
Professor Darcy Grimaldo Grigsby
Monday 11:00-1:00, 544 Davis Hall, Class number: 33936

The class will meet the first seven weeks of the semester: August 24 - October 14, 2016.

Taking advantage of the exhibition of the same name that I have curated at the Berkeley Art Museum, this seminar concentrates on the savvy use of photography by the illiterate runaway slave, abolitionist and feminist orator and activist Sojourner Truth. It introduces students to the complex medium of photography, slave narratives, and the role of photography during the Civil War.

Some classes will be held at the museum; dates to be announced.

Darcy Grimaldo Grigsby is the Richard and Rhoda Goldman Distinguished Professor in the Arts and Humanities at University of California, Berkeley. She was born in the Panama Canal Zone and specializes in eighteenth- through early twentieth-century French and American art and visual and material culture, particularly in relation to the politics of race, slavery, and colonialism. She is the author of three books: *Extremities. Painting Empire in Post-Revolutionary France* (2002); *Colossal. Engineering the Suez Canal, Statue of Liberty, Eiffel Tower and Panama Canal. Transcontinental Ambition in France and the United States in the Long Nineteenth Century* (2012); and *Enduring Truths. Sojourner's Shadows and Substance* (University of Chicago Press, 2015). She also curated *Sojourner Truth, Photography and the Fight Against Slavery*, an exhibition of her collection of civil war photographs given to the Berkeley Art Museum (July 27-October 23, 2016). Her current book-in-progress, *Creole Looking. Portraying France's Foreign Relations in the Nineteenth Century* (Penn State University Press) examines France's relationship to the Caribbean and Americas.

Her recent articles include: "Blow-Up! Dynamite, Photographic Projection, and the Sculpting of American Mountains," in Jennifer Roberts, ed., *Scale*, University of Chicago and Terra Foundation, 2016; "Still Thinking about Olympia's Maid," *Art Bulletin*, December 2015; "Cursed Mimicry: France and Haiti Again (1848-1851)," *Art History*, February 2015; "Loss and the Families of Empire. Thoughts on Portraits painted in India by the Irish artist Thomas Hickey," in Kathleen James-Chakraborty, ed., *Irish Orientalism*, forthcoming, Ashgate, 2015; "Two or Three Dimensions? Scale, Photography and Egypt's Pyramids" in Ali Behdad, and Luke Gartlan, eds., *Photography's Orientalism: New Essays on Colonial Representation*, Los Angeles, J. Paul Getty, 2013, pp. 115-128.

Grigsby is the recipient of numerous fellowships and awards, including two Andrew W. Mellon New Directions Fellowships (2002 and 2008), a grant from the Graham Foundation for Advanced Studies in the Fine Arts (2005), a History of Art Undergraduate Association Award for Outstanding Contribution to Art Historical Education (2003) and the Distinguished Teaching Award, UC Berkeley (2012).

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 2:00-3:00, 3119 Etcheverry Hall, Class number: 28038

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 by reading the assigned articles before class.

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 10
How Plants Changed the History of our Planet (1 unit, P/NP)

Professor Cynthia Looy
Monday 4:00-5:00, 1101 VLSB, Class number: 17315

During this seminar we will discuss what profound impact plants have on the functioning of our planet's surface, atmosphere and ecosystems. We will start off with the transition to land and the emergence of terrestrial ecosystems. We will explore ancient fossilized plant communities and their ecological properties, and examine how major extinction intervals affected their evolution. In addition, we will tour the plant fossil collection of the UC Museum of Paleontology.

Cindy Looy is a plant ecologist who investigates the response of Paleozoic plants and plant communities to environmental change during periods of mass extinction and deglaciation, and the possible evolutionary consequences. Her primary research is focused on several aspects of the end-Permian mass extinction and its aftermath and the transition from a glacial-dominated world to an ice-free one during the Late Carboniferous to the Middle Permian.

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

Integrative Biology 24, Section 12
Introduction to California Natural History (1 unit, P/NP)
Professor Paul Fine and Lecturer Alan Shabel
Thursday 10:00-1:00, 4110 Valley Life Sciences Building, Class number: 33690

Introductory meeting will be September 1, 10am-1pm. Field trips will be 10am-5pm on September 15, October 6, October 27, and November 17. The September 15th field trip will be in Yosemite National Park and we will depart on the afternoon of September 14th, returning the evening of the 15th.

We will study biology outside of the classroom in a series of four field trips. We will explore four different ecosystems: oak woodland, redwood forest, the Sierra Nevada mountains, and the Pacific Coast. Throughout the course we will learn how to identify common plants and animals, and we will connect our field observations to general principles of ecology and evolutionary biology. All assignments will be completed in the field (i.e., no homework).

Introductory meeting will be September 1, 10am-1pm, including a short walk up Strawberry Canyon. Field trips will be 10am-5pm on September 15, October 6, October 27, and November 17. The September 15th field trip will be in Yosemite National Park and we will depart on the afternoon of September 14th, returning the evening of the 15th. Limited to 15 students.

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 VLSB, Class number: 17307

NOTE: The seminar will begin on Wednesday, August 24, 2016. There will be a mandatory 4-hour field trip to Tilden Park on Saturday, August 27. The seminar will conclude on Wednesday, September 21, 2016.

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 attract 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. Are you a natural history nut? If so, this seminar is for you!

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, and she is Curator of Mammals in the Museum of Vertebrate Zoology.

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

Integrative Biology 24, Section 4
How and Why Do Birds Sing (I unit, P/NP)
Professor George Bentley
Wednesday 2:00-3:00, 4110 Valley LSB, Class number: 17309

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 (I unit, P/NP)
Professor Thomas Carlson
Tuesday 10:00-11:00, 4110 Valley LSB, Class number: 17310

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 and animal species. We will also compare the nutritional qualities, health effects, and carbon footprint of conventional industrial food, organic food, locally grown food, and food that is hunted or gathered. In this seminar we will read Michael Pollan's *Omnivore's Dilemma* and view the documentary film *Food Inc.* **Any interested Freshmen are welcome.**

Thomas Carlson is a physician and ethnobotanist who is on the faculty of the Department of Integrative Biology and is Curator of Ethnobotany in the University and Jepson Herbarium at the University of California, Berkeley. He has conducted food plant and medicinal plant research with, and provided medical care for, over forty different ethno-linguistic groups in fifteen different countries in South America, Central America, North America, Africa, Asia, and Pacific Islands. Tom's multidisciplinary work with diverse institutions, biocultural environments, and communities has helped illuminate how local indigenous ethnobotanical systems contribute to human health and ecosystem health.

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

Integrative Biology 24, Section 6
The Exploration of Nature (1 unit, P/NP)
Professor Noah Whiteman
Thursday 4:00-5:00, 4110 Valley Life Sciences Building, Class number: 17311

Many of us are raised to believe that, as humans, we are distinct from the natural world. Some of us are even taught that humans arrived on the planet via a deity. Whatever your personal beliefs, to which each of us is entitled, the facts are clear, thanks in large part to the contributions of Charles Darwin and Alfred Russell Wallace, the nineteenth-century naturalists who co-discovered the theory of evolution by natural selection. Their ideas have helped us understand the fact that humans arose through the process of organic evolution, in much the same way as every other species on Earth. This is humbling, and belies the great joy that emerges from our own self-awareness: we have the ability to understand the origins of life on Earth and its elaboration, and we are able to appreciate the fact that we share our planet with, as Darwin wrote "endless forms, most beautiful and most wonderful." Indeed, we have much in common with the oak trees, water striders, squirrels and crows that grace our campus, yet each of these species has exquisite adaptations not found in our own species: oaks live to be 500 years old, water striders walk on water, squirrels live in the trees and crows can fly.

The seminar will consist of a classroom and field component.

I. Classroom:

How did Darwin and Wallace develop the theory of evolution by natural selection, this idea that threatened a human-centered view of the universe? This idea arose in the crucible of arduous and marvelous expeditions to the ends of the Earth. These ideas were forged during and after journeys so dangerous and lengthy that they can now only fairly be equated with inter-planetary travel. We will read and discuss portions of two books, written by Darwin and Wallace: *The Voyage of the Beagle* (by Darwin) and *The Malay Archipelago* (by Wallace).

Are naturalists still relevant in modern biology? We will read and discuss *Naturalist* by Professor Emeritus E.O. Wilson, which chronicles his own life, from modest working-class beginnings in Alabama, to a professorship at Harvard University, and the critical role natural history played in the development of his own ideas, which helped change the course of modern biological research. This book also establishes the fact that important discoveries, and inspiration for biological research can be found very close to home.

Will cultivation of your inner naturalist help you in your career goals and in understanding the human condition? Every other class period, we will leave the books and discussion behind to walk through the semi-natural areas on and near our campus, in order to generate knowledge of and appreciation for natural history and biodiversity, which is the foundation for all of the work that biologists do. On those afternoon walks students will be encouraged to take compelling photos of species that will culminate in a public exhibit the bears witness to their development as observers of the natural world, using digital images displayed on smartphones/tablets in a location on campus. **All students interested in biology. This seminar is part of the Food for Thought Seminar Series.**

Noah Whiteman, Ph.D. was born in southern California and then when he was three years old, his family moved to Duluth, Minnesota, on the western tip of beautiful Lake Superior. His father, a superb naturalist, taught him much of what he knows about the natural world. When he was 11 years old, his family moved to northeastern Minnesota, deep in the Sax Zim Bog, not far from the tiny towns of Toivola and Meadowlands, where he attended a K-12 school. This experience instilled in him a love for the natural world that has fueled his desire to understand how it works.

Dr. Whiteman attended a small liberal arts college for his undergraduate training and then completed a master's degree in insect biology at the University of Missouri. His dissertation research at the University of Missouri in tropical ecology and evolution brought him to the Galapagos Islands, Ecuador where he studied the first stages of co-speciation between the Galapagos hawk (*Buteo galapagoensis*) and insect parasites that are transmitted from hawk to hawk. He then went on to compete a postdoctoral fellowship on the molecular biology of plant defense and insect virulence and began studying a fly closely related to the genetic model *Drosophila melanogaster*, called *Scaptomyza flava*, that naturally attacks the genetic model plant *Arabidopsis thaliana*. He found this fly in a park near Harvard University where he walked his dogs. Dr. Whiteman's laboratory at UC-Berkeley focuses on functional and evolutionary genomics of interactions between this fly and plants it attacks.

Faculty web site: www.noahwhiteman.org

Integrative Biology 24, Section 8
Biology Reimagined in Light of the Microbiome (1 unit, P/NP)
Professor Britt Koskella
Tuesday 4:00-5:00, 5192 VLSB, Class number: 17313

We are at an incredibly exciting moment in the Biological Sciences. Every field, from Ecology and Evolution to Molecular Biology to Medicine, is being reexamined in light of new evidence that the microbiome (the vast array of microbes inhabiting humans and other species) influences how the host develops, what the host eats and does, how the host acts, and the host's general health. In short, every aspect of biology is fair game to be reconsidered through the lens of the microbiome; and this is especially true of the human microbiome given its direct relevance to medicine and human health.

In this course will examine the new, most exciting data on how the microbiome shapes its host phenotype. We will take a broad view of this idea, covering many systems (including humans, other vertebrates, invertebrates, and plants) and many different microbiome-mediated traits (including disease, behavior, growth, and species interactions). By reading both popular science articles and the primary literature, we will work together to identify the big questions that still need to be addressed and discuss how a research team could test these questions. Who knows; perhaps we will come up with the next great microbiome experiment! **This seminar is part of the On the Same Page initiative.**

Britt Koskella is a new assistant professor in Integrative Biology, who recently moved from the University of Exeter in the United Kingdom. Her work focuses on interactions between bacteria and the viruses that infect them (bacteriophages) to understand how coevolution between bacteria and phage might influence the health of eukaryotic hosts, such as agricultural plant species. She is passionate about her research and

strongly believes that a good understanding of evolution and ecology is critical to progress in the medical sciences.

Faculty web site: <http://brittkoskella.wordpress.com/>

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, Class number: 17314

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 add themselves to the waitlist and send the instructor a paragraph explaining their interest in the class by August 1, 2016 (to kpadian@berkeley.edu). Enrollment is limited to 8 students and applications will be accepted on a rolling basis.

Kevin Padian has been teaching at Berkeley for thirty-six 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
The Mafia: History and Fiction (1 unit, P/NP)
Professor Mia Fuller
Tuesday 1:00-2:00, 6331 Dwinelle Hall, Class number: 33749

Everyone loves the mafia—at least in films, on television, and in books. Why? And what is 'the' mafia? In this seminar we will explore fictional and non-fictional explanations of the mafia as an originally unique, Italian phenomenon, and as a closed social, economic, and psychological system based on brutality and secrecy. Our materials will include a few essential readings with discussion of classic films and TV representations.

Mia Fuller, Ph.D. Berkeley, is Associate Professor of Italian Studies. She is a cultural anthropologist who has combined fieldwork and archival research in her studies of architecture and city planning in the Italian colonies between 1869 and 1943. Her book on the subject, *Moderns Abroad: Architecture, Cities, and Italian Imperialism*, was published by Routledge in 2007. She is also the co-editor (with Ruth Ben-Ghiat) of *Italian Colonialism: A Reader* (Palgrave, 2005). Currently, she is preparing an ethnographic, architectural, and oral-historical study of the Fascist-era 'New Towns' built in 1930s Italy.

Faculty web site: <http://italian.berkeley.edu/people/profile.php?id=19>

Journalism 24, Section I

Who is or was a Pirate? Wars over Copyright Dating Back to Blackbeard Himself (1 unit, P/NP)

Professor Thomas Leonard

Monday 3:30-4:30, 127 North Gate, Class number: 29462

Early in the twenty-first century, the novelist David Foster Wallace began a college commencement address with a joke:

There are these two young fish swimming along and they happen to meet an older fish swimming the other way, who nods at them and says 'Morning, boys. How's the water?' And the two young fish swim on for a bit, and then eventually one of them looks over at the other and goes 'What the hell is water?'

Copyright in this century makes us all young fish. We may not be aware that the texts we read, the recorded music we hear, the videos we see, are all wet with claims of copyright. Indeed, if these creative works were produced in our lifetimes, the claims that they are in copyright are likely valid. By the exception of fair use, copyright law allows us to borrow Wallace's words on fish and to do many other things with our cultural heritage. How did we end up in the murky pool of copyright? By examining the practice of "piracy" back to the eighteenth century, and how this concept has shaped our thinking, this seminar hopes to illuminate our dilemmas.

Tom Leonard led both the Media Studies Program and the University Library during his long career as a faculty member in the Graduate School of Journalism. He has published three books and many articles on how American media took account of domestic political life and wars abroad, from the eighteenth century to the age of digital information. His current work explores "piracy," both as a way of life in early America and as a catch-phrase for the borrowing of information in our time.

Legal Studies 24, Section I

The Nature of Judicial Authority (1 unit, LG)

Professor Robert Berring

Wednesday 3:00-4:00, 107 South Hall, Class number: 34089

We will read several judicial opinions and seek to discover the ways in which courts use authority and craft law. What are the sources of law and how are they used? How can courts create law? We will explore the intersection of law, morality and political pressure. The role of statutes will be included as will some discussion of the Constitution. **This seminar is open to any freshman or sophomore with an interest in the legal system and how judicial decisions are made.** This seminar may be used to satisfy the Social and Behavioral Sciences breadth requirement in Letters and Science.

Professor Robert Berring is a Professor of Law and former Interim Dean at Boalt Hall Law School. He teaches in the areas of legal information, Chinese law, Contracts and Legal ethics. He has written a series of articles on the nature of legal authority, which he is turning into a book. He is a winner of the University of California's Distinguished Teaching Award. Most spring semesters he teaches an undergraduate course in the Legal Studies Department.

Letters and Science 24, Section I

What's Your Story? (1 unit, P/NP)

Director (Academic Coord.) Maggie Sokolik

Monday 4:00-5:00, 265 McCone Hall, Class number: 33759

At the university, in the workplace, with family, and with friends, people create and consume stories. What role do these narratives play? How can they help strengthen relationships, enhance business communication, and improve academic performance? This seminar looks these questions through different types of story. It will involve consuming different types of stories, created for different environments—written stories, spoken anecdotes and jokes, graphic fiction, and film. Participants will also create stories for different circumstances, including social media, blogs, personal storytelling, and more, depending on student interest. **This will appeal to students with different interests, with no particular prerequisites or background assumed. This seminar is part of the Food for Thought Seminar Series.**

Maggie Sokolik has a Ph.D. in applied linguistics from UCLA. She has taught writing and technical communication on the Berkeley campus since 1992. She has taught Reading and Composition courses, advanced composition, American Cultures courses, and a full range of courses for multilingual student writers. She is the author of more than twenty ESL and composition textbooks, including *Sound Ideas*, co-authored with Michael Krasny. She has also written for and been featured in several educational video projects in Japan. She travels frequently to speak about grammar, writing, and instructor education, most recently in China, Bosnia, Bulgaria, Turkey, and New Zealand.

Faculty web site: <http://writing.berkeley.edu/staff/maggie-sokolik>

Linguistics 24, Section 1
Language Myths (1 unit, P/NP)
Professor Larry Hyman
Wednesday 1:00-2:00, 174 Barrows Hall, Class number: 18370

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
Wednesday 2:00-3:00, 78 Barrows Hall, Class number: 33934

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/>

Mathematics 24, Section 1
Using Random Walks in the Physical and Social Sciences (1 unit, P/NP)
Professor F. Alberto Grunbaum
Wednesday 11:00-12:00, 939 Evans Hall, Class number: 18085

Random walks (whatever they are) have been used as models to understand all sorts of phenomena. More recently this has been enriched with the introduction of so-called "quantum walks." I will explain what this is all about and illustrate some of the surprising results one can explain with these tools by looking at the so called Parrondo's paradox (you may want to Google this one).

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

Faculty web site: <http://math.berkeley.edu/people/faculty/f-alberto-gruenbaum>

Mathematics 24, Section 2
Flipping Coins and Other Fun Problems in Probability Theory (1 unit, P/NP)
Professor Nicolai Reshetikhin
Wednesday 10:00-12:00, 891 Evans Hall, Class number: 34446

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

The goal of this course is an introduction to probability theory and its applications. Flipping a coin and estimating how many times it will land on one side and how many times it will land on the other side is a good illustration to how determinism enters into randomness. We will start with short overview of basic principles of probability theory. Then we will focus on coins.

We will compute the probability of a coin landing "n" times on one side after "N" flips. Then we will discuss random processes and an important class of them known as Markov processes and probabilistic games. Towards the end of the class will focus on the phenomenon known in probability theory as large deviations and will see that sometimes there is an important element of determinism in randomness. We will consider some simple combinatorial examples such as pile of squares to illustrate this phenomenon.

This seminar will start with a series of introductory lectures, and then, towards the end of the seminar, students will give presentations. The list of suggested reading will be given at the first seminar and will be posted at the seminar's web site before the beginning of the semester. **Knowledge of elements of probability theory is desirable but not required.**

Nicolai Reshetikhin is a Professor in the Department of Mathematics at UC Berkeley. He works at the interface of mathematical physics, geometry and representation theory. His interests lie at the interface of quantum field theory, statistical mechanics, geometry and low-dimensional topology, and representation theory of quantum groups.

Faculty web site: <http://www.math.berkeley.edu/~reshetik>

Mechanical Engineering 24, Section I
Art and Science on Wheels (1 unit, P/NP)
Professor Benson Tongue
Wednesday 12:00-1:00, 65 Evans Hall, Class number: 28350

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/>

Middle Eastern Studies 24, Section I
Current Events in the Middle East (1 unit, P/NP)
Professor Emily Gottreich
Monday 2:00-3:00, 180 Barrows Hall, Class number: 32082

This seminar will ask students to engage with Middle Eastern and North African political, cultural, and environmental issues as presented in the media. Those who are enrolled will be required to read *The New York Times* and select online news sources each week and identify current Middle East-related news to present to their peers for discussion. Differing perspectives on the news, especially academic approaches to and understandings of specific events, will be of particular interest. Students should expect vigorous engagement and critical thinking.

Professor Gottreich is Chair of both the undergraduate major in Middle Eastern Studies and the Center for Eastern Studies. She specializes in North African history.

Faculty web site: <http://cmes.berkeley.edu/people/admin-faculty/profile-emily-gottreich>

Molecular and Cell Biology 90A, Section I
Exploration of the Performing Arts Scene in and Around Berkeley (1 unit, P/NP)
Professor Jack Kirsch
Tuesday 5:00-6:00, 621 Stanley Hall, Class number: 18528

The purpose of this seminar is to introduce incoming students to the wonderful variety of high quality performing arts opportunities mainly on the Berkeley campus. This freshman seminar grew out of a series that was previously entitled “Sampling the Performing Arts at Berkeley,” which had been offered about six times. We experienced four performing arts events each semester that involved a classical film at Pacific Film Archives, a theater production at Zellerbach or Barestage, a dance performance usually at Zellerbach, and a classical music concert at Hertz or Zellerbach Halls.

The instructor has now secured very generous funding that allows additionally some opportunities to attend major off-campus venues such as SF Opera, SF Ballet, American Conservatory Theater, Berkeley

Rep and others. Each student will have at least one opportunity to visit one of these internationally recognized venues. There is no cost to the students for the tickets. Every student will present a 25-minute talk related to the performances.

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 several years ago, and have now reversed those areas of focus. I taught freshman seminars devoted completely to the performing arts from 2011-2014. I regularly attend about 100 performances/year in Bay Area Theaters and concert halls. Please feel free to contact me at jfkirsch@berkeley.edu for more information.

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

**Molecular and Cell Biology 90B, Section I
Biologists Reading "Just Mercy" (1 unit, P/NP)
Professor David Weisblat
Wednesday 2:00-3:00, 174 Koshland Hall, Class number: 18462**

Subject to change, the seminar will meet EXCEPT for September 14 and November 23.

Some commentators suggested that the election of Barack Obama in 2008 signaled the beginning of a "post-racial" America, and/or that we were now building a "color-blind" society (is that even a possible or desirable goal?). In any case, events of the last the eight years certainly suggest otherwise. As a starting-off point for this seminar, I'd like us to read and discuss the book "Just Mercy," the On the Same Page title for this year. I hope we can work together as (prospective) scientists to consider evidence-based approaches to understanding both the nature and the consequences of our biases. **I hope that students from all backgrounds will participate in this seminar, and that over the course of the semester, we will create a mutually supportive community among ourselves that might persist at least throughout your time at Berkeley. I'm particularly eager to meet students who are also interested in biology or other sciences and who are open to thinking analytically about issues emerging from our discussion of "Just Mercy." If there is interest, I'd be happy to provide a tour of my lab and to highlight the possibilities for conducting undergraduate research at Berkeley. This seminar is part of the On the Same Page initiative. This seminar is part of the Food for Thought Seminar Series.**

I grew up white and male in a racially and culturally homogeneous rural area of southwestern Michigan. After graduating from high school, I studied first at Harvard College, then Caltech and finally Berkeley, before joining the faculty here. My research aims to understand the biology of leeches, within the context of evolutionary developmental biology (Evo-Devo). I study primarily developmental biology (using the species *Helobdella austinensis*), but I'm also interested in leech genome, systematics, nervous system, behavior and life cycle evolution. In addition to research and teaching, much of my department and campus service is aimed at fostering and enhancing the wonderful diversity of our student body, and in accelerating the transformation of the faculty to more closely reflect that diversity.

Faculty web site: <http://mcb.berkeley.edu/labs/weisblat/>

**Molecular and Cell Biology 90C, Section I
The Biology of Sex (1 unit, P/NP)
Professor Gian Garriga
Monday 11:00-12:00, 301 Barker Hall, Class number: 33682**

The mechanisms that determine sex vary dramatically among animals. We will discuss these mechanisms and how they control biological differences between the two sexes. Differences range from how genes are differentially expressed to behavior in males and females. **Students considering majoring in the biological sciences.**

Gian Garriga is a professor in the Department Molecular and Cell Biology and a member of the Helen Wills Neuroscience Institute. He studies nervous system development using the nematode *Caenorhabditis elegans* as a model organism.

Molecular and Cell Biology 90D, Section 1
Ebola, Chikungunya and Zika Viruses (1 unit, P/NP)
Professor P. Robert Beatty
Thursday 11:00-12:00, 47 Evans Hall, Class number: 32832

This seminar will focus on the three viruses that have become prominent in the last three years: the Ebola epidemic in 2014; the spread of Chikungunya to the Americas in 2015; and the spread of Zika virus to the Americas in 2016. The course will begin with lectures by the instructor to introduce virology and immunology. The remainder of the course will be student-led discussions of the background, epidemiology, immune responses, clinical disease, and possible hope for vaccines with these three viruses. **This seminar is part of the Food for Thought Seminar Series.**

Professor Beatty is an infectious disease immunologist who has worked on Chlamydia, Epstein-Barr virus, Leishmania, and dengue virus over the last fifteen years. His research is focused on dengue virus immunology especially testing drugs and vaccines to protect against severe disease. He teaches immunology classes at Cal in the Department of Molecular and Cell Biology.

Molecular and Cell Biology 90D, Section 2
Revolutions in Biology: Past, Present, and Future (1 unit, P/NP)
Professor Russell Vance
Thursday 4:00-5:00, 301 Barker Hall, Class number: 33673

In this seminar, we will discuss revolutions in biology, with a particular focus on two emerging revolutions that have origins at UC Berkeley: the cancer immunotherapy revolution and the genetic engineering revolution. We will begin with a discussion of Thomas Kuhn's classic text, *The Structure of Scientific Revolutions*, and ask: what is a scientific revolution? and, how do they occur? We will then examine specific examples of revolutions in biology from the past and present, and discuss what biological revolutions might be on the horizon. There are no assignments or presentations for this class, but active class participation is expected. Be prepared to read and discuss as much as a (short) book a week for this seminar. **This seminar is appropriate for students interested in biology, medicine, public health, and/or history and philosophy. There will be some science content, but the science should be accessible to all students. I encourage those not intending to major in a scientific field to attend. Much of the discussion will address broader questions of how science works and how scientific breakthroughs or revolutions occur.**

Russell Vance has been a professor in the Department of Molecular and Cell Biology since 2006. He holds an MA in Philosophy from Queen's University (Canada), and a PhD in Immunology from UC Berkeley. He runs a research lab studying how our immune system defends against bacterial infections. In the Fall, he also teaches MCB 55 ("Plagues and Pandemics"); and in the Spring, he will teach MCB 103 ("Microbial Pathogenesis").

Faculty web site: <https://mcb.berkeley.edu/faculty/IMM/vancer.html>

Natural Resources 24, Section I

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

Professor Kate O'Neill

Monday 5:00-6:00, 430I Foothill 4 - Classroom A, Class number: 25771

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.**

Kate O'Neill joined the Department of Environmental Science, Policy and Management at UC Berkeley in 1999, specializing in the field of global environmental politics and governance. She writes on the ever-changing nature of global environmental challenges and our responses to them, on environmental activism and social movements, and on the global political economy of wastes. She teaches upper division and graduate courses in International Environmental Politics, and is a leading faculty advisor in the Conservation and Resource Studies Major in the College of Natural Resources. She holds a Ph.D. in Political Science from Columbia University, and is a co-editor of the journal *Global Environmental Politics*. She is currently the Resident Faculty member in Unit 2.

Near Eastern Studies 24, Section I

Animals in Ancient Egypt (I unit, LG)

Professor Carol Redmount

Monday 12:00-1:00, 27I Barrows, Class number: 19807

Ancient Egyptians had a rich and multifaceted relationship with the natural world around them, especially animals. Animals, domestic and wild, played symbolic roles in the Egyptian universe, especially as representatives and manifestations of various deities, as well as practical roles in the lives of ancient Egyptians where they functioned as pets, food, and offerings to the gods. In this one-hour seminar we will look at some of the many different ways the ancient Egyptians related to the animals populating their universe.

Carol Redmount is an archaeologist who has been excavating in the Middle East, and especially Egypt, for over thirty years. Her fieldwork research has taken place in Egypt, Jordan, Israel, Cyprus, Tunisia and the United States. Over the years she has adopted cats from Israel and Jordan and sponsored a dog and a cat from Egypt for adoption. She has always been fascinated by the ancient Egyptians' complex relationships with the many animals in their world and looks forward to exploring these further in this seminar. She lives in Berkeley with four rescue animals—one small dog and three cats—as well as two parrots.

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

Near Eastern Studies 24, Section 2

The Beginning of Writing: Cuneiform Script and Ancient Babylonian Culture (I unit, P/NP)

Professor Niek Veldhuis

Wednesday 1:00-2:00, 12 Barrows Hall, Class number: 19808

In this course we will explore the earliest writing in the world, cuneiform. Cuneiform was used in ancient Mesopotamia, the area that is now Iraq, in the period from 3,200 BCE until the beginning of our own era. How does the cuneiform writing system work, what did people write, why did they start writing in the first place and how did the place of literacy change over this period of more than 3,000 years? These are some of the questions that we will explore. We will read some of these ancient texts in translation and we will hear about other ancient writing systems (Egyptian, Chinese): how are they different, and how are they similar? Part of the course is a visit to the Hearst Museum of Anthropology (on campus) where we will be able to handle original cuneiform objects from various periods.

Niek Veldhuis (PhD Groningen, The Netherlands, 1997) is Professor of Assyriology in the Department of Near Eastern Studies. His research work concentrates on ancient school texts: how did ancient Mesopotamians teach reading and writing to their children? Other interests include Mesopotamian literature, religions, and scholarship.

Faculty web site: http://nes.berkeley.edu/Web_Veldhuis/

Nuclear Engineering 24, Section I
How It's Made (1 unit, P/NP)
Professor Peter Hosemann
Friday 12:00-1:00, 210 Jacobs Hall, Class number: 28440

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.

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.

Peace and Conflict Studies 24, Section I
Diversity, Identity, and Social Justice: America in Global Perspective (1 unit, P/NP)
Lecturer Darren Zook
Tuesday 2:00-3:00, 180 Barrows Hall, Class number: 33261

Diversity is perhaps the most important social issue in America. As a concept, diversity includes and relates to a number of other issues, such as racism, discrimination, social justice, immigration, marginality, integration, and so forth. Many a program has been put in place to address and resolve these issues, in the hope that over time, America would come together and make all of its differences work collectively as one harmonious and integrated society. For some people, this is already happening. For others, America seems more divided now than ever, and diversity has failed to deliver on its promise.

This seminar will delve into the complexities of this thing we call diversity, to explore the rhetoric and the reality of diversity as it currently exists in America. We will do this by reading accounts of diversity as it happens—not just in the news but also in a variety of different media—and then learning how to discuss critically the central issues of diversity. The goal is not just to talk about diversity, but also to learn how to talk about diversity in ways that are both critical and constructive. Diversity is an extraordinarily sensitive issue, and too many people simply avoid the conversation to avoid the discomfort that might ensue.

Darren Zook has been a member of the faculty at the University of California, Berkeley, since 2000. He teaches in International and Area Studies and in Political Science. He has taught previously at the University of California, Davis, and at the Claremont Colleges in southern California. In 2012, he was a Fulbright Research Scholar in Singapore working on a project that focused on cybersecurity in the Asia-Pacific region.

During his time at the University of California, Berkeley, Darren Zook has taught and published on a wide variety of topics, including the politics of Asia-Pacific region, human rights and international law, terrorism and security studies, multiculturalism and diversity, and economic policy with a focus on anti-corruption programs. His research interests have continuously grown into an unusually broad portfolio of international and comparative projects, and his work has taken him to various parts Asia, the Pacific Islands, and northern Europe.

Zook has recently completed a book, entitled *Ourselves Among Others: Crafting Diversity for a New America*, which is an engaged critique of current diversity policy and practice in the United States and elsewhere in the world. It is intended for publication in 2016.

Physics 24, Section I

Magnets: Science, Technology, and "Magic Tricks" (1 unit, P/NP)

Professor Frances Hellman

Friday 11:00-12:00, 397 LeConte Hall, Class number: 33909

First class will meet on Friday, September 9, 2016, the second week of classes.

Magnets and magnetic fields are essential to almost every aspect of our lives, from the most fundamental science experiments, to medical applications like the MRI, to computers and cars and navigation, to beautiful effects like the aurora borealis. The earth's magnetic field has made navigation possible for thousands of years, and keeps life on our planet safe from energetic particles coming from the sun and beyond. Magnetism has been known to exist for thousands of years, and yet requires twentieth-century physics (quantum mechanics) to understand the basic principles, such as what makes iron magnetic. Many Nobel Prizes have been given for discoveries related to magnetism and magnets also make some of the best and most fun "magic tricks" or demonstrations. Magnetism is found on the tiniest scale (electrons) and the largest (galaxies). We will learn what makes iron magnetic, and copper not magnetic. I will show why a magnet pushes away a superconductor, which makes levitated trains possible, but how the strongest magnetic fields are produced by superconducting magnets. We will discuss why there are magnets in a car's starter motor, and in computer hard drives, and where current research efforts are. We will also talk about some of the most exciting topics in modern magnetism, such as what happens when you try to make magnets really small (a field known as "nanomagnetism") or when you try to blend together magnets and semiconductors ("spin electronics"). **This seminar is intended for anyone with an interest in understanding some science that is all around us.**

Frances Hellman is Professor of Physics and of Materials Science and Engineering, a Senior Scientist at Lawrence Berkeley National Laboratory, and Dean of Mathematical and Physical Sciences at UC Berkeley, where she oversees the departments of Astronomy, Earth and Planetary Science, Mathematics, Physics, and Statistics. She is an expert in novel magnetic, semiconducting, and superconducting materials, especially in thin-film form. She is also a visiting scientist at the San Francisco Exploratorium, where she goes whenever possible to work with them on exhibits, some of them involving magnets. She received her BA in Physics from Dartmouth College and her PhD in Applied Physics from Stanford University. Before joining the Berkeley faculty in 2005, she held positions at AT&T Bell Labs and UC San Diego. Her faculty office is filled with magnets, and her laboratory is her workshop, where she delights in devising experiments on magnetic materials composed of rare and exotic ingredients.

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, 4 Evans Hall, Class number: 26174

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. **For students thinking of majoring in the biological sciences, with an emphasis on plants, this course will provide them an overview of plant-related opportunities (e.g., research experiences, resources, faculty contacts) with which to explore their interest (and possible major) in plants. This seminar is part of the Food for Thought Seminar Series.**

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, 279 Dwinelle Hall, Class number: 22138

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 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 the concise edition of a World History textbook, an author of the AP edition of the same book, and is also engaged in researching 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

Brazil's Greatest Hits: An Introduction to Brazil and Brazilian History, Arts, and Culture (1 unit, P/NP)

Professor Candace Slater

Thursday 2:00-3:00, 89 Dwinelle Hall, Class number: 21934

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. **Interest in Latin America welcome but not required.**

Candace Slater teaches Brazilian literature and culture, as well as courses on the Amazon, in the Department of Spanish and Portuguese. She has a secondary affiliation with the Energy and Resources Group. She is the author of seven books and many articles and has traveled widely throughout Latin America and the Iberian Peninsula.

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

Psychology 24, Section I

Exploring Psychology through Improvisational Comedy and Drama (1 unit, P/NP)

Professor Sonia Bishop and Mr. Adrian Vazquez

Tuesday 5:00-7:30, 3201 Tolman Hall, Class number: 33418

Class meet for six weeks, from August 30 through October 4, 2016.

Have you ever wondered why focusing on external stimuli as opposed to your internal state can help you feel better? Why some people are “more empathic” or “better listeners” than others? Whether we can improve our attentional skills? How young children’s perception of the world is different from that of adults? How “shared attention” and imaginary play are linked? How we convey and recognize emotional states using our faces, voices and bodies?

The field of psychology allows us to address these questions from a scientific standpoint. Interestingly, many of the underlying concepts also inform the teaching, practice, and performance of improvisational theater. Improvisational theater has many forms ranging from simple party games (as in 'Whose Line Is It Anyway?') to unscripted full-length plays. It is used to explore a character’s goals, emotion, and relationships, and can provide a forum to examine issues that are of central interest to social psychology (e.g., challenging stereotypes and addressing how fear or economic deprivation influence behavior). Here we interweave both these disciplines in order to introduce students to psychological concepts such as multi-modal emotional expression, object permanence and divided attention in an interactive and fun setting. Through improvisational exercises we will illustrate both how an understanding of psychology can improve improvisational comedy and drama and how experience with improvisational formats can in turn illuminate and bring to life a range of psychological concepts. In this course students will learn key psychological concepts through a combination of lecture and experiential learning. Each class will begin with a short lecture on a specific psychological concept followed by improvisational games to tackle understanding of the given concept in multiple modes, and culminate in a short class reflection and discussion. This seminar presupposes NO previous improv or theater experience, or knowledge of psychology. Some people who have not done improv before may find the notion intimidating, but we encourage you to give it a go! Think of it as a form of grown-up ‘play’ where we rediscover imagination and explore ideas, and where there is no ‘wrong’ way of doing it. We are both happy to answer further questions about what it will entail by email ahead of the class. **We expect this class to appeal to**

students with broad interests in psychology and also improvisation.

Trigger Warning: We will provide guidance on all exercises, however as we are asking for spontaneous creativity from participants, and we live in a society where problems and injustices are deep and real, there may be moments when these issues spontaneously appear in the content of the work. We ask that you bring understanding and patience for your own mistakes and those of others for the duration of this class, and the instructors will always endeavor to maintain a safe space for all.

Sonia Bishop (sbishop@berkeley.edu) is an assistant professor within the Department of Psychology. Her area of expertise concerns the brain basis of emotional and attentional processing and how this can go wrong in anxiety as well as other conditions. She is also a keen amateur improviser and a member of Pan Theater in Oakland where she has taken a number of classes.

Adrian Vazquez (adrianjoel.vazquez+cal@gmail.com) has a decade of experience teaching improvisational theater to people ages 14-74. He has studied improv at Bay Area Theater Sports, Bard College, Upright Citizens Brigade to name a few. Now he primarily coaches, practices, and performs at Pan Theater in Oakland.

Coming shortly: The syllabus from Fall 2016's version of the class will be posted soon at <http://bishoplabor.berkeley.edu/courses.html>. In the meantime please email us for details!

Rhetoric 24, Section I

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

Professor Daniel F. Melia

Wednesday 11:00-12:00, The Library at Bowles Hall, Class number: 24393

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." **Freshmen who are interested in argument and persuasion in a television and courtroom setting.**

Daniel Melia is Professor Emeritus in the Department of Rhetoric, where he has taught for forty-three years.

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

Scandinavian 24, Section I

Occupied: A Suspenseful Norwegian Television Series on the Politics of Global Warming, the Global Economy, and Violence (1 unit, P/NP)

Professor Linda Rugg

Thursday 10:00-11:00, 6415 Dwinelle Hall, Class number: 33758

Set in the near future, *Occupied* depicts a Norway stricken with a killer storm reminiscent of Hurricane Sandy ... only much worse. The storm is assumed to be the outcome of global warming, and Norway, which is one of the wealthiest countries in the world due to its production of oil, decides to abandon fossil fuels and develop green energy. But the European Union and Russia, who depend on Norwegian oil, object. Russia mounts an invasion with the support of the EU, and Norway finds itself torn apart into

groups of collaborators and resisters. We will begin the class with some information about Norway and its economic and political culture, including its rejection of EU membership. We will discuss the guilty environmental conscience that seems to have motivated the telling of this story and examine Norwegian culture for signs of guilty conscience, not only about the environment, but about some of the collaboration that took place during the real historical occupation of Norway by Germany during the Second World War. Students will then watch one episode per week before coming to class, where we will discuss the episode and think about the serial narrative form. **Requirements: Access to Netflix streaming, some short readings on bCourse website, attendance and participation. This course will be graded P/NP. To pass, students must participate in discussion and have no more than three unexcused absences.**

Linda Haverty Rugg is a Professor in the Scandinavian Department and the Associate Dean of Arts and Sciences. She has published two books: one on autobiography and photography and one on autobiography and film. Because her doctorate was in Comparative Literature, the topics of her published articles range from Mark Twain and race to films by Werner Herzog and Ingmar Bergman, but the major emphasis of her publication has been in autobiography studies. She is now working on a book on ecology and culture in Scandinavia, a subject she has taught several times at Berkeley. This course reflects her interest in ecocriticism.

Faculty web site: <http://scandinavian.berkeley.edu/people/rugg.html>

South and Southeast Asian Studies 24, Section I
Facing It: African American Legacies of the Vietnam War (1 unit, LG)
Professor Penny Edwards
Monday 4:00-5:00, 211 Dwinelle Hall, Class number: 31754

Compared to other U.S. troops, African Americans suffered disproportionately high losses in the Vietnam War (known in Vietnam as the American War). As people of color, they were wooed by Vietnamese Communist propaganda, and suffered racism both on US military bases and on their return home. These experiences - alongside stories of camaraderie, courage, longing, loss, PTSD, and the search for belonging - have generated a diverse array of testimonies and representations. Cross-stitching genres, genders, generations and geographies through song and story, this legacy offers a crucial lens on the complex history of the Vietnam war, the anti-war movement in the US, and the after-math of that war for veterans.

What was it like to live through that era - whether fighting or reporting from the front lines, or protesting and mourning on the home front - as an African American? Why are African American voices and visions underrepresented in school and college teaching about the Vietnam War? And to what extent does this absence echo a longstanding erasure of black veterans from official memory, a theme evoked in Natasha Trethewey's elegy "Native Guard"? This seminar aims to provoke reflection on such questions by engaging students with a diverse array of media.

Our four core texts are Marvin Gaye's album *What's Going On*, war correspondent Wallace Terry's *Bloods: Black Veterans of the Vietnam War*, Pulitzer poet Yusuf Komunyakaa's *Dien Cai Dau*, and Judy Juanita's novel, *Virgin Soul*. Additional voices include Sammy Davis Jr., Mohamed Ali, Martin Luther King, Jr., Toni Morrison, The Fugees, David Oyelowo, Robin Coste Lewis and "Hanoi Hannah". A class visit by Judy Juanita, and an optional field trip to the Museum of African Diaspora, will amplify our readings.

Assessment is by weekly one-page responses, in class participation, and a special project. This seminar is part of the Food for Thought Seminar Series.

Penny Edwards teaches Southeast Asian studies. She is the author of the prize-winning book *Cambodge: The cultivation of a nation*, and recipient of the U.C. Berkeley 2013 Outstanding Mentoring of GSIs Award. She has published over twenty articles on gender, ethnic and racial identity under French and British colonialism, and is co-editor of *Lost in the Whitewash: Aboriginal-Asian Encounters in Australia*

from Federation to Reconciliation (2003) and Pigments of the Imagination: Rethinking Mixed Race (2007).

Faculty web site: <http://sseas.berkeley.edu/people/faculty/penny-edwards>

Spanish 24, Section I
Latin American Photography (1 unit, P/NP)
Professor Natalia Brizuela
Tuesday 3:00-4:00, 175 Dwinelle Hall, Class number: 33819

This seminar will look at Latin American photography from the early twentieth century through the contemporary moment. We will explore issues of modernization, race, gender, analog and digital, and medium specificity. Over the course of the semester we will learn how to speak critically about photographs as we learn about the changes in the medium during the course of the twentieth Century and into the twenty-first. At the same time we will delve into the singularities of photographic production in a number of countries, learning who were the photographers, how their images circulated, and what and who they were made for.

All readings and discussions will be in English. The visual material and the readings will be on bCourses.

Requirements: Attendance (25%); Participation (50%); Presentation (25%)

Natalia Brizuela teaches in the Spanish & Portuguese Department. Her research and writing focuses on Latin American photography, film and literature. She is the author of two books on this topic: one on nineteenth-century Brazilian photography, and another one on contemporary literature and photography from Latin America. She recently edited a volume of critical essays on Argentine photographers Grete Stern and Horacio Coppola.

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

Statistics 24, Section I
Probability, Outside the Textbook (1 unit, P/NP)
Professor David Aldous
Friday 11:00-12:00, 1011 Evans Hall, Class number: 32923

Courses in mathematical probability teach you to do certain mathematical calculations, but are often far removed from broader questions about the role of randomness in the "real world;" of human affairs. This Freshman Seminar course is intended as an introduction to such questions using minimal mathematics. Each week we will talk about a different topic, such as

- Everyday perception of chance.
- What math says about stock market investing.
- Game theory: do your grandmothers, playing an online game, reach a Nash equilibrium?
- Chance in sports: from hot hands to Elo ratings.
- Risk to Individuals: perception and reality.
- How accurate are short and medium term predictions and risks in politics and economics?
- Were there unusually many candidates for the Republican Nomination in 2012 and 2016?

- Science fiction meets science: global catastrophic risks and the Fermi paradox.

The course is aimed at students with wide-ranging intellectual curiosity. Students will do some small project of their choice.

David Aldous is Professor in the Statistics Dept at U.C. Berkeley, since 1979. His research in mathematical probability has covered weak convergence, exchangeability, Markov chain mixing times, continuum random trees, stochastic coalescence and spatial random networks. He is nowadays most interested in articulating critically what mathematical probability says about the real world.

Faculty web site: <http://www.stat.berkeley.edu/~aldous/>

Karina Moreno has spent her career in the social sector with a focus on poverty alleviation. Prior to joining Tipping Point, she was a Program Officer at the Y & H Soda Foundation where she developed and implemented a \$2 million annual grants portfolio to help low-income families achieve economic prosperity through income growth and asset building strategies. Karina has also worked on policy and advocacy issues affecting underserved children, including serving as Deputy Director at the Children's Defense Fund in California. She earned her Bachelor of Arts in Communication Studies and Women Studies at the University of California Los Angeles and received her Master of Public Policy from Harvard University. A native Californian, Karina and her family love to hike and camp along the coast or in the Sierras Nevada mountains.

**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, Class number: 24247**

This seminar will meet on Mondays for eight weeks, from August 29 through October 24, 2016. Class will not meet on Monday, September 5.

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, 491 Minor Hall, Class number: 29575

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 a standard clinical instrument to view the eye will be demonstrated. Students will then employ this instrument to observe one another's eyes. Digital images of the iris will be captured and provided to each student. Examples of the types of 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? What structural and functional changes in the eye are found in various ocular diseases?

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 3
Myths, Mysteries and Discoveries in Medicine (1 unit, P/NP)
Dr. Patsy Harvey
Monday 3:00-4:30, 394 Minor Hall, Class number: 32889

This 90-minute seminar will meet for the first nine weeks of the semester (August 29 through October 24, 2016).

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

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

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.

Architecture 39, Section I

Architecture Depends: A Deep Dive into the World of Being an Architect (1.5 units, P/NP)

Professor Susan Ubbelohde

Thursday 12:30-2:00, 104 Wurster Hall, Class number: 33706

This seminar will read Jeremy Till's 2009 book "Architecture Depends." Till explores the condition of architecture being "a dependent discipline" (buffeted by external forces) while at the same architects do everything to resist that dependency. In this easy-to-read and enjoyable text, the author covers much ground historically, theoretically and professionally, providing a valuable introduction to the discipline and the profession. We will read a chapter each week for discussion. We will start with a brief visual introduction to the architects, buildings, books and cities that are included in the chapter, followed by discussion of the chapter the following week. Example chapter titles are: A Semblance of Order, Coping with Contingency, Time of Waste, Slack Space, Lo-Fi Architecture, and Imperfect Ethics. **Freshman and sophomores who have declared Architecture as a major or are thinking of it, as well as any students with any other major who are curious about the discipline or the profession.**

Susan Ubbelohde is a Professor in the Department of Architecture at the University of California, Berkeley where she teaches design studios and seminars on design theory, daylighting and high performance facades. She is also serving as Associate Dean for Faculty Affairs in the College of Environmental Design. Susan is a founding partner of Loisos + Ubbelohde, an office of unconventional practice that brings research methods and physical and computer modeling to a wide range of architectural design solutions. The firm has pioneered new methods of energy conservation, production and analysis; lighting and daylighting design and analysis; natural ventilation analysis; design and fabrication of light emitting and controlling elements including light sculptures. The firm works closely with University researchers, LBNL and other research institutions. L+U projects have received numerous AIA awards for design and sustainability, AIA Top Ten Green project awards and LEED Platinum certifications.

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

Electrical Engineering 39, Section I

Gadgets Electrical Engineers Make (2 units, P/NP)

Professor Jeffrey Bokor

Thursday 10:00-12:00, 210 Jacobs Hall, Class number: 3283 I

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 twelve 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/>

Energy and Resources Group 39A, Section I
Complex Systems, Information Theory, and "Big Data" (2 units, LG)
Professor John Harte
Monday 2:00-4:00, 239 Mulford Hall, Class number: 33466

A premise of this seminar is that science, evolving relentlessly toward greater unification, will look very different by the middle of this century than it does today. The seminar's goal is to explore, using history as a guide, possible directions that science may take in the decades ahead. In the first half of the seminar we will read about some of the major historical transitions in science, with reading assignments grouped by Lucretius/Aristotle/Spinoza; Newton/Laplace; Boltzmann/Einstein/Schroedinger, and Darwin/Mayr. We will emphasize the recurring themes of exploiting data, unification, and the role of information-theoretic and statistical modes of inference. Keeping our eye on the rising sea of available data, and the lessons gleaned from history, in the second half of the seminar we focus on the current quest to better understand highly complex systems. Readings will include works of Wheeler, Jaynes, and contemporary "complexity scientists". We ask what if anything is new about complexity science, and what kind of "big theory" of complex systems might emerge over the coming decades that could best utilize, and keep us from drowning in, big data?

John Harte is Professor of Ecosystem Sciences in ERG and ESPM. His degrees are from Harvard and U. Wisconsin. He was formerly a physics professor at Yale and is currently an External Faculty Member of the Santa Fe Institute and a senior researcher at the Rocky Mountain Biological Laboratory. His research includes experimental field investigations of ecosystem-climate feedbacks and theoretical studies in macroecology. He is a Fellow of the American Physical Society and the AAAS, and in 1990 was awarded a Pew Scholars Prize in Conservation and the Environment. In 1993 he was awarded a Guggenheim Fellowship and in 1998 he was appointed a Phi Beta Kappa Distinguished Lecturer. He is the 2001 recipient of the Leo Szilard prize from the American Physical Society, a recipient of a George Polk award in journalism, and has served on six National Academy of Sciences Committees. He has authored over 200 scientific publications, including eight books.

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

German 39P, Section I
Law and Literature (3 units, LG)
Professor Chenxi Tang
Tuesday and Thursday 9:30-11:00, 39 Evans Hall, Class number: 16696

For many people, law is the subject of professional legal education, while literature belongs to the humanities. In this seminar, we will see that law and literature, professional school and the humanities, are in fact closely related. We will read some of the greatest authors in world literature – Shakespeare, Melville, Morrison, Kleist, Kafka, among others – and see how their works engage with the key issues of law such as justice and equity, rights and obligation, crime and punishment. At the same time, we will read legal texts and see how law operates by telling stories.

This Freshman and Sophomore Seminar is currently listed as German 39N in Campus Solutions. It will be renamed German 39P in the near future, and all students enrolled in 39N will be moved to 39P when the change occurs. The title and description will remain the same. This seminar is part of the On the Same Page

initiative. This seminar may be used to satisfy the Arts and Literature or Philosophy and Values breadth requirement in Letters and Science.

Chenxi Tang studied philosophy, comparative literature, and German literature at Ludwig-Maximilians-Universität Munich (MA 1993) and Columbia University (PhD 2000). He taught at the University of Chicago before joining the German Department at Berkeley in 2007. Professor Tang's research and teaching interests include: German literature and intellectual history from the baroque to high modernism, with an emphasis on the eighteenth and nineteenth centuries, especially the time around 1800; Early modern European literature and intellectual history; Law and literature, literature and political thought.

Faculty web site: <http://german.berkeley.edu/people/showprofile.php?id=150>

History 39N, Section I
The Chinese Detective (4 units, LG)
Professor Alexander Cook
Wednesday 12:00-2:00, 2070 VLSB, Class number: 16467

An inquiry into traditional Chinese conceptions of law and justice through the eyes of the official detective: the district magistrate. Primary source readings include Chinese detective fiction, moral treatises, legal codes, forensic manuals, and criminal casebooks. **All readings are in English translation. There are no prerequisites. This interactive seminar is for freshman and sophomores only.** This seminar may be used to satisfy the Arts and Literature or Historical Studies breadth requirement in Letters and Science.

Alexander C. Cook has taught modern Chinese history at UC Berkeley since 2009.

Faculty web site: <http://history.berkeley.edu/people/alexander-c-cook>

History of Art 39G, Section I
Humanists on the Move (2 units, LG)
Professor Elizabeth Honig
Wednesday 10:00-12:00, 110 Barrows Hall, Class number: 33820

This class is about renaissance humanists and how we can use digital means, as well as traditional ones, to study them. Our particular focus is on the ways people were connected in the renaissance—as patrons, as readers, as travelers, as correspondents. Students will gather data about the travels and connections of their individual humanists. Then, working in groups, they will form databases and use mapping and network analysis on their data to chart interconnections among these historical figures over time. Figures to be studied will include Leonardo da Vinci, Erasmus, Durer, Isabella d'Este, Henry VIII, and other patrons, artists, and writers of this period. **Students who love the renaissance, in any way shape or form. Even liking historical novels about the wives of Henry VIII counts!**

Elizabeth Honig teaches the History of Art and, sometimes, in the English department as well. Her specialties are painting, urban culture, pageantry and literature in northern Europe, especially in the sixteenth century. She is also interested in the digital humanities. This year she published a book on the Flemish painter Jan Brueghel (son of the more famous Pieter Bruegel), and you can also see her research website on the artist at janbrueghel.net.

Faculty web site: <http://arthistory.berkeley.edu/person/1639585-elizabeth-honig>

Jewish Studies 390, Section I

Jewish Love (2 units, LG)

Graduate Student Instructor Joseph Rosen and Professor Benjamin Brinner

Wednesday 2:00-4:00, 233 Dwinelle Hall, Class number: 30640

This seminar will explore diverse Jewish approaches to love and eros. We will especially focus on the role of modernity in transforming ancient traditions of Jewish love, and try to make sense of contemporary forms of Jewish romance, such as interfaith, queer, and secular, that veer far from the past. At the core of this course is a simple question: What does religion have to do with experiences and practices of love?

Attendance mandatory first two weeks of semester. Students will be dropped for non-attendance.

Yosef "Joseph" Rosen is a PhD Candidate in Jewish Studies. His research focuses on Kabbalistic and Rabbinic literature in Medieval Spain and France. He is currently working on his dissertation, entitled, "Midrashic Community: Toward a New History of Early Zohar." Through readings of a range of early 13th century artifacts (letters, disputation records, artworks, and homilies), the dissertation explores how early Zoharic texts attempt to generate theological conversation and spiritual community in the aftermath of the maimonidean controversies. Yosef has taught numerous courses at Cal, including, "Judaism in late Antiquity," "Introduction to Kabbalah," "Advanced Talmud," and "Introduction to Jewish Civilization." He is also active in adult Jewish education through organizations such as Kevah and Lehrhaus.

Ben Brinner, professor in the Department of Music and Faculty Director of the Center for Jewish Studies, is an ethnomusicologist researching issues of musical interaction, competence and cognition, primarily in Israel and Indonesia.

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, 131 Campbell Hall, Class number: 3096 I

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), "sincerely held religious beliefs" as a defense to compliance with anti-discrimination laws, gun control, abortion, privacy, "hate" speech, euthanasia and racial profiling. We will read Supreme Court cases, as well as political and legal commentary from across the political spectrum. The prime focus of the seminar is to encourage students to develop their critical thinking skills. Accordingly, students are expected to develop, support and defend their own views and opinions regarding the relevant topics.

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 under the Fulbright Program 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. He is also the recipient of the 2015 Fulbright Commission Global Citizens Award, and the 2016 Global Award for his legal work. 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 39I, Section I
Democracy and Equality (2 units, LG)
Professor Christopher Kutz
Tuesday 10:00-12:00, 325 McCone Hall, Class number: 33912

This seminar will look at the theory and modern practice of criminal punishment in the United States: we will read and discuss materials from philosophy, history, law, anthropology, and sociology to discuss under what conditions state punishment could be justified, and how the American modern practice of mass incarceration does or does not meet those conditions. Along with some classic philosophy and criminology readings, we will read the *On the Same Page* book, Bryan Stevenson's *Just Mercy* as well as excerpts from Michelle Alexander's *The New Jim Crow*. The seminar will include a trip to San Quentin state prison. The requirements will consist of weekly readings and short, ungraded, written reactions, as well as two 5-6 page graded papers. This seminar is part of the *On the Same Page* initiative. You should be prepared to do 50-75 pages of reading per week (perhaps more if the reading is not dense), and you will be expected to contribute on the basis of that reading to class discussion during every session. **This seminar is part of the *On the Same Page* initiative.**

I have taught at Berkeley since 1998, at the undergraduate, law, and doctoral levels, with a special interest in moral and political philosophy, as well as criminal and international law. I have a Ph.D in Philosophy and a law degree (JD), and especially enjoy bringing the tools of philosophy, literature, and history to the study of legal institutions. My most recent book, *On War and Democracy* (2016), is about the ethics and laws of war.

Native American Studies 90, Section I
Myth, Memory, and History: Understanding Native America (4 units, LG)
Lecturer Diane Pearson
Monday, Wednesday and Friday 11:00-12:00, 175 Barrows Hall, Class number: 20017

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>

Near Eastern Studies 39A, Section I
Ancient Near Eastern Mythology
(4 units, LG)
Professor Ronald Hendel
Tuesday and Thursday 12:30-2:00, 175 Barrows Hall, Class number: 33982

Stories of the creation and organization of the world are central to the ways that people deal with life, the universe, and everything. This course will focus on the myths and associated ritual and political practices of ancient Egypt, Mesopotamia, Canaan, and Israel. Since the ancient Near East is the cradle of western civilization, we will also explore how these mythologies have influenced western religion, philosophy, art, and literature.

Ronald Hendel is the Norma and Sam Dabby Professor of Hebrew Bible and Jewish Studies in the Department of Near Eastern Studies. He is the author of many articles and books, most recently *The Book of Genesis: A Biography*. He has taught in the Big Ideas and the Discovery programs.

**Undergraduate Business Administration 39AC, Section I
Philanthropy: A Cross-Cultural Perspective (3 units, LG)
Mr. Colin P Lacon and Professor Karina Moreno
Thursday 8:00-11:00, C320 Cheit Hall, Class number: 10760**

This class will compare and contrast the variety of gift giving and sharing traditions that make up American philanthropy. Both the cultural antecedents and their expression in this country will be explored from five ethnic and racial groups: Native American, European American, African American, Hispanic American, and Asian American. The goal is to gain a greater understanding of the many dimensions of philanthropy as it is practiced in the United States today.

Colin Lacon is the President and CEO of Northern California Grantmakers (NCG). NCG works to support and strengthen its members and promote effective philanthropy. Previously, he served six years as Senior Program Officer for the Strengthening Communities Program at the Stuart Foundation, and he held several positions for the City of Oakland, including director of strategic grants management in the Office of the City Manager.

Karina Moreno has spent her career in the social sector with a focus on poverty alleviation. Prior to joining Tipping Point, she was a Program Officer at the Y & H Soda Foundation where she developed and implemented a \$2 million annual grants portfolio to help low-income families achieve economic prosperity through income growth and asset building strategies. Karina has also worked on policy and advocacy issues affecting underserved children, including serving as Deputy Director at the Children's Defense Fund in California. She earned her Bachelor of Arts in Communication Studies and Women Studies at the University of California Los Angeles and received her Master of Public Policy from Harvard University. A native Californian, Karina and her family love to hike and camp along the coast or in the Sierras Nevada mountains.

**Undergraduate Business Administration 39E, Section I
Civic Technologies and the Social Media President: Reconstituting Democracy for the Internet Era (2 units, LG)
Professor David Harris
Tuesday 3:30-5:30, C330 Cheit Hall, Class number: 10762**

As you prepare to cast a vote in what may be your first presidential election, you will be invited to explore the ways in which social media and related technologies are reshaping political landscapes around the world. In the course, we will look at the ways in which politicians have already adopted social media platforms such as Twitter, Facebook and YouTube, paying close attention to weekly developments in the presidential election as it unfolds in real time during the semester.

We will also closely examine an array of emerging "civic technologies," including those developed by new political parties (Pirate Party, Partido de la Red), nonprofit organizations (Sunlight Labs, Democracy.Earth, Participatory Democracy Foundation), for-profit startups (Brigade, PopVox, Democracy.com) and government agencies (We The People, Tunisian and Icelandic crowdsourced constitutions, eStonia, Participatory Budgeting). Students will be encouraged to develop critical perspectives on the strengths and weaknesses of new approaches to democracy from technical, political-economic and critical-theoretical perspectives.

David Evan Harris

Chancellor's Public Scholar, UC Berkeley
Research Director, Institute for the Future
Executive Director and Founder, Global Lives Project

David was appointed as the Chancellor's Public Scholar in 2015 at UC Berkeley, for his teaching work at the Haas School of Business in association with the Center for Social Sector Leadership. David founded the Governance Futures Lab at the Institute for the Future (IFTF), where he has conducted research on the future of governance, philanthropy, media, and social movements since 2008.

David is the founder of the Global Lives Project, a video library of life experience around the world, produced by thousands of collaborating filmmakers, photographers and translators. David has presented his work to audiences at the Smithsonian, Harvard, Stanford, Apple, Google, Adobe, United Nations University, among other institutions. His writings have been published by the BBC, Guardian, Adbusters, Focus on the Global South, Hivos, Alternet, Grist and translated into dozens of languages.

David worked at the White House Council on Environmental Quality while participating in the UCDC program as an undergraduate at UC Berkeley. He later studied Sociology at the University of São Paulo and speaks English, Portuguese, Spanish and French.

Vision Science 39, Section I
Planning for the Berkeley Global Campus and Richmond Bay (2 units, P/NP)
Professor Stanley Klein and Consultant Harshdeep Nanda
Tuesday 1:00-3:00, 394 Minor Hall, Class number: 29572

This Freshman/Sophomore seminar will explore the development and implications of the recently announced "Berkeley Global Campus at Richmond Bay." The Global Campus has the ambitious goal that instead of copying other universities and building campuses in Japan/ Singapore/ China, etc., we will invite them to build a global campus on our large property in Richmond. Google Berkeley Global Campus for details. The seminar will explore the possibilities for future involvement of UCB undergraduates in this project. We will view this development from a holistic standpoint, from real estate implications, Richmond-Berkeley relations, and most importantly, things like how our undergraduates might help with education in Richmond, such as helping high school students get into universities of their choice. We will invite guest speakers from various factions involved in the project to share their opinions and their groups' actions. Outside publications from organizations will also be provided, including but not limited to the UCB Public Service Center and the UCB Haas Institute. Due to its relatively new nature, there are a wide range of possibilities and conflicts involved with the Global Campus, and the seminar will discuss these while contemplating potential solutions. The emphasis in this course is on active engagement and attendance .

Stanley Klein is a physicist doing research on how our brains produce vision. Relevant to this seminar is his commitment to finding approaches for our society to function better in meeting the challenges of the future. One of his particular interests is how to resolve controversies. The Berkeley Global Campus at Richmond Bay offers many challenges and opportunities dealing with these difficult complex issues.

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

Harshdeep Singh Nanda is a current undergraduate student pursuing a double major in Computer Science and Economics. He took the seminar last semester and will be able to provide some continuity for next semester. With the right amount of preparation and advocacy, the students of this seminar can play an important role in the development of the Berkeley Global Campus.

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.

Anthropology 84, Section 1

The Woman Behind the New Deal: The Legacy of Frances Perkins (1 unit, P/NP)

Professor Margaret Conkey

Wednesday 10:00-11:00, 2224 Piedmont Avenue Building, Room 12, Class number: 33672

Have you ever wondered how something like Social Security got started? Unemployment insurance? The minimum wage? What about workers' rights? How are laborers protected today? This seminar will focus on a recent book about Frances Perkins--the first woman in any presidential cabinet, she under FDR--and learn how she was able to create some of the most important--and still hotly debated-- programs of social support in US history. In this election year, this "ethnography" of women, power and social change, especially in relation to American workers, will be an important insight into what needs to be done and how. Guest speakers will provide some insight into the progressive movement in New York City that spawned Perkins' motivations, and on other topics relevant to Perkins' life and work. Reading will be basically the paperback book (one chapter each week) by Kirsten Downey: "The Woman Behind the New Deal: FDR's Secretary of Labor and his Moral Conscience." **Ideally, these would be students who are engaged today with the political process, with the upcoming election and its issues and with understanding the ways in which programs and policies for the "common good" are developed and implemented (or not).**

Meg Conkey is an emerita professor of Anthropology who, in addition to her work on archaeology and prehistoric art, has long been involved in feminist and gender research and approaches to understanding humanity. Having attended the same undergraduate college as Frances Perkins, and having today a family summer home near where Perkins and her family lived, has provided one reason that what Perkins has done has been part of Conkey's scope of interests. Meg has taught at Berkeley for thirty years, been active on campus in relation to issues of equity and inclusion and has taught previous Sophomore Seminars on "Has Feminism Changed Science?" and a recent course on "Cultural Heritage in the Digital Age."

Faculty web site: <http://anthropology.berkeley.edu/users/margaret-w-conkey>

Anthropology 84, Section 2

The Imagined Past: Mexican Archaeology and Popular Movies (1 unit, P/NP)

Professor Rosemary Joyce

Wednesday 11:00-12:00, 221 Kroeber Hall, Class number: 33709

Popular movies offer an unparalleled opportunity to show what we think another time or place was like, engaging our senses and giving a more vivid impression of actually being there. In the hands of some filmmakers, these creations of the past can make us feel a simultaneous sense of difference and connection. Other filmmakers simply use the past as an exotic backdrop for stories that could be taking place today. In this course, we will view and discuss clips of films including Mel Gibson's *Apocalypse Now*, Darren Aronofsky's *The Fountain*, and Salvador Carrasco's *The Other Conquest/La Otra Conquista*, to understand how an imagined past can help us understand other times and places or fail to promote our understanding. If you have ever wondered whether a film set in the past is giving you a real sense of what it would have been like to live in another time or place, this course is for you. **Format and requirements: This is a seminar, and you are expected to read in advance, attend**

regularly, and come prepared to engage in active discussion. Each of you will lead discussion of one article. There are two writing requirements for each participant: (1) a critical essay about a film representing a past time and place, fiction or nonfiction, of your choice; (2) a final comment appropriate for posting online (assignments to be discussed more in class). Most important, you are expected to attend every week.

Required films and texts: required films will be presented in class. Texts will either be available through bCourses, or/and on reserve at at the Anthropology library in Kroeber Hall.

Rosemary Joyce conducted archaeological field research in northern Honduras for more than thirty years, and is now developing collaborations with colleagues in the Mexican state of Chiapas, near Classic Maya Palenque. The sites she has worked at date from the Early Formative (before 1500 BCE) to the twentieth century. Her publications include many books, the most recent "Ancient Bodies, Ancient Lives" (2008, Thames and Hudson), as well as dozens of journal articles and book chapters on topics including gender, sexuality, pottery, burials, and of course, chocolate.

Faculty web site: <http://berkeley.academia.edu/RosemaryJoyce/About>

**Astronomy 84, Section I
Black Holes (2 units, P/NP)
Professor Steven Beckwith
Wednesday 1:00-3:00, 501B Campbell Hall, Class number: 13220**

The seminar discusses the physics of Black Holes, the evidence for their existence, and some of the interesting implications that black holes pose for the universe. Using Kip Thorne's book, "Black Holes and Time Warps; Einstein's Outrageous Legacy," we will delve into the ordinary predications about black holes—space-time curvature, time dilation, the dangers of getting too close, the central singularities, frame dragging—as well as some of the more exotic predictions like black hole evaporation and even wormholes. Although the concepts in this course are not intuitive for most students, they can be understood by anyone with a background in high school physics and first-year college math, and they provide an excellent basis to learn how to reason about new ideas in science. The class will stress quantitative reasoning and the use of numbers and quantitative predictions as a method of understanding nature without using mathematics beyond first year calculus. Students most likely to profit from this class should have preparation equivalent to first-year college-level courses in physics and mathematics and need not be majors in physical science or engineering. All students will learn the fundamentals of special relativity and the rudiments of general relativity in the first two weeks of class.

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

Faculty web site: <http://www.ucop.edu/research/beckwith.html>

**Electrical Engineering 84, Section I
Engineering for the Brain: Mind Meets Matter (1 unit, P/NP)
Professor Chunlei Liu
Wednesday 3:00-5:00, 299 Cory Hall, Class number: 33827**

The class will meet for two hours weekly from August 24 through October 12, 2016.

Advances of neural engineering, both physical and biological, are rapidly changing the way we see and interact with our brain. Modern imaging allows us to observe our brain in action noninvasively; brain stimulation allows us to modulate neuronal activities and behaviors; genetic editing allows us to modify the basic building blocks of the brain. While these technologies have brought enormous medical benefits and are improving our knowledge of the inner workings of the brain, they also raise many profound questions. The course will introduce modern neural engineering methods in a non-technical way. We will discuss their medical and scientific impact and their legal, ethical and societal implications. **The course is open to all majors. There will be no equations to be solved. Only a curious mind is required.**

Dr. Chunlei Liu is an Associate Professor in the Department of Electrical Engineering and Computer Sciences, and the Helen Wills Neuroscience Institute. He received his PhD from Stanford University. Before joining UC Berkeley, he was an Associate Professor of Radiology and Biomedical Engineering at Duke University. He currently researches in brain imaging and modulation.

English 84, Section I

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

Professor Julia Bader

Wednesday 2:00-5:00, D1 Hearst Field Annex, Class number: 14716

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, including stories from Jhumpa Lahiri's *Interpreter of Maladies*, and attend events at the Pacific Film Archive and Cal Performances. **This seminar is part of the On the Same Page initiative.**

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

Was Ancient Judaism a Religion or an Ethnicity? (2 units, LG)

Professor Erich Gruen

Tuesday 10:00-12:00, 2303 Dwinelle Hall, Class number: 34317

This seminar will explore a question whose roots lay in antiquity but whose significance remains of central concern today: were the ancient Jews considered (and did they consider themselves) as an ethnic group or as adherents of a religion? In short, how does one define Jewish identity in the ancient world? We shall investigate this question through reading various biblical stories such as those of Isaac and Ishmael, Jacob and Esau, Tamar, Ruth, and Esther, some Jewish writers of the Greco-Roman period like Philo and St. Paul, and selections from Roman authors, like Cicero and Tacitus, who commented on Jews.

No specific prerequisites, apart from a genuine interest in the ancient world and its relevance to contemporary concerns.

Erich Gruen is a Professor Emeritus of History and Classics at UCB. He has published several works on Greek history, Roman history, and the Jews in the Greco-Roman world. He is a recipient of a Distinguished Teaching Award.

Natural Resources 84, Section I
Global Environment Theme House Sophomore Seminar (1 unit, P/NP)
Professor Kate O'Neill
Monday 5:00-6:00, 4301 Foothill 4 - Classroom A, Class number: 25772

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.**

Kate O'Neill joined the Department of Environmental Science, Policy and Management at UC Berkeley in 1999, specializing in the field of global environmental politics and governance. She writes on the ever-changing nature of global environmental challenges and our responses to them, on environmental activism and social movements, and on the global political economy of wastes. She teaches upper division and graduate courses in International Environmental Politics, and is a leading faculty advisor in the Conservation and Resource Studies Major in the College of Natural Resources. She holds a Ph.D. in Political Science from Columbia University, and is a co-editor of the journal *Global Environmental Politics*. She is currently the Resident Faculty member in Unit 2.

South and Southeast Asian Studies 84, Section I
Contemporary Southeast Asian Society and Culture through Film (2 units, LG)
Dr. Maria Josephine Barrios-Leblanc and Lecturer Hanh Tran
Friday 4:00-6:00, 262 Dwinelle Hall, Class number: 24470

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.**

Maria Barrios-Leblanc has a Ph.D. in Filipino (Philippine Literature) from the University of the Philippines (UP). Before coming to UC Berkeley, she served as Associate Professor and Associate Dean of the UP College of Arts and Letters. She has written/edited more than a dozen books including language

textbooks, poetry collections and research on Philippine drama and literature.

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

Hanh Tran holds an M.A. degree in South and Southeast Asian Studies with a concentration in Political Studies and Literature. He has been a lecturer of Vietnamese language and literature at UC Berkeley since 2006. He has also guest-lectured and co-taught several seminars on Southeast Asian Literature and Movies. His current research interest is in Southeast Asian Material Culture and History of Art.

**Theater, Dance, and Performance Studies 84, Section I
History and the Archive – The Spanish Civil War, 1936-1939 (I unit, P/NP)
Professor Peter Glazer, Curator Theresa Salazar and Lecturer Donna Southard
Thursday 1:00-2:00, 375 Bancroft Library, Class number: 34492**

This class will utilize the Bancroft Library's remarkable collection of materials related to this crucial event in twentieth-century political and cultural history, to help students learn how to use an archive for historical research. The Bancroft collection contains hundreds of items: posters, photographs, letters, albums, pamphlets, documents, physical objects, and publications, most generated during the conflict, many brought back from Spain by U.S. volunteers themselves. Though most of the materials are in English, there are also a significant number of documents in Spanish, and some in Catalan. Both non-Spanish speakers and Spanish speakers/readers are welcome. Bancroft also houses the archive of the Bay Area post of the Veterans of the Abraham Lincoln Brigade (VALB), the collective name for the U.S. volunteer contingent. This year, 2016, is the 80th anniversary of the start of the Spanish Civil War, and there will be a series of public events on campus recognizing this commemorative year, to which students will be invited: film screenings, speeches, exhibits, poetry readings, and a theatrical performance of the musical Heart of Spain. Each student will pursue a specific project of their own choosing, based on material in the archive, which will become the focus of their work during the semester.

Peter Glazer is an Associate Professor of Theater, Dance, and Performance Studies, a playwright and a director. His research focuses on intersections of history, memory, theater, music, and patriotism. He has specialized in Spanish Civil War commemoration in the US, with his book *Radical Nostalgia: Spanish Civil War Commemoration in America*. He is also co-writer of the theater piece *Heart of Spain: A Musical of the Spanish Civil War*.

Since July 1999, Theresa Salazar has been the Curator of The Bancroft Collection, Western Americana. In 2004, she took on the responsibility for the Latin Americana collections of The Bancroft Library and oversaw that collection for twelve years. She regularly teaches students from UC Berkeley and other campuses about researching in The Bancroft Library and how to use primary resources. She has organized numerous exhibitions at the Bancroft, including co-curating the exhibition *Guerra Civil @ 80* which will be on view in the Bancroft's Corridor Exhibition Cases Fall 2016. From June 1989 until June 1999, she was Special Collection Librarian, University of Arizona Library, Tucson, AZ. She has also worked in The Prints and Photographs Division of The New York Public Library and The Manuscript Division of The Library of Congress. She has a MLS from Columbia University and a MA in English Literature from the University of New Mexico.

Since Fall 2012, Donna Southard has held the position of Assistant Director of Language Instruction in the Department of Spanish and Portuguese at UC Berkeley. Besides coordinating the various sections of third and fourth semester Spanish language, she regularly teaches Spanish language and literature courses. She is particularly interested in the intersections of literature, art and history during the first decades of the twentieth century and has published several articles on the graphic art of Francisco Rivero Gil during this period. In 20014, she also developed a film module on historical memory for intermediate Spanish as a Berkeley Language Center Fellow. She holds a PhD in Modern Hispanic Languages and Literatures from UC Berkeley.

Vision Science 84, Section 1

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, Class number: 29529

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 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, Class number: 29530

The seminar will meet for seven weeks on the following dates: August 25; September 1, 8, 15, 22, and 29; and October 6, 2016

Problems associated with affordability, accessibility and quality 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, accessible and quality care to all Americans. After considerable debate, controversy and compromise, the Patient Protection and Affordable Health Care Act of 2010 (ACA) was signed into law by President Obama on March 23, 2010. The ACA (often referred to as Obamacare) was the most significant health care legislation passed since the Medicare Act of 1964. Since the ACA has become law there have been over forty attempts to repeal the act and its' constitutionality has been tested twice and upheld by the United States Supreme Court. Even though the ACA is law, the path to accessible, affordable, and high quality health care remains problematic for many individuals and families. Of particular interest is that the ACA has become the center stage of the 2016 Presidential elections (e.g., repeal, replace, expand, etc.). Obamacare will become one of the main conversation points of the 2016 Presidential election. To help understand the complexities of US Health Care Delivery, and in particular the ACA, we will first examine some of the major hurdles/controversies in US healthcare delivery prior to the passage of the ACA. We will then

examine Obamacare looking at both its strengths and weaknesses. Also, to help us better understand what options might be available, we will explore health care in other developed countries to provide information on both what is wrong with our current system and possible solutions. Typically, the class will review an article, news story, media presentation, or editorial that will serve as the beginning for class discussion/debate. Students will also be asked twice during the semester to find a specific article and prepare a short presentation followed by class discussions. 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 pursuing a career in health care delivery (e.g., physician, nurse, etc.) or health care planning/administration, interested in new technologies to improve health care, or simply just interested in the impact of current health care on society should find most of the topics covered of interest.

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 and serves as Program Director of the NIH sponsored Berkeley Clinical Scientist Development Program. 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, Class number: 2953 I

Will meet the first 8 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-faao>