



**SPRING 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
- Success, Seminars, and You – a web page full of good ideas and helpful links to support students in registering for a seminar and getting the most out of their seminars before, during and after taking a seminar

## **L&S Discovery Courses**

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

This document was last updated on October 16, 2015.

## **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 2**  
**Language and Politics in Southern Africa (1 unit, P/NP)**  
**Professor Sam Mchombo**  
**Wednesday 2:00-3:00, 186 Barrows Hall, CCN: 00815**

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

Sam Mchombo is an Associate Professor in the Department of African American Studies and was a member of the Department of Linguistics faculty from 1988 to 2009. He received his B.A. from the University of Malawi and Ph.D. from the University of London. He pioneered and taught courses in Linguistics and African Language Structure in what is now the Department of African Languages and Linguistics in the University of Malawi. From 1985-1988 he was a member of the Linguistics faculty at San Jose State University, teaching courses on general linguistics, syntax, and semantics. His research focuses on grammatical theory and African linguistic structure. Recently, he has also focused on aspects of African politics, delivering talks at the World Affairs Council on emergent democracies, as well as human rights in Africa. His publications include *Theoretical Aspects of Bantu Grammar* (1993), *The syntax of Chichewa* (Cambridge University Press, 2004), and "Democratization in Malawi: Its Roots and Prospects," published in a volume edited by Jean-Germain Gros called *Democratization in Late Twentieth-Century Africa*. Other works include papers on "National Identity, Democracy and the Politics of Language in Malawi and Tanzania," as well as "The Role of the Media in Fostering Democracy in Southern Africa," both published in *The Journal of African Policy Studies*, "Religion and Politics in Malawi" in *Issues in Political Discourse Analysis* (2005), and "Sports and Development in Malawi" in *Soccer and Society* Vol. 7 No. 2-3, 2006. He has delivered invited lectures and conference presentations in Hong Kong, Europe, Mexico, and in Africa. In Spring 2003, he was appointed Distinguished African Scholar by the Institute for African Development at Cornell University.

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

**Architecture 24, Section I**  
**Design Thinking, Creativity, Innovation, and Future Career Paths (1 unit, P/NP)**  
**Professor W. Mike Martin**  
**Tuesday 1:00-3:00, 270 Wurster Hall, CCN: 03774**

**This seminar will meet five weeks, beginning January 19 and through February 16,**

**2016.**

Creativity and innovation are the key drivers of success for many of today's leading industries and organizations. At the center of this activity is design thinking. Most of our future, both today and in the years to come, will be due to a culture of creative innovation. An important element of a creative culture is the use of design thinking as a means to unlock the challenges and provide the potential for our actions.

**This course provides opportunities for students from all disciplines to explore the principles and concepts that underpin design thinking, creativity, and innovations, and how these powerful ways of thinking and acting are manifested in potential career paths.**

Professor W. Mike Martin has been at UCB for the past 25 years in the Architecture Department of the College of Environmental Design. He served as the Undergraduate Dean of CED for 11 years and completed a three-year term as Chair of the Architecture Department. Just before retiring, he served as the University of California Systems Education Abroad Director for Scandinavia from 2006-2008 in Copenhagen, Denmark. His teaching and research have focused on the study of the practice of design thinking, collaborative design, work-studies of practice, and storytelling/narrative as a means of knowledge transfer in practice and the academic community. Digital media is central to the representation of this knowledge transfer process.

Faculty web site: <http://ced.berkeley.edu/ced/faculty-staff/mike-martin>

**Chemistry 24, Section I  
Bridge (1 unit, P/NP)**

**Professor Marcin Majda**

**Thursday 4:00-5:00, 262 Evans Hall, CCN: 11873**

"The essentials for playing a good game of bridge are to be truthful, clear-headed and considerate; prudent but not averse to taking a risk; and not to cry over spilt milk. And incidentally, those are perhaps also the essentials for playing the more important game of life." - Somerset Maugham

This seminar will offer an introduction to bridge—a card game involving two opposing pairs of partners. Standard bidding conventions and elements of play will be covered. Bridge is a rather sophisticated game with an intellectual challenge comparable to that of chess. **Enrollment is limited to twenty freshmen. This is “bridge for beginners” seminar. No prior knowledge of the game is assumed or necessary. However, students who enjoy logical, strategic thinking and like card games and puzzles will enjoy and appreciate bridge the most. This seminar is part of the Connections@Cal initiative.**

Marcin Majda is not a bridge expert but has passionately enjoyed playing bridge for most of his life. In Fall semesters, he teaches freshman chemistry (Chem 1A). Other information, not necessarily relevant to this seminar, can be found on his university web site.

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

**Chicano Studies 24, Section I**

**Chicano Civil Rights Movement (1 unit, P/NP)**

**Professor Carlos Muñoz Jr.**

**Monday 1:00-2:00, 201 Wheeler Hall, CCN: 13874**

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 1**  
**Waves – Ideal, Real, and In Between (1 unit, LG)**  
**Professor Evan Variano**  
**Wednesday 11:00- 12:00, 544 Davis Hall, CCN: 14655**

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 which 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.

**Civil and Environmental Engineering 24, Section 2**  
**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. 6:00-8:00 (1st mtg), 212 O'Brien Hall (first meeting), CCN: 15178**

**Class will meet Wednesday, January 20, 6:00-8:00 pm; Saturday, January 23, 9:00am - 3:00pm; Saturday, February 6, 9:00am - 3:00pm; and Wednesday, February 10, 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. This seminar is part of the On the Same Page initiative.**

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

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

### **Classics 24, Section 2**

#### **Homer's Iliad (1 unit, P/NP)**

**Professor Seth Schein**

**Friday 10:00-12:00, 308C Doe Library, CCN: 15286**

**Class will meet two hours per week for seven weeks beginning Friday, January 22, 2016.**

We will read and discuss Homer's Iliad, with particular attention to the poem's representation of war and its ethical complexities. We'll also read and discuss Simone Weil's essay, "The Iliad, or the Poem of Force," and poetry by W.H. Auden, Louise Glück, Christopher Logue, and Alice Oswald that engages with the Homeric representation of war in light of "our" modern and contemporary wars.

Seth L. Schein is Professor Emeritus of Comparative Literature at the University of California, Davis. His main areas of scholarly research and writing are Homeric epic and Attic tragedy.

### **English 24, Section 1**

#### **Masterpieces of World Cinema: Federico Fellini's La dolce vita (1 unit, P/NP)**

**Professor D.A. Miller**

**Monday 2:00-3:00, 108 Wheeler Hall, CCN: 28234**

Though over 55 years old, La dolce vita ("The Sweet Life," 1960) is still trending, with its famous images circulating in visual media more widely than ever. This continued ebullience is owing to two things. The

first is the film's still-contemporary attempt to grasp our modernity through the phenomenon of celebrity culture. And the second is the film's still-arresting style, which, with its blend of irony and complicity, formulates the predominant terms of response to that culture. As part of our intensive viewing—and reviewing—of the film itself, we'll also be taking a look at some twenty-first-century LDV quotations, including its most recent cinematic makeover, Paolo Sorrentino's *La grande bellezza* ("The Great Beauty," 2013).

D.A. Miller was formerly John H. Hotchkis Professor in English and is currently Professor of the Graduate School. His recent courses have addressed postwar European film, Italian-American cinema, and the work of Alfred Hitchcock. He is also the author of a book on Fellini's 8. For more information about him, please see his page on the English Department website.

Faculty web site: <http://english.berkeley.edu/profiles/55>

**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, 107 Mulford Hall, CCN: 29196**

**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/](http://ourenvironment.berkeley.edu/people_profiles/david-wood/)

**Ethnic Studies 24, Section 2  
Queer Latino Studies: Theory in the Flesh (1 unit, P/NP)  
Professor Raul Coronado  
Tuesday 2:00-3:00, 108 Wheeler Hall, CCN: 31079**

In the 1980s and as a result of their involvement in the various social movements of the 1970s, Latinas and other women of color began to publish what are now canonical texts in women of color feminism, books such as *This Bridge Called My Back: Writings by Radical Women of Color* (1983) and *Loving in the War Years* (1983). Yet queer Latino men remained relatively silent. Why was this the case? What were the conditions of possibility that allowed Latinas to consciously and politically engage in the public sphere by publishing their work? We will begin with these questions as we focus our attention on these early writings by queer Latinas. We will then trace the emergence of queer Latinas/os in the public sphere. That is, we will study literature, art, and film that represented queer Latinas/os. **This course is designed for students interested in reading and studying literature and culture by and about**

**queer Latinas/os. All readings and discussions will be in English; no Spanish proficiency required.**

My teaching and research interests are in Latina/o literary and intellectual history, from the colonial period to the 1940s. In a sense, this field and period allow—indeed force—us to rethink the literature of the Americas in a transnational, hemispheric framework. That is, Latina/o literature has usually been described as a twentieth-century phenomenon, emerging for the most part during the Civil Rights movements of the 1960s and 70s. Yet a return to the literary-historical archive reveals a quite different genealogy. Beginning in the late eighteenth century, Spanish Americans—including Mexicans, Cubans, Puerto Ricans, Venezuelans, and Colombians—sought refuge in the U.S. and used the printing press, especially in Philadelphia, Charlottesville, and New Orleans, to foment support for the independence of their Spanish American countries. Likewise, during the first half of the nineteenth century, the printing press arrived across what is today the U.S. Southwest and gave birth to a vibrant and often belligerent print culture. It was through these published texts that ideas associated with modernity were, for the first time, debated and developed in print among Latinas/os, ideas such as representative government, the rights of citizen-subjects, and the power of the press to reconfigure society. By returning to the archive, rethinking the category of literature, genres, and disciplines, and engaging with the theoretical-historical problematic of modernity and colonialism in the Americas, we can begin to imagine alternative historical geographies for a literature of the Americas, one where the seemingly impermeable barrier between U.S. and Latin American literary and intellectual history begins to disintegrate in U.S. Latina/o studies.

But all these interests developed out of my initial and continuing interest in the history of Latina/o sexuality. Along with my research/teaching interests above, I also have longstanding interests in queer and feminist theory, with a particular focus on how women of color have theorized the queer subject and the emergence of queer Latina/o print culture and publics.

Faculty web site: <http://ethnicstudies.berkeley.edu/faculty/profile.php?person=123>

### **History 24, Section I**

#### **How Wars Begin: Europe and the World 1789 to 1991 (1 unit, LG)**

**Lecturer David Wetzel**

**Wednesday 2:00-3:00, 210 Dwinelle Hall, CCN: 39204**

Six major wars have been fought in Europe since the French Revolution. A seventh was fought all over the world, though Europe contributed to its outbreak and provided one of the fields of combat. Many of these wars had long backgrounds or, as one historian has written, “profound causes”—conflicting creeds, public opinion, nationalism, militarism, mass psychology preaching the glories of war, and historians themselves, to name but a few. But there is also a more staid version of the origin of war: the precise moment when government officials set their names to the declaration of it. Sometimes the actual signing has little to do with the profound causes. This course will examine the immediate origins of the following wars: Wars of the French Revolution and Napoleonic Empire (1789-1815); Crimea and Italy (1853-56, 1859); Bismarck’s Wars (1863-64, 1866, 1870-71); The First World War (1914-18); The Second World War (1939-45); and The Cold War (1946-1991). Students will analyze writings by historians with conflicting interpretations of all of these wars and be asked to evaluate the merits of each. Vigorous participation in class discussion is a must.

David Wetzel is Lecturer in History. He specializes in international history of Europe in the nineteenth and twentieth centuries. His books include *The Crimean War: A Diplomatic History*; *A Duel of Giants: Bismarck, Napoleon III, and the Origins of the Franco-Prussian War*; and *A Duel of Nations: Germany, France, and the Diplomacy of the War of 1870-1871*.

### **History 24, Section 3**

#### **Why Are Universities Special? The Story of Berkeley and the University of California in a Global Context (1 unit, P/NP)**



**Professor Sheldon Rothblatt**  
**Thursday 2:00-3:00, 279 Dwinelle Hall, CCN: 39209**

The university as a self-governing corporation has the second longest unbroken history in western society. Only the Roman Catholic Church is older. The university began almost imperceptibly in the 12th century. Within a short period, it found a home throughout Europe. Colonial expansion took the university form to the New World. Today it is to be found everywhere, educating millions of students. China in particular, the second largest economy in the world, is expanding higher education at an almost unprecedented rate. The university is sometimes referred to as the powerhouse of modern society. How can we account for its triumph and supremacy? A good part of the answer lies in the fact that it is unique. It is different from other institutions: different from business corporations, churches, the military or government. Within the global world of universities, UC and Berkeley stand out, our campus in particular ranked amongst the top four research universities in the world.

We will explore the nature of this achievement, even its mysteries and odd rituals, in discussions, presentations, visits to special collections and walks around the campus, which has one of the most unusual designs to be found anywhere. **The seminar is especially designed for freshmen because they are the newest of our students and the least acquainted with the extraordinary riches and mysteries of the university. Attendance at the first meeting of the class is mandatory in order to secure a place in the seminar.**

Sheldon Rothblatt is Professor of History Emeritus. He was Associate Dean of Students, L&S, Chair of the Department of History and Director of the Center for Studies in Higher Education at Berkeley. His specialty is the comparative history of universities. He is a Foreign Member of the Royal Swedish Academy of Sciences (the body that grants Nobel Prizes), a Fellow of the Royal Historical Society of Britain, a Fellow of the Royal Society of Arts and a Member of the National Academy of Education. Upon retirement, he received the Berkeley Citation for "distinguished achievement and for notable service to the University." He has also been knighted by the King of Sweden as Knight Commander of the Royal Order of the Polar Star (founded in 1748).

Faculty web site: Center for Studies in Higher Education

**Integrative Biology 24, Section I**  
**The Darwinian Revolution (1 unit, LG)**  
**Professor Brent Mishler**  
**Thursday 10:00-11:00, 4110 Valley Life Sciences Building, CCN: 42103**

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

Brent Mishler is Director of the University and Jepson Herbaria at the University of California, Berkeley, as well as a professor in the Department of Integrative Biology, where he teaches phylogenetic systematics and plant diversity. He received his Ph.D. from Harvard University in 1984, and was on the faculty at Duke University in Durham, NC for nine years before moving to UC Berkeley in 1993.

Faculty web site: <http://ucjeps.berkeley.edu/people/mishler.html>

**Integrative Biology 24, Section 10**  
**Ethnobiology, Nutrition, and Global Food Systems (1 unit, P/NP)**  
**Professor Thomas Carlson**  
**Wednesday 10:00-11:00, 4110 Valley LSB, CCN: 42130**

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. This is a Creating Change Theme Seminar.**

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 11**  
**Natural History of the Bay Area by Bicycle and Public Transit (1 unit, P/NP)**  
**Professor Ellen Simms**  
**Wednesday 2:00-3:00, 5053 Valley LSB, CCN: 42132**

This seminar will focus on the natural history of the San Francisco Bay area. We will discuss topics such as these: what organisms depend on the Bay, how the Bay was almost converted to a river, the conservation efforts that saved it, the recent efforts to re-expand the Bay and restore wetlands, and impending threats, such as oil spills, climate change and sea level rise. Three hour-long classroom discussions will be supplemented with two day-long local field trips by bicycle and public transit. **Students must have a multi-geared bicycle in good working condition, a bicycle helmet, a solid U-lock, and the ability to cycle at least 10 miles.**

Ellen Simms is an evolutionary ecologist who studies the evolution of biotic interactions. She is a faculty member in Integrative Biology and her current research focuses on the evolutionary maintenance of cooperation between plants and microbes. Her lab studies how soil microbial communities affect the success of invading plant species and how plant-microbe interactions influence ecosystem function. When she is not working, she bicycles and kayaks throughout the Bay Area and beyond.

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

**Integrative Biology 24, Section 2**  
**Burning Hot and Cold: How do Ectotherms Maintain Metabolism and Performance in Variable Temperatures? (1 unit, LG)**  
**Professor Caroline Williams**  
**Tuesday 2:00-3:00, 4110 Valley LSB, CCN: 42106**

You and I regulate our body temperatures tightly at around 98 °F, which means our metabolic enzymes can be perfectly adapted to perform at that temperature. If our core body temperature deviates from that

set point by just a few degrees we feel sick, and 10 °F of deviation will likely cause death. The core body temperature of ectotherms fluctuates with environmental temperatures, meaning they will regularly experience swings of 40 °F or more. Some ectotherms can survive temperatures as hot as 170 °F, and others as low as -70 °F! How do they maintain metabolism and performance in the face of this thermal variability? We will meet to discuss readings related to these topics. Student participation in discussions is required.

Caroline Williams is an Assistant Professor at Berkeley who studies the evolution of metabolic physiology in ectotherms. She did her undergraduate and masters research in her home country, New Zealand, and her doctoral research in Canada. She then conducted postdoctoral research at the University of Florida and moved to Berkeley in July 2014. She is looking forward to meeting undergraduates with interests in metabolic physiology, and particularly encourages and supports undergraduate involvement in research.

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

**Integrative Biology 24, Section 3**  
**How and Why Do Birds Sing (1 unit, P/NP)**  
**Professor George Bentley**  
**Wednesday 2:00-3:00, 4110 Valley LSB, CCN: 42109**

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 4**  
**How Plants Changed the History of our Planet (1 unit, P/NP)**  
**Professor Cynthia Looy**  
**Tuesday 9:00-10:00, 1101 Valley LSB, CCN: 42112**

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 6**

#### **Animal Navigation: Which Way is Home? (1 unit, LG)**

**Professor Roy Caldwell**

**Monday 2:00-3:00, 5192 Valley LSB, CCN: 42118**

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

My research interests lie in invertebrate behavior and ecology with much of my work centering on the behavioral ecology of stomatopod crustaceans, a group of tropical marine predators. The initial focus of this research was on how the evolution of potentially lethal weapons influenced stomatopod biology. These studies dealt mainly with communication and the function of aggression. More recent research has expanded to include the evolution of mating systems, interspecific communication, sensory ecology, prey selection, and the biomechanics of the strike and larval biology. We are currently initiating studies on the genetic structure of stomatopod populations attempting to deduce the timing and pathways of dispersal. We have also used stomatopod populations as bio-indicators to assess the health of tropical coastal habitats. I have also become interested in the behavior of blue-ringed and other pygmy octopuses. We are currently studying the reproductive and aggressive behavior of several Indo-Pacific species. Much of my research is centered in the tropical Indo-Pacific including programs at Lizard Island, Moorea, and Indonesia.

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

### **Integrative Biology 24, Section 7**

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

**Professor Kevin Padian**

**Wednesday 12:00- 1:00, 1101 Valley LSB, CCN: 42121**

Dinosaurs were big funny animals, and "Jurassic Park" was cool. But what's behind all this? In this seminar we use dinosaurs to explore how we know what we know about extinct life, and the methods and approaches that scientists use to study evolution in general. We also explore common myths, such as the idea that dinosaurs were slow and slow-witted, and that an asteroid drove them to extinction. Berkeley's Museum of Paleontology is the largest collection of fossils in any university in the world, and we use it on a weekly basis in this course. A notebook, some writing, and strong initiative in participation are required. **Students don't need any preparation for this course except an interest in the subject and the desire to understand how science is constructed. This course is designed to be taken for a letter grade. Students who elect to take this seminar should enroll under the letter grade option.**

**Students interested in the class should enroll and send the instructor a paragraph explaining their interest in the class by December 15, 2015 (to [kpadian@berkeley.edu](mailto:kpadian@berkeley.edu)). Applications (limited to 8) will be accepted on a rolling basis before then and the course closed on December 18.**

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

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

**Integrative Biology 24, Section 8  
Randomness and Heritable Memories in Biology (1 unit, LG)  
Professor Han Lim  
Monday 10:00- 11:00, 4110 Valley LSB, CCN: 42124**

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

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

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

**Integrative Biology 24, Section 9  
The Weird and Wonderful World of Parasites (1 unit, P/NP)  
Professor Wayne Sousa  
Monday 2:00- 3:00, 5053 Valley LSB, CCN: 42127**

Always fascinating and often repulsive, parasites are the dominant life-form on Earth. They are among the most highly evolved organisms on the planet and comprise the majority of species. Practically every living

organism serves as a host for one or more parasites. This seminar will explore the extraordinary life cycles of parasites, and participants will learn about the amazing means by which parasites infect their hosts, and the impacts they have on them. We will also discuss the evolutionary arms race between host defenses and parasite infection. The seminar will conclude with a discussion of emergent diseases, and the potential influence of global change on disease dynamics. Readings will be assigned for each week's discussion, and class members will be responsible for leading one or more of these discussions. **Looking for curious students interested in ecology and/or disease dynamics. Public health students are also welcome.**

I am a community ecologist who studies the roles of species interactions and abiotic factors in determining the structure and species composition of natural communities. My early work was on the ecology of rocky seashores, particularly the influence of disturbance rates on species diversity and the mechanisms that determined patterns of post-disturbance succession. This work was conducted on the coast of California, near Santa Barbara and Bodega Bay. My research focus then shifted to host-parasite interactions in salt marsh habitats of northern California. I studied the impacts of larval trematode parasites on populations of their host snails, as well as the processes that maintain a high diversity of parasites within the system. Most recently, I have been studying the impacts of canopy disturbance by lightning on the structure and dynamics of mangrove forests on the Caribbean coast of Panama.

Faculty web site: <http://ib.berkeley.edu/labs/sousa/index.html>

**Linguistics 24, Section I**  
**Language Myths (1 unit, P/NP)**  
**Professor Larry Hyman**  
**Monday 11:00-12:00, 211 Dwinelle Hall, CCN: 52436**

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](http://linguistics.berkeley.edu/people/person_detail.php?person=19)

**Materials Science and Engineering 24, Section I**  
**Materials and Weapons of War through History (1 unit, P/NP)**  
**Professor J. W. Morris Jr.**  
**Friday 10:00-11:00, 348 Hearst Mining Building, CCN: 53003**

For most of known history, advances in materials technology have appeared primarily in two areas: objects of art and weapons of war. The former build civilization. The latter have often set its course, as critical military engagements from Kadesh to Kosovo have most often been dominated by the forces with the superior technology. In this seminar, we shall use the development of weapons through history as a

vehicle to understand the important properties of different types and classes of materials, and trace their technological development and technical significance across the millennia.

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

Faculty web site: <http://www2.mse.berkeley.edu/ourfaculty/morrisj>

**Materials Science and Engineering 24, Section 2**  
**Physics and Materials Science of Skateboarding (1 unit, P/NP)**  
**Professor Daryl Chrzan**  
**Thursday 10:00-11:00, 285 Cory Hall, CCN: 53006**

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

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

Faculty web site: <http://www2.mse.berkeley.edu/ourfaculty/chrzand>

**Mathematics 24, Section 1**  
**Hands-on Geometry (TBA, P/NP)**  
**Professor Alan Weinstein**  
**Tuesday 2:00-3:30, 939 Evans Hall, CCN: 53714**

What does calculus tell us about the shape of a piece of fruit? The mathematical field of differential geometry uses ideas from calculus to study geometric figures. A central notion in this field is that of curvature, which measures the deviation from "straightness" in curves, surfaces, and geometric objects in higher dimensions. (For instance, the force of gravity may be interpreted in general relativity as coming from the curvature of space time associated with the presence of matter.) In this seminar, each week will feature a presentation of an investigation which will frequently involve the measurement of concrete curved objects, such as bent wires, drinking glasses, or pears.

The main reference for the course will be the book, "Exploring Curvature," by Professor James Casey of our Department of Mechanical Engineering.

Alan Weinstein is Professor Emeritus and Professor of the Graduate School in the Department of Mathematics. His main research area is differential geometry and its applications to physics (including

classical and quantum mechanics, and relativity).

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

**Mechanical Engineering 24, Section 1**  
**Art and Science on Wheels (1 unit, P/NP)**  
**Professor Benson Tongue**  
**Thursday 1:00-2:00, 3119 Etcheverry Hall, CCN: 55353**

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/>

**Mechanical Engineering 24, Section 2**  
**Signals and Synthesizers (1 unit, LG)**  
**Professors Andrew Packard and Benjamin Recht**  
**Thursday 12:00-1:00, 3110 Etcheverry Hall, CCN: 55355**

This seminar explores the engineering concepts behind musical synthesizers, with an emphasis on the analog and modular synthesis. We will cover the rudiments of psychoacoustics and signal processing at the foundation of electronic music. We will analyze the building blocks of modular synthesizers, including oscillators, filters, envelopes, LFOs. Our course will be based on listening and experimentation. We will study classic synthesizer sounds, how to recognize their architecture by ear, and how to replicate them in hardware and software. **Moderate mathematical maturity is required (Math 1A, Math 16A, or AP calculus would be fine).**

Andy Packard is a Professor in the Department of Mechanical Engineering where he researches control system analysis and design. Andy is an amateur musician, and interested in technology as applied to music and sound. He is a co-inventor of the Meyer Sound X-10 Studio Monitor, a feedback controlled vented-box loudspeaker, which redefines large format studio monitors.

Benjamin Recht is an Associate Professor in the Department of Electrical Engineering and Computer Sciences and the Department of Statistics where he researches optimization, statistics, and machine learning. Ben is also an active musician and currently plays baritone guitar and miscellaneous electronics for the acclaimed ambient band The Fun Years. Ben's interactive sound artwork has been exhibited at the ARCO Festival, Madrid, Spain, the Museum of Contemporary Art, Barcelona, Spain, and the ARS Electronica Center, Linz, Austria.

**Media Studies 24, Section 1**  
**Exploring the News (1 unit, P/NP)**  
**Professor Neil Henry**  
**Wednesday 10:00-11:00, 267 Bancroft Library, CCN: 56702**



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

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

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

### **Media Studies 24, Section 2**

#### **Keeping Informed in the Digital Age: Reading the New York Times (1 unit, P/NP)**

**Professor Thomas Goldstein**

**Wednesday 12:00- 1:00, 41 Evans Hall, CCN: 56703**

This seminar will explore what keeping informed means in the digital age. It will also offer strategies on how to be well informed. **I look for eager, enthusiastic students who want to know how to figure out what is going on in the world.**

Tom Goldstein, Director of the Media Studies Program, is the former Dean of the journalism schools at Berkeley and Columbia. He was a reporter at the New York Times, the Wall Street Journal and other newspapers.

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

### **Molecular and Cell Biology 90B, Section I**

#### **Biology as History (1 unit, P/NP)**

**Professor David Weisblat**

**Wednesday 1:00-2:00, 107 Mulford Hall, CCN: 57638**

Why the leech? For thirty-plus years, now, my research has been aimed at understanding how a particular kind of leech (in the genus *Helobdella*) develops from egg to adult. Work in my lab involves a wide variety of techniques drawn from cell and molecular biology, classical embryology, genomics and bioinformatics. This seminar is intended for students who wish to explore and perhaps major in some area of biology, and those interested in any kind of basic research (that is, research driven more by curiosity about how things work than in trying to accomplish something "useful" - like curing a disease). One specific goal would be for me to explain how it is I came to study leech development and how our work fits in to the rest of biology. The general format consists of loosely guided conversations, driven by occasional readings, students' questions and interests.

**This seminar is intended for students who wish to explore and perhaps major in some area of biology, and those interested in any kind of basic research (that is, research driven more by curiosity about how things work than in trying to accomplish something "useful" - like curing a disease).**

Growing up in rural Michigan, I got interested in biology through my hobbies in natural history, especially forestry and entomology. As an undergrad at Harvard, graduate student at Caltech, and in postdoctoral and faculty positions here at Berkeley, I studied chemistry and biochemistry, photobiology, plant physiology, neurobiology and electrophysiology. I never had a course in developmental biology, and yet that's the field in which I've been working quite happily for more than thirty years.

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

**Near Eastern Studies 24, Section I**  
**Animals in Ancient Egypt (1 unit, LG)**  
**Professor Carol Redmount**  
**Tuesday 1:00-2:00, 271 Barrows, CCN: 61515**

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](http://nes.berkeley.edu/Web_Redmount/Redmount.html)

**Nuclear Engineering 24, Section I**  
**Putting the "Science" in Computational Science (1 unit, LG)**  
**Professor Rachel Slaybaugh**  
**Monday 3:00-4:00, 203 Wheeler Hall, CCN: 64003**

Is something science if it's not reproducible? How reproducible is the science involving data and computation? Work in these areas is frequently fraught with version, access, and reproducibility problems, resulting in erroneous results and wasting time and energy.

This course will equip non-EECS majors to begin a career in science or engineering in which you can

- \* create, use, and share structured data;
- \* automate repetitive tasks;
- \* track and share work over the web; and
- \* grow a program in a modular, testable, reusable way.

These skills will save you time and help you work more effectively in many future classes and in your career. This class is for anyone interested in computing and computational science. You do not need to have computing experience (in fact, please do not take it if you are an EECS major). The idea of this class is to help you build the skills to be able to do computing effectively and efficiently. **The idea of this class is to help you build the skills to be able to do computing effectively and efficiently. You do not need to have computing experience (in fact it's not designed for EECS majors).**

Dr. Slaybaugh has been a professor at UC Berkeley since January 2014. Throughout her career Dr. Slaybaugh has been engaged in software carpentry education and training. At Berkeley Professor Slaybaugh is building a research program based in computational methods and applied to existing and advanced nuclear reactors, nuclear non-proliferation and security, and shielding applications.

**Portuguese 24, Section I**  
**Hello Brazil: Literature, Arts, Society (1 unit, P/NP)**  
**Professor Candace Slater**  
**Tuesday 1:00-2:00, 5125 Dwinelle Hall, CCN: 86603**

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

Candace Slater teaches Brazilian literature and culture, as well as courses on the Amazon, 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/>

**Slavic Languages and Literatures 24, Section I**  
**The Mystery and Fascination of the Balkans (1 unit, LG)**  
**Professor Ronelle Alexander**  
**Wednesday 10:00-11:00, 6115 Dwinelle Hall, CCN: 79714**

The Balkans as a region have always fascinated Westerners, ranging from intrepid eighteenth- and nineteenth-century travelers seeking the exotica of "Turkey in Europe" to their modern cohorts who become enamored of Balkan culture, and especially its music—a fascination so great that a group of middle-aged and elderly Bulgarian women who were known at home as The Bulgarian State Television Female Vocal Choir could be marketed in the West as "Le mystère des voix bulgares" (The Mystery of Bulgarian Voices), win a Grammy, and have their songs used on the soundtrack of Xena: Warrior Princess. But the Balkan region is fascinating in a negative sense as well, that sense which has given our language the verb "to balkanize", defined by Merriam-Webster as "to break up (as a region or group) into smaller and often hostile units." In this class we will explore two basic questions about the Balkans: What is it that makes the region such a land of contradictions and fascination? And why—especially after the intense media attention to the violent breakup of Yugoslavia—does it remain so little understood? **No prerequisites. All interested students are welcome, both those with a Balkan background and those who know nothing about the area.**

Ronelle Alexander, Professor of Slavic Languages and Literatures (Ph.D., Harvard University), has been involved with the Balkans since she was an undergraduate. She has visited all regions of Bulgaria and former Yugoslavia, and has done extensive field work in villages throughout the southern and southeastern Balkans. Her research interests include dialectology (the relations between different geographical varieties of speech), folklore (especially the language of oral epic), and sociolinguistics (especially the relation between language and identity as connected with the breakup of Yugoslavia).

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

## **Spanish 24, Section I**

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

**Professor Milton Azevedo**

**Wednesday 11:00-12:00, 5125 Dwinelle Hall, CCN: 86187**

For centuries fiction authors have used literary dialects containing nonstandard spelling and regional syntax and vocabulary to represent colloquial and regional speech, foreigners' talk, and mixed languages. Our goal in this seminar is to read passages from some of their works, analyze the ways in which nonstandard speech is represented in writing, and use that analysis as a point of departure for commenting on social and cultural implications of language variation. Spanish and English literary works to be read will include Mark Twain's *Adventures of Huckleberry Finn* and Guillermo Cabrera Infante's *Tres Tristes Tigres*. The seminar is taught in English with readings in both English and Spanish. Regular class attendance is a strict requirement, and grades will be based on required participation in class discussions and a final oral presentation on an individual project. The reader will be available at the Copy Central on 2576 Bancroft Avenue. **Although the seminar is conducted in English, students must be comfortable with Spanish—they need to understand spoken Spanish and be able to read Spanish with some fluency—about the equivalent of four years of high school Spanish minimum. PLEASE NOTE: THIS IS NOT A CONVERSATION COURSE. Students interested in taking a course focusing on conversation or otherwise improving their ability to speak Spanish should see the Undergraduate Assistant in the Department of Spanish and Portuguese.**

Professor Milton Azevedo received his Ph.D. in Linguistics from Cornell University and has been at UC Berkeley since 1976. He has offered this seminar since spring 1999.

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

## **Vision Science 24, Section I**

### **The Human Eye (1 unit, P/NP)**

**Professor Richard C. Van Sluyters**

**Friday 2:00-4:00, 394 Minor Hall, CCN: 66403**

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

This seminar will include a series of instructor-led discussions on the structure and function of the human eye and its appendages. The use of 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 2**  
**Myths, Mysteries and Discoveries in Medicine (1 unit, P/NP)**  
**Professor Patsy Harvey**  
**Friday 2:00-4:00, 491 Minor Hall, CCN: 66406**

**This seminar will meet for seven weeks on the following dates in 2016: January 22; February 5, 12, 19 and 26; and Mar. 4 and 11.**

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

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

## FRESHMAN AND SOPHOMORE SEMINARS

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

**Computer Science 39R, Section I**  
**Symmetry and Topology**  
**(2 units, P/NP)**  
**Professor Carlo Sequin**  
**Monday 4:00-6:00, 606 Soda Hall, CCN: 25892**

Symmetry plays an important role in art, fashion, architecture, engineering, computer modeling, biology, and in all the sciences in general; as well as in music, poetry, and psychology. We will explore its use in several of these domains. We will enumerate all possible types of symmetry and establish a rigorous understanding of them. We will start with simple mirror images, proceed through wallpaper patterns and hyperbolic tilings, finishing up with the symmetry of 4-dimensional "Platonic" solids.

Topology focuses on the connectivity of objects or of abstract constructions; it is important in the design and analysis of complicated shapes. It also allows us to extend the notion of symmetry to the interconnectivity of networks and to "regular maps" on surfaces of arbitrary genus (smooth donuts with one or more holes). We will get familiar with all surfaces of low genus, including Moebius bands, cross-caps, and Klein bottles.

The goal of this course is to give the participants a good enough understanding of the basic principles of symmetry and topology, so they can put this understanding to good use in their future studies.

This course, even though offered by the CS Division, will involve no computer programming, but will occasionally ask participants to construct models from paper, clay, or pipe-cleaners.

Carlo H. Sequin has been a Professor in the EECS Computer Science Division since 1977. He has taught courses concerning the design of integrated circuits, micro processors, and campus buildings. He has also taught courses on geometric modeling with hands-on assignments in the design and fabrication of mechanical puzzles, artistic maquettes, and mathematical visualization models. Outside of the classroom he has made use of symmetry and topology in the layout of solid-state image sensors at Bell Labs, in the design of the first RISC (reduced instruction set computer) chips with Professor Dave Patterson (CS), in the conception and construction of Soda Hall, the current home of the CS Division, and in the generation of various large-scale geometrical sculptures with artist Brent Collins from Gower, MO.

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

**Earth and Planetary Science 39B, Section I**  
**Do-It-Yourself Experimental Atmospheric Science (3 units, LG)**  
**Professors Inez Fung and Holly Maness**  
**Tuesday 3:00-6:00, 325 McCone Hall, CCN: 19017**

Design, build, measure! Experience the full cradle-to-grave process underpinning modern observational experiment. If you've ever wanted to learn about photodiodes, statistical data analysis, waveplates, radiative transfer, amplifiers, computer control, and absorption spectroscopy all at the same time, this is the course for you. At a meta level, you will learn the basics of experimental design—how to ask a scientific question, estimate instrument requirements, and identify components. You will learn too how

to build, calibrate, and test your instrument. Ultimately, you will deploy your instrument in the field and interpret your measurements in the context of a home-brew radiative transfer model. Completion of this course will arm you with the tools and confidence necessary to tackle scientific questions that will invariably arise as you continue to explore your world. **Prerequisite: Physics 7B, or email Holly Maness (maness@berkeley.edu).**

Inez Fung is an atmospheric scientist, jointly appointed in the Department of Earth and Planetary Science and the Department of Environmental Science, Policy and Management. She is also the co-director of the Berkeley Institute of the Environment, a member of the National Academy of Sciences, and a contributing author for the International Panel on Climate Change Third and Fourth assessment reports. Inez's research focuses on biogeochemical cycles, particularly carbon-climate interactions and the hydrologic cycle. She has worked extensively on climate modeling, as well as interpretation of satellite and field measurements.

Faculty web site: <http://www.atmos.berkeley.edu/~inez/>

Holly Maness is an NSF/SEES fellow in atmospheric science, appointed in the Department of Earth and Planetary Science and affiliated with Lawrence Berkeley National Lab. She has worked on a broad range of topics, including vehicle emissions modeling and transport, forest disturbance and its interaction with climate, and star and planet formation. Her recent research focus has been on developing instrumentation to measure greenhouse gas emissions in urban areas.

**Environmental Science, Policy, and Management 39C, Section I**  
**Can We Talk? Faculty-Student interactions on a 21st Century Campus (1.5 units, P/NP)**

**Professor Kate O'Neill**

**Tuesday 4:00-5:30, 106 Mulford Hall, CCN: 29203**

The interaction between professors and students outside of class is a vital component of learning, for both. This seminar examines how professors and students on the Berkeley campus interact and communicate, based on observations that such communication is getting harder and less fruitful. It also examines some of the challenges students face in making connections with faculty, whether in office hours or in other contexts. With new (and changing) technologies and social media platforms, more commitments, and busier schedules (on faculty and student sides), the traditional office hour/e-mail model is breaking down. Also, with so many options for communication, there's more confusion than clarity about how best to reach out, but also a lot of curiosity: how do people on a university campus use different modes of communication across different parts of their lives? How do we balance face-to-face with non-face-to-face time in our work/learning lives? Participants will learn about these issues with their peers and with faculty, interviewing select professors and engaging them in conversation about the means and ends of faculty-student communication. Taught by a member of the Resident Faculty Program, this course is about identifying some of the problems, and gathering and collating data that should dispel some myths on both sides as well as push the conversation forward. Students will also learn and practice interview techniques. More broadly, we hope to continue that work beyond the semester, and build a cohort of students (and faculty), to identify possible solutions, both social and technological, that might be deployed on this campus to enhance this critical part of the learning experience. **This seminar is part of the Connections@Cal initiative.**

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.

### **Jewish Studies 39M, Section I**

#### **Hasidim, Mitnagdim, Haskallah–Jewish Society in Eastern Europe (2 units, LG)**

**Shmaryahu Brownstein**

**Wednesday 2:00-4:00, 332 Giannini Hall, CCN: 47803**

During the eighteenth and nineteenth centuries in Eastern Europe, Jews divided themselves into different social groupings, primarily the Jewish orthodoxy, the Jewish Enlightenment, and the colorful Hasidim. These groups were often at odds with each other, generating heated controversy and acrimony, and at times joined forces against common enemies. How and why did these groups arise? What were their ideologies, and what were the tactics of their struggles? How did they shape Jewish society today, and in what forms do they persist? These are some of the questions we will examine in this class.

Shmary Brownstein is a doctoral student in the Near Eastern Studies Dept. at UC Berkeley, focusing on rabbinics. He received his MA at the Graduate Theological Union, and wrote a thesis on the topic of continuity and innovation in Habad Hasidism. He also serves as a community rabbi at Chabad of Davis, CA, where he has taught Hasidic thought for over a decade. Shmary's work grapples with the nexus of Hasidism and modernity.

### **Jewish Studies 39N, Section I**

#### **Holocaust History, Memory, and Representation (2 units, LG)**

**Rebecca Golbert**

**Monday 2:00-4:00, 332 Giannini Hall, CCN: 47806**

This course introduces students to the history and literature and art of the Holocaust. It explores Jewish life in Europe before, during, and after the Holocaust period and examines the physical and emotional impact of the Holocaust on Jewish community, memory, and identity and on Jewish relations with non-Jewish neighbors. The course will also explore the role and significance of Holocaust representation in art, film, and memorials. The course will draw on a range of disciplinary approaches in exploring this difficult subject matter—using historical and archival texts, memoir and autobiography, social scientific approaches to memory and identity, artistic and photographic representations, documentary and feature film, graphic cartoons, and the novel. We will ask how each approach shapes our social and historical perspective and what each approach contributes to our understanding of Holocaust history and the Holocaust experience. Certain fundamental questions will emerge through our exploration: What is the meaning of human existence after the Holocaust? What is the possibility of reconciliation after the Holocaust? **Students should be serious about engaging with the topic of Holocaust history, memory, and representation through a variety of mediums and from a number of diverse disciplinary perspectives. We will use different kinds of texts, film, and art to explore the topic. Students should come to class prepared to engage in rich discussion in a lively seminar format.**

Rebecca Golbert is the Executive Director of the Institute for Jewish Law and Israel Studies. She received her doctorate in social anthropology from the University of Oxford under the supervision of Jonathan Webber, a leading anthropologist of modern Jewry. She also earned her B.A. in anthropology from Princeton University and a Master of Dispute Resolution degree from the Straus Institute for Dispute Resolution at Pepperdine University School of Law.

Golbert's scholarly work reflects overlapping interests in Jewish and Holocaust studies, anthropology and ethnography, and conflict resolution and mediation. Her doctoral and postdoctoral research focused on Ukrainian Jewish community and identity and Holocaust memory and memorialization within post-Soviet Ukraine. Golbert has held fellowships at the United States Holocaust Memorial Museum and the National Council for Eurasian and East European Research and is the recipient of an award from the International



Mediation Leadership Summit of the American Bar Association.

In her previous role as Visiting Assistant Professor of Jewish Studies and Associate Director of the Glazer Institute for Jewish Studies at Pepperdine University, Golbert focused on student support and academic programming, developing courses for undergraduates; organizing art exhibitions, panels, and lecture series; and collaborating with other faculty and University institutions on campus-wide programming. At the Berkeley Institute, Golbert oversees the activities of the Institute's two programs as well as its broader work supporting students and faculty.

Faculty web site: <http://www.law.berkeley.edu/php-programs/faculty/facultyProfile.php?facID=17694>

**Theater, Dance, and Performance Studies 39, Section 1  
Movement, Awareness, and Learning (2 units, P/NP)**

**Professor Marianne Constable**

**Thursday 12:00-2:00, 2401 Bancroft Avenue (small studio), CCN: 88169**

How do we learn? How do we learn to learn? What do feeling, sensing, thinking, and doing have to do with learning? What does movement have to do with all of these? (How) can one become more aware of oneself in movement? This weekly seminar will have two parts: during the first 50 minutes, you will do a Feldenkrais Method (R) Awareness-through-Movement lesson; then, after a short break, we will discuss the lesson and/or short readings tailored to your interests. You will be asked to do some light writing. No previous experience with dance or Feldenkrais is required.

**Open to the open-minded...**

Marianne Constable is a Professor in the Department of Rhetoric who specializes in legal history and philosophy. She has been a certified Feldenkrais practitioner since 2005. She learns a lot from Feldenkrais classes—about moving, learning, and teaching—and hopes you will also find them to be fun and interesting.

**Theater, Dance, and Performance Studies 39, Section 2**

**Green Futures: Artistic, Scientific, and Philosophical Imaginings of a Sustainable Society (2 units, LG)**

**Professor Abigail De Kosnik**

**Thursday 10:00-12:00, 340 Moffitt Hall (BCNM Commons), CCN: 88171**

Plenty of warnings about an impending climate-related apocalypse are in circulation today. But can we imagine a society that would be ecologically sustainable over the long term? Rather than focusing on ideas of large-scale collapse, this course will explore writings and media pertaining to ways of human life that don't rely on petroleum for energy, and that cooperate with nature rather than utilize it as a resource. We will read texts from many genres that dwell on the possibility of a "green future," ranging from political philosophy to memoir to DIY/how-to. We will also watch films that thematize ecological crisis and potential solutions, such as *An Inconvenient Truth* (2006), *Mad Max: Fury Road* (2015), and *Avatar* (2009). **This is open to any student interested in ecological/environmental issues.**

Abigail De Kosnik is an Associate Professor at the University of California, Berkeley with a joint appointment in the Berkeley Center for New Media (BCNM, [bcnm.berkeley.edu](http://bcnm.berkeley.edu)) and in the Department of Theater, Dance & Performance Studies (TDPS, [tdps.berkeley.edu](http://tdps.berkeley.edu)). Her book on digital archives is forthcoming from MIT Press in 2016. She has published articles on media fandom, popular digital culture,

and performance studies in *Cinema Journal*, *The International Journal of Communication*, *Modern Drama*, *Transformative Works and Cultures* and elsewhere. She is the co-editor, with Sam Ford and C. Lee Harrington, of the edited essay collection *The Survival of Soap Opera: Transformations for a New Media Era* (University Press of Mississippi, 2011). She and Sam Ford also wrote the annotated bibliography on “Soap Operas” for *Oxford Bibliographies Online (OBO)*.

Faculty web site: <http://tdps.berkeley.edu/people/abigail-de-kosnik/>

## 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**

#### **Race, Gender, and Social Life in Honduras: Reading Over the Shoulder of People in the Past (1 unit, LG)**

**Professor Rosemary Joyce**

**Tuesday 10:00-11:00, 225I College Avenue, CCN: 02540**

This seminar introduces students to how we learn about people in the past through the use of archival documents. Working with digital copies of documents from the colonial Spanish archives in Sevilla, Spain, Guatemala, and Comayagua, Honduras, we will "read over the shoulder" of the writers whose words form one of our most immediate links to Spanish colonial Honduran life. Students will learn how to locate archival documents online; how to read colonial handwriting; and how we can begin to understand more about society from even brief documents, like receipts for serving as a courier. Working together, we will discuss several longer documents about the lives of native Americans who were obliged to work for Spanish citizens and petitioned for relief, about free black residents of a military fort, and about illegal trade in sugar, rum, and tobacco. **This course is ideal for students interested in Latin American history, ethnic studies, or Central America, past and present, as well as those who simply want to learn how researchers use original documents. This seminar involves learning how to read handwritten Spanish colonial documents. It will be conducted in English, although you'll be reading historic documents written in Spanish. You should be comfortable reading basic Spanish documents like letters or newspaper articles (most participants with two years of high school Spanish or equivalent will be comfortable).**

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>

### **Anthropology 84, Section 2**

#### **The Fact and Fiction of Looking at Ancient Bones: Stories and Research in Contemporary Bioarchaeology (1 unit, LG)**

**Professor Sabrina Agarwal**

**Wednesday 10:00-11:00, 180 Barrows Hall, CCN: 02542**

Popular television shows, movies, novels, and online BuzzFeed stories often describe reconstructions of things like the race, biological sex, age, sexual orientation, DNA, religious beliefs, activity patterns or diet from ancient human skeletons. Can scientists really do these things? What is the actual science behind the techniques they use? How accurate is the data that we get from ancient skeletons? In this seminar we will talk about the ways that scientists reconstruct the past lives of people from their bones, and explore the types of questions they can and cannot answer. The goal of the seminar is to gain background in the area of contemporary bioarchaeology and develop a critical eye to evaluate stories and research on human skeletons. **It is recommended that students have taken either or both the**

**Introduction of Biological Anthropology or Introduction to Archaeology course. While the course is one unit, it is a letter grade course and students are expected to attend and actively participate in discussion. Grading is weighted at 60% for active and prepared participation; 20% for small assignments and 20% for a short final presentation.**

Professor Sabrina Agarwal is an Associate Professor of Anthropology. Her research interests are focused broadly upon the age, sex and gender-related changes in bone quantity and quality, particularly the application of biocultural and developmental approaches to the study of bone maintenance and fragility. She has examined age-related changes in bone microstructure in several historic British and Italian samples and prehistoric archaeological populations from Turkey and Japan, and examined the long-term effect of growth and reproduction on the human and non-human primate maternal skeleton. She has authored several related scholarly articles, and co-edited several edited volumes, most recently the volume Social Bioarchaeology.

Faculty web site: <http://anthropology.berkeley.edu/people/sabrina-c-agarwal>

**Economics 84, Section I  
Buddhist Economics (2 units, P/NP)  
Professor Clair Brown  
Wednesday 3:00-5:00, 2521 Channing Way, Berkeley, CCN: 22384**

**Meeting dates: February 17 and 24; March 2, 9, 16, and 30; and April 6, 2016.**

In Buddhist Economics, we will explore basic economics concepts and ask how Buddha might have taught them. Some questions that we address are these: What creates happiness? What is an equitable distribution of income? How is our own well-being related to the well-being of others? Does economic growth and having more income make people better off? How would Buddha revise the basic assumptions of modern economics? **Buddhist Economics is open to all sophomore students who have taken a course in economics (e.g., in high school, or Econ I), and who have an open mind to explore putting the human spirit in economics. With an emphasis on sustainability and reducing suffering globally, this course is based on the professor's popular book (in progress) with the same title. Come explore making economics meaningful!**

Clair Brown has published research on many aspects of the labor market, including high-tech workers, labor market institutions, firm employment systems and performance, the standard of living, wage determination, and unemployment. Clair taught Econ I for many years, and practices Tibetan Buddhism with Anam Thubten Ripoché in Point Richmond. Her books include *American Standards of Living, 1919-1988* (Blackwell, 1994), *Work and Pay in the United States and Japan* (Oxford University Press, 1997), *Economic Turbulence* (University of Chicago Press, 2006), and *Chips and Change: How Crisis Reshapes the Semiconductor Industry* (MIT Press, 2009, 2011). Clair is working on developing a holistic measurement for economic performance for California. She is also a faculty leader in the Development Engineering program for graduate students.

Faculty web site: [http://www.irl.berkeley.edu/faculty/brown/Brown\\_CV.pdf](http://www.irl.berkeley.edu/faculty/brown/Brown_CV.pdf)

**English 84, Section I  
High Culture/Low Culture and the Films and Writings of Woody Allen (2 units, P/NP)  
Professor Julia Bader  
Wednesday 2:00-5:00, 300 Wheeler Hall, CCN: 28303**

We will examine the films and writings of Woody Allen in terms of themes, narration, comic and visual inventiveness and ideology. The course will also include a consideration of cultural contexts and events at Cal Performances and the Pacific Film Archive. **Sophomores interested in learning about cultural studies, acquiring film criticism skills and expanding their cultural horizons with emphasis on techniques of film comedy would be the ideal audience. This seminar is part of the Connections@Cal 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>

### **Media Studies 84, Section I**

#### **Internet Memes: What Are They? How Do They Work? (1 unit, P/NP)**

**Professor William J. Drummond**

**Monday 2:00-3:00, 214 Haviland Hall, CCN: 56705**

Social Media Memes and Their Cultural Implications: What We Can Learn from Sweet Brown

The class explores memes (interviews, social media segments, graphics) that have been shared via social media, reaching millions of international views. Meme subjects (Antoine Dodson, Sweet Brown) have become international "celebrities," with TV, book and product deals. Some of these memes have, in time, become money-making "brands" with product endorsements as well.

We will examine/define the meme concept. How are memes created? What elements are required (a catchy phrase? a news event? colorful character?)? What's the life cycle of a meme? How and why do they become viral? How can the subject of a news story become an actual meme and story? What is social media's role? What are the cultural implications? **This course is intended for students who want to learn about media and how cultural messages are transmitted and gain power and velocity.**

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

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

### **Rhetoric 84, Section I**

#### **An Introduction to Public Speaking (1 unit, P/NP)**

**Professor Daniel F. Melia**

**Tuesday 1:00-2:00, 2311 LeConte Ave. (The Berk), CCN: 77875**

The class is an introduction to the principles and practice of persuasive public speaking. **The course will be taught (slightly) off-campus at The Berk on Arch Street, home of the Bowles Hall Residential College Phoenix Group. Any Sophomore interested in learning effective public speaking is welcome.**

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](http://rhetoric.berkeley.edu/people.php?page_id=1056&p=62)