Freshman & Sophomore Seminars at Berkeley

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

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

- Updates to the seminar lists included in this document on easy-to-follow web pages
- Revisions to this document
- Pop-up menus to help students find seminars of interest based on seminar topics
- Information regarding the Food for Thought Seminar series, a wonderful way for faculty and students to get better acquainted in an informal setting before or after class

L&S Discovery Courses

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

This document was last updated on April 5, 2019.
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
Researching "Mixed-Race" History and Image in the United States

(1 unit, P/NP)
Professor Stephen Small
Tuesday 10:00-12:00, 104 GPB, Class number: 32597

Class will meet for the first 7 weeks at 2 hours per week, beginning September 3, 2019

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

Any and all freshman students welcome.

Prof. Stephen Small, PhD. has taught in the Department of African American Studies since 1994. He teaches courses on race, class and gender of the African diaspora in Europe and the American, and people of mixed racial origins in the United States. He wrote his Ph.D. dissertation on people of mixed origins in the Caribbean during slavery; he taught a course in the Department of Ethnic Studies on people of mixed origins; and he has taught this course for the last fifteen years. He is the co-editor of the book Global Mixed Race. His father is black and mother white. He was born and raised in Liverpool, England, the city with the longest-standing population of people of mixed race.

Faculty web site: https://africam.berkeley.edu/people/stephen-a-small/

American Studies 24, Section 1
On "There There" and Oakland, California (1 unit, P/NP)
Professor Richard Hutson
Monday 1:00-2:00, 279 Dwinelle Hall, Class number: 25285

Tommy Orange’s novel “There There” depicts a relatively small group of contemporary Native Americans living in Oakland, California. The novel is complex, depicting characters of all ages. I would like to engage us in a careful, close reading of the novel, and try to expand our knowledge to think about the city of Oakland also. As one of the characters says, “I feel bad sometimes even saying I’m Native. Mostly I just feel like I’m from Oakland.” We can look at some other stories about Oakland, such as the recent film “Blindspotting.” Class discussion will be expected. A short paper, 3-5 pages, will be due during finals week.

I am highly respectful of Berkeley students in general. I think students with an interest in the United States (history, literature, culture, political) are likely to be interested in a course that looks at a contemporary novel and ethnic experience in
our neighborhood of Oakland. This seminar is part of the On the Same Page initiative.

I am a Professor emeritus of English and American Studies. I came to UCB in Fall of 1964, retired officially in 2009 and have continued to teach as a callback through Spring 2018. I have team taught a number of courses with a Native American Professor on the American West after the Civil War. I also taught a course on wars against Native Americans by the Puritans and courses in general on the American West, its culture and literature. I have taught AC courses emphasizing the literature of the late 19th and early 20th centuries and assigned Native American texts of the period.

Faculty web site: http://english.berkeley.edu/profiles/40

Bioengineering 24, Section 1
A History of Biology in Science Fiction (1 unit, P/NP)
Professor Terry Johnson
Monday 4:00-5:00, 2062 Valley Life Sciences Building, Class number: 30963

The science fiction of a particular period often reflects the cultural struggles and anxieties of that time, while drawing inspiration from contemporary scientific discovery. In this course, we will examine fiction (primarily English-language short stories, novels, radio plays, television, and film). We'll consider the actual biological science behind them (as it was understood at the time that the text was written), the ways in which authors apply and extrapolate science in their narratives, and to what ends. We'll also discuss a few trends in science fiction, and how these trends have changed over time, and explore why. This seminar is part of the Food for Thought Seminar Series.

Terry D. Johnson has a master's degree in chemical engineering from MIT and is currently an Associate Teaching Professor of bioengineering at UC Berkeley. He hopes that by teaching in this field, he will be giving students the tools that they will need to repair him as he gets older.

He teaches courses in a wide range of subjects, displaying a versatility that has prevented him from achieving any actual expertise. In 2010 he received the Golden Apple Award for Outstanding Teaching, and was one of the recipients of Berkeley's 2013 Distinguished Teaching Awards. He is also co-author of the popular science book How to Defeat Your Own Clone (and other tips for surviving the biotech revolution).

Civil and Environmental Engineering 24, Section 1
Waves: Ideal, Real, and In-Between (1 unit, P/NP)
Professor Evan Variano
Monday 12:00-1:00, 544 Davis Hall, Class number: 28122

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

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

**Classics 24, Section 1**  
**Lucretius’ *On the Nature of the Universe* (1 unit, P/NP)**  
**Professor Dylan Sailor**  
**Thursday 2:00-3:00, 225 Dwinelle Hall, Class number: 32736**

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

Professor Sailor grew up in western Washington state but has lived in California for many years. He studied Classics and History at the University of Washington and received a PhD in Classics from Berkeley. After finishing his PhD, he taught at UC San Diego in the Literature Department, before coming back to teach in the Classics Department at Berkeley. His research mostly concerns the literature and culture of ancient Rome, and has focused on how the Romans wrote about their own history.

Faculty web site: http://www.classics.berkeley.edu/people/dylan-sailor

**Computer Science 24, Section 1**  
**Berkeley through the Lens (1 unit, P/NP)**  
**Professor Brian Barsky**  
**Friday 12:00 to 2:00, 606 Soda Hall, Class number: 28726**

The class will not meet every week. Professor Barsky will work out exact arrangements directly with the students.

Students in this seminar will actively examine UC Berkeley “through the lens” on a photographic journey emphasizing activism and political engagement on campus, both historically and recently. In addition to exploring photographic technique in general, this seminar will stress awareness of both historical and current events. The objectives of this class include improving skills for both photographic technique and civic engagement. This seminar will study photographs and learn photographic technique. The seminar has photography assignments: students are required to take photographs on a weekly basis. These photographs will be critiqued in class as time permits.

Students should have background and experience in photography. Students must have access to a camera to do the course assignments. Recommended specifications for the camera include manual control of exposure and focus and the capability of changing the focal length (wide-angle and telephoto).  
**The seminar emphasizes civic engagement and is not intended to be primarily a photography course. Political discussion will be an integral part of the seminar.**

Current as of 4/5/19. For updates, visit the website at http://fss.berkeley.edu
Class participation is essential. The class generally includes visits to campus museums, galleries, and archives.

Attendance at all classes and other course-related activities is required to receive a "pass" grade, except for prior arrangement with the instructor or documented emergencies. "Guidelines Concerning Scheduling Conflicts with Academic Requirements" state "faculty may decline to enroll students in a class who cannot be present at all scheduled activities".

This seminar is not about the subject of computer science even though it is offered through the Computer Science Division. Students from all academic disciplines are welcome and encouraged to enroll.

Field trip information and Food for Thought dining details will be discussed in class. Enrollment is by instructor approval. Students interested in enrolling should email the professor at barsky@berkeley.edu. This seminar is part of the Food for Thought Seminar Series.

Brian Barsky received his Ph.D. from the University of Utah in Computer Science. His research interests include computational photography, contact lens design, computer methods for optometry and ophthalmology, image synthesis, computer aided geometric design and modeling, CAD/CAM/CIM, interactive and realistic three-dimensional computer graphics, visualization in scientific computing, computer aided cornea modeling and visualization, medical imaging, vision correcting displays, and virtual environments for surgical simulation.

Faculty web site: http://people.eecs.berkeley.edu/~barsky

Earth and Planetary Science 24, Section 1
Death by water: predicting hydrological extremes (1 unit, P/NP)
Monday 4:00-5:00, 55A McCone Hall, Class number: 24398

Floods, tropical cyclones, drought, and other extreme weather events kill tens of thousands of people around the world every year, injure and displace millions more, and produce great economic damage. The risk of severe weather impacts is also changing because of long-term variability and trends in climate and in the distribution of human populations. In this seminar we will write computer code to predict hydrological extremes. We will use the Python language to analyze historical data and test new algorithms that might be useful in forecasting future floods and drought. All levels of coding experience (even none) are welcome; we will work as a group on a range of tasks, explore data, and learn from one another. A laptop that can run a web browser is required; students who don’t have access to one should contact the instructor in advance of the first class.

Earth and Planetary Science 24, Section 2
Story of the Earth in 15 Rocks (1 unit, P/NP)
Professor Chi-Yuen Wang
Wednesday 11:00-12:00, 55A McCone Hall, Class number: 24422

The story of the Earth is written in rocks. This course tells the story of the Earth through the stories of some interesting rocks. Freshmen and sophomores who are interested about the Earth.

Professor Chi Wang has had an intense interest in various aspects of water for nearly thirty years and has taught both lower- and upper-division courses on this subject. He has published numerous papers on water-related subjects, ranging from recent flooding in some deserts on the margin of Tibet to how earthquakes affect groundwater and the surface water such as stream flow.

Faculty web site: http://eps.berkeley.edu
**Education 24, Section 1**
Hot Topics in Higher Education (1 unit, LG)
Ms. Ellen Switkes
Tuesday 3:00-5:00, 768 Evans Hall, Class number: 32585

This seminar will meet for 8 weeks from August 28 through October 23, 2018. There will be no class on September 18.

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

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

**English 24, Section 1**
Walt Whitman (1 unit, P/NP)
Professor Bryan Wagner
Tuesday 2:00-3:00, 180 Barrows Hall, Class number: 32660

We will read and discuss extraordinary poems by Walt Whitman.


Faculty web site: https://english.berkeley.edu/profiles/74

**English 24, Section 2**
Here Here in Tommy Orange's There There (1 unit, P/NP)
Professor Hertha D. Sweet Wong
Tuesday 12:30-1:30, 305 Wheeler Hall, Class number: 32673

Tommy Orange’s story cycle, There There, depicts the lives of contemporary indigenous people in Oakland, California. Shaped by transgenerational trauma, Orange's characters nonetheless survive. Countering romantic stereotypes of the Noble Red Man, children of Nature, or the ecological Indian, these Oakland natives are the urban indigenous. There There counters Gertrude Stein’s famous pronouncement that in Oakland “there is no there there.” A character itself, Oakland is described, mapped, and traversed. In this seminar, we will practice close reading, review indigenous history (particularly, how the Indian Relocation Act of 1956 encouraged native people to move from reservations to urban centers), and place There There in the context of 20th- and 21st-century Native American literature. Finally, we will go on a field trip or two to Oakland to walk in the steps of Orange's characters.
and navigate their urban interactions. **This seminar is part of the On the Same Page initiative.**

Hertha D. Sweet Wong is Professor of English and Associate Dean of Arts and Humanities. She teaches American literatures, indigenous literatures, autobiography, and visual culture.

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

**Environmental Science, Policy, and Management 24, Section 1**  
**Issues in Natural Resource Conservation (1 unit, P/NP)**  
**Professor David Wood**  
**Friday 9:00-10:00, 107 Mulford Hall, Class number: 26806**

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

Professor Wood's research interests include host-selection behavior of forest insects, chemical ecology, the biology and ecology of bark beetles, forest pest management, the biodeterioration of wood by insects, and insect/pathogen/tree interactions. In 1995 he was awarded the Berkeley Citation for distinguished service to the University.

Among his numerous publications, he recently co-authored three research papers, one that is published in Forest Ecology and Management, one in Forest Science and one in Environmental Entomology.

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

**Environmental Science, Policy, and Management 24, Section 3**  
**Discussions on Evolutionary Biology (1 unit, P/NP)**  
**Professor Philip Spieth**  
**Tuesday 2:00-3:00, 225 Dwinelle Hall, Class number: 26808**

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

Philip T. Spieth is an Emeritus Professor in the Department of Environmental Science, Policy, and Management who worked with computer models of evolution and studied genetic variation in natural populations of fungi. He joined the faculty of the former Department of Genetics in 1971 and taught population genetics for thirty years at UC Berkeley in both introductory genetics courses and in courses for advanced undergraduates and graduate students and has been a co-author of a general genetics textbook. He created and has taught Discussions on Evolutionary Biology since the inception of the freshman seminar program in the early 1990's. For eleven years he served as director of operations for the National Center for Science Education, a nonprofit organization devoted to the teaching of evolutionary biology and climate change science in public schools.
Ethnic Studies 24, Section 1
Queer Latinx Studies: Theory in the Flesh (1 unit, P/NP)
Professor Raul Coronado
Wednesday 12:00-1:00, 122 Wheeler Hall, Class number: 26372

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

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

Ethnic Studies 24, Section 2
Documenting Marginal Lives (1 unit, P/NP)
Professor Juana María Rodríguez
Wednesday 11:00-12:00, 180 Barrows Hall, Class number: 26390

In this Freshman Seminar, we will learn to use the bibliographic resources of UC Berkeley to document the lives, issues, achievements, and scholarship of people of color on Wikipedia with a special emphasis on queer and transgender people. Rather than weekly assigned readings, students will primarily be reading and researching independently outside of class in order to add academically supported material to
Wikipedia. In class, we will focus on research skills and strategies; writing clear prose and supporting our writing with well documented academic sources; reviewing each other’s work and making revisions. Students will learn about various library databases, strategies for researching marginalized and under-represented populations, how to create their own research bibliographies, and how to edit Wikipedia. **I hope to attract students interested in using Wikipedia to explore the intersections of race and sexuality.** No prior Wikipedia experience is required. This seminar is part of the Food for Thought Seminar Series.

Juana María Rodríguez is Professor of Ethnic Studies at UC Berkeley and teaches about queer of color theories and activism; LGBTQ communities; Latinx popular culture; law; and media studies. She is the author of two books, Queer Latinidad: Identity Practices, Discursive Spaces (NYU Press, 2003) and Sexual Futures, Queer Gestures, and Other Latina Longings (NYU Press 2014) and has published widely in both academic and popular journals nationally and internationally.

Faculty web site: http://ethnicstudies.berkeley.edu/people/faculty-profile/juana-maria-rodriguez

**Gender and Women's Studies 24, Section 1**  
**Korea and ___: Understanding interconnectivity through Korean topics** (1 unit, P/NP)  
**Professor Laura Nelson**  
**Monday 12:00-1:00, 602 Barrows Hall, Class number: 32806**

Understanding–and understanding how to grasp–the interconnectivity of everything is a fundamental goal of scholarship. In this course we will focus on connections within Korean culture, and between Korea and elsewhere/other, to model forms of analysis and understanding. Starting questions will include K-dramas: Where did they come from, and where do they go? The “Korean War”: What were its preludes, and what are its legacies? Why are there so many Korean churches in North America? Why is North Korea so isolated? We will explore the qualities of different forms of scholarship through topical explorations focused on the social and geographical location “Korea.” **This seminar is part of the Food for Thought Seminar Series.**

Laura C. Nelson is Associate Professor and Chair of Gender and Women's Studies at UC Berkeley. She received her PhD in Anthropology at Stanford, and holds a Master's in City and Regional Planning from UC Berkeley with a focus on housing and community economic development. Her current research project is a study of breast cancer as a medical, cultural, personal, environmental, political and transnational phenomenon in South Korea. She is also in the early stages of a project looking at policies pertaining to the children of immigrant brides in South Korea. Her first book, Measured Excess: Status, Gender, and Consumer Nationalism in South Korea (Columbia University Press, 2000) utilized ethnographic and media materials to examine ways how institutions shaped consumer culture in pursuit of national goals during the period 1960-1997.

**Geography 24, Section 1**  
**The Political Present** (1 unit, P/NP)  
**Professor Michael Watts**  
**Wednesday 12:00-1:00, 575 Mc Cone Hall, Class number: 25274**

The purpose of this seminar is to explore the contours of what we might call the American ‘political present.’ President Trump is one expression of this juncture but the goal is not to spend time on his presidency as such–or his latest tweets, or indeed the ever-changing cast of characters in the White House. This seminar is not simply another excuse to provide an inventory of the latest tweets from President Trump (or sing his praises, I suppose). Rather, I want to focus on ideas, both conservative and liberal ideas, and how and under what economic, social and cultural circumstances a set of beliefs about government, liberty, freedom etc., came to hold (and apparently continue to hold) enormous appeal for many American voters: that is to say, people who voted for President Trump and his vision of America,
of American greatness, of the undoing of the “administrative state,” of political life (‘Washington elites,’
the ‘swamp’), of a robust nationalism and anti “global elites,” of America’s role in the world, and so on.
These ideas are typically referred to as “populist”--or “authoritarian populist”--and are seen to have
broad appeal across large swaths of Western Europe and beyond (from Brexit to Hindutva). But what
exactly is populism? What is its ideological form? What style of politics does it generate? What is its
history (in the US) and what makes contemporary populism similar to or different from the past? What is
populism’s relation to conservatism (or Republican thought)? Is the rise of the so-called alt-right the same
as a resurgent populism? Are these ideas—as some have claimed—neo-fascist ('Fascism American style')?
And how do we understand the social basis of the appeal of these ideas (who voted for Trump and why)?
Again, the conventional view is that authoritarian populism is about white working class rage (of a
particular generation or region). In this sense I want to explore a related (one might say dialectical)
question: To what extent does contemporary populism in its Trump variant define itself against—and draw
strength from—its 'other': let’s just call this identity politics, or more broadly certain strands of American
liberal thought and practice? Here questions of race (and the legacies of slavery), gender, sexuality,
religion figure centrally. In this sense the seminar addresses two broad, complex and often contradictory
lines of political thinking – two complex sets of political ideologies if you like—that are inseparable and
define each other: one broadly Republican and conservative, the other liberal and social democratic.
This seminar is an opportunity to explore the current moment—and its conditions of possibility (how it
came to be in this place at this time)—as a particular form and expression of American politics. We could
of course spend all year (all of your undergraduate life on campus!) trying to work through this
conundrum. We’ll just get our feet wet—damp, perhaps—and given our limited time together explore
some of these ideas in an open and critical way and assess where we are a two years or so into the
Trump administration and how this moment speaks to wider issues of the American body politic.

I am the Class of 63 Professor and former Director of the Institute of International Studies at Berkeley
where I have taught for forty years. At the centre of my research and teaching interests is a longstanding
engagement with the political economy of development and in particular energy and agro-food sectors in
Africa. My own training at University College, London and at the University of Michigan was firmly
grounded in Anthropology, Development theory, Ecology and Sociology, initially with a focus on the
understanding the vulnerability of peasant communities in semi-arid Africa and the dynamics of
subsistence and famine crises. My doctoral research was based on long-term field research in northern
Nigeria and generated a lifelong concern with questions of food security, rural differentiation and the
agrarian question. While at Berkeley I have tried to deepen my understanding of the intersections
between political economy, culture and forms of power. Over the last decade I have devoted most of
my time to the oil and gas sector and to the impact of oil in the Gulf of Guinea, especially in the Niger
delta region of Nigeria. During the 1980s and 1990s I extended my interests in Africa with fieldwork in
Senegambia on gender and household dynamics and irrigation politics. I continue to work in Nigeria on
Islam, and the political economy and political ecology of oil. Concurrently, I have published on the global
agro-food system including in California and the US most notably rice in California, and the poultry
industry. Since 2011 I have been working closely with New York photographer Ed Kashi and produced a
colleagues Iain Boal and Cal Winslow, I have been working on the commune and back-to-the-land
movements in northern California. For ten years I served as the Director of a research institute, the
Institute of International Studies (1994-2004), which promotes cross-area and cross-disciplinary research
and training on transnational and global issues. I established with Nancy Peluso the Berkeley Working
Group on Environmental Politics, the major centre for cross-disciplinary political ecological research on
the Berkeley campus. In addition I have served as the director of the Africa Studies Center, and of the
Rotary Peace Fellows program, and co-direct our undergraduate Development Studies Program with
Professor Gillian Hart.I have had occasion to work with various development organizations and
philanthropic institutions. I have worked for UNDP, the Ford Foundation, OXFAM, and a number of small
NGOs in Africa (most recently Environmental Rights Action and Our Niger Delta in Nigeria). I serve on
the Board of a number of non-profits including the Pacific Institute in Oakland and have given expert
testimony in major legal cases concerning human and environmental rights in Nigeria, and spoken to the
US Congress and other policy groups in Washington DC. I have served as Chair of the Trustees of the
Social Science Research Council since 2007.
Geography 24, Section 2
From Decolonization to a Postcolonial World (1 unit, P/NP)
Professor Sharad Chari
Monday 12:00-1:00, 575 McCone Hall, Class number: 31679

The Caribbean intellectual CLR James saw the most significant event of the twentieth century as the global anti-colonial movement, or the many national struggles for decolonization. This seminar begins with the many geographies of decolonization, their interconnections and internal tensions (for instance, struggles for women or minority groups within anti-colonial movements.) We will read and discuss short excerpts from some key thinkers from the mid-twentieth century who dared to imagine a world after empire. We will explore the attempts to link these aspirations through the famous Bandung Conference of 1955 and the Tricontinental conferences after that. We will also look at the work of a variety of writers, filmmakers and artists who brought the spirit of anti-colonialism into their imaginations. We will turn to the ways in which their hopes were undermined in different ways in the late twentieth century. But we will also turn to political, economic and artistic forms of postcolonial criticism that continues to imagine and work towards a world beyond all forms of imperial power. Freshmen in Geography or related social sciences (Anthropology, Sociology, History, African American Studies, Global Studies, etc.) Any student with an interest in the topic and the willingness to do some required reading and discussion every week would also be welcome.

Sharad Chari is an Associate Professor in the Department of Geography at Berkeley, and is affiliated to the Wits Institute for Social and Economic Research, at the University of the Witwatersrand, South Africa. His areas of research include agrarian and industrial change, race/gender/class politics, development, globalization, Black geographies, and decolonizing the oceans, and he has conducted research in India, South Africa, and the Southern African Indian Ocean region. He is the author of Fraternal Capital, co-editor of the Development Reader, and is completing a book on South Africa called 'Apartheid Remains.'

Global Studies 24, Section 1
Diversity, Identity, and Social Justice: America in Global Perspective (1 unit, P/NP)
Lecturer Darren Zook
Tuesday 2:00-3:00, 106 Wheeler Hall, Class number: 24773

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

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

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

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

Zook has recently published a four-book series, entitled Ourselves Among Others: The Extravagant Failure of Diversity in America and An Epic Plan to Make It Work, which is an engaged critique of current diversity policy and practice in the United States and elsewhere in the world.

**Global Studies 24, Section 2**  
**Global South Capitalism in the NY Times: Reading like an Anthropologist (1 unit, P/NP)**  
**Lecturer Clare Talwalker**  
**Wednesday 2:00-3:00, TBD, Class number: 26514**

This Global Studies Freshman Seminar will examine the media itself as a powerful shaping influence on our view of the world and the global market. It will also introduce students to the scholarly discussion of capitalist transformation. Open only to freshmen, this seminar will consider how the media covers the economies of the Global South through daily reading of the New York Times. Where news coverage favors an economistic approach (focusing on such things as markets, international trade, labor conditions, consumers), we will learn about different terms for these same topics offered up by a social and cultural lens.

Clare Talwalker is a continuing lecturer in International and Area Studies and core faculty of the Global Poverty and Practice Minor. She is also co-editor of a UC Press book series Poverty, Interrupted. Trained in cultural anthropology, she focuses her research on India, social inequalities and postcoloniality. She has recently written about student engagement in aid work and poverty alleviation. She offers classes on ethnographic methods, global poverty and practice, political economy, and the anthropology of India.

Talwalker grew up in Mumbai, India. She earned her B.A. at Dartmouth College and her Ph.D. at Duke University.

**Global Studies 24, Section 4**  
**Best Movies of All Time (1 unit, P/NP)**  
**Lecturer Peter Bartu**  
**Thursday 5:00-6:00, 65 Evans Hall, Class number: 32740**

Consider yourself a budding movie critic? Have an opinion on everything? Or just looking to hang out and converse about the greatest movies of all time? Look no further. We will of course consider Casablanca, the Battle of Algiers, the first Max Max movie (and the last), Bladerunner (duh, the first one), Point Break, both of them, Superbad, and Wild Tales (from the bad heart of Argentina), the Departed, Heat, and anything with Javier Bardem and Penelope Cruz in it (No Country for Old Men, Counsellor, Vicky Christina Barcelona). Disagree with the selection? Come and make a case for your top ten movies, no genre left unexplored. One movie each week.

Dr. Peter Bartu teaches courses at the University of California, Berkeley on Political Transitions in the Middle East, the Gulf States, and International Organizations & Global Governance. He has worked with the United Nations in a variety of roles throughout the Middle East including as a member of the UN’s stand-by mediation team in Benghazi and Tripoli during the Libyan revolution. In 2008-2009 he led a United Nations team that produced a seminal report on the disputed internal boundaries between the Arabs and the Kurds in Iraq including Kirkuk. He has worked as a foreign policy advisor in the Australian
Prime Minister’s Department and the Sydney Organizing Committee of the Olympic Games and in his spare time enjoys open water swimming at the Dolphin Club in San Francisco.

**History 24, Section 1**  
The Museums of Berkeley (1 unit, P/NP)  
Professor Tom Laqueur  
**Wednesday 2:00-4:00, 3401 Dwinelle Hall, Class number: 32964**

One-hour seminars will alternate with two-hour museum tours. We will not meet every week but students need to keep the time slot open.

This seminar is about museums in general and the rich museums of Berkeley in particular. Students will be introduced to the history of museums, to social policy questions relating to them, and to some current political debates about collections (the status of Native American artifacts, for example). The core of this seminar however is a series of museum visits that will be led by the instructor and by curators in each venue. We will go to the Berkeley Art Museum, the Pacific Film Archive, the Berkeley Botanical Garden, the Lawrence Hall of Science, the Hearst Museum, the Bancroft, the paleontology and insect collections in VLSB, and the Magnes museum. Our last meeting will be dinner and a tour of the SF MOMA, or at another SF museum. No reading outside class is required.

Thomas Laqueur is a cultural historian who has written on the history of education, religion, medicine, human rights and working class politics as well as, more recently, on sexuality (two books) and on questions of memory and memorialization. His most recent book is called The Work of the Dead: A Cultural History of Human Remains.

Faculty web site: http://history.berkeley.edu/people/thomas-w-laqueur

**Integrative Biology 24, Section 1**  
Biological Impacts of Climate Change (1 unit, P/NP)  
Professor Caroline Williams  
**Tuesday 2:00-3:00, 5192 Valley Life Sciences Building, Class number: 22122**

The pace of current climate change is orders of magnitude faster than any changes experienced in the Earth's past. This is reconfiguring biological diversity in ways that we are only beginning to recognize. Organisms are shifting their distributions in time and space, and experiencing population fluctuations and extinctions. In this seminar we will explore the biological impacts of climate change on plants, animals (including humans), communities, and ecosystems. Any students interested in learning more about biological responses to climate change.

This seminar is for anyone who cares about the planet, wants to understand climate change research, and become a more effective advocate for understanding climate change. You must be prepared to fully engage with the course, contribute actively to discussions, and do all the readings.

Caroline Williams is an Assistant Professor in Integrative Biology. She is an evolutionary physiologist who studies the evolution of metabolism in response to environment perturbations. One of her research foci is the responses of insects to winter climate change.

Faculty web site: http://cmwilliamslab.com

**Integrative Biology 24, Section 2**  
Reimagining Biology in Light of the Microbiome (1 unit, P/NP)  
Professor Britt Koskella
Tuesday 4:00-5:00, 5192 Valley Life Sciences Building, Class number: 25147

We are at an exciting moment in the biological sciences. Every field, from ecology and evolution to molecular biology to medicine, is being reexamined in light of new evidence that the microbiome (the vast array of microbes inhabiting humans and other species) influences how the host develops, what the host eats and metabolizes, how the host acts, and the host’s general health. In short, every aspect of biology is fair game for reconsideration through the lens of the microbiome; and this is especially true of the human microbiome given its direct relevance to medicine and human health.

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

Britt Koskella is an assistant professor in Integrative Biology, whose work focuses on interactions between bacteria and the viruses that infect them (bacteriophages). She seeks to understand how coevolution between bacteria and phage might influence the health of eukaryotic hosts, such as agriculturally important plant species. She is passionate about her research and strongly believes that a good understanding of evolution and ecology is critical to progress in the medical sciences. Koskella also strongly believes that scientific progress can be made only by embracing diverse viewpoints, backgrounds, and training.

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

Integrative Biology 24, Section 3
Ethnobiology, Nutrition, and Global Food Systems (1 unit, P/NP)
Professor Thomas Carlson
Tuesday 10:00-11:00, 4110 Valley Life Sciences Building, Class number: 22123

We will explore the ethnobiological systems around the world that generate thousands of different species of plants and animals eaten by humans. We will examine the historical, cultural, commercial, and biological factors that have resulted in the worldwide consumption of certain plant and animal species. We will also compare the nutritional qualities, health effects, and carbon footprint of conventional industrial food, organic food, locally grown food, and food that is hunted or gathered. In this seminar we will read Michael Pollan’s Omnivore’s Dilemma and view the documentary film Food Inc. Any interested Freshmen are welcome.

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

Faculty web site: http://ib.berkeley.edu/people/faculty/carlson

Integrative Biology 24, Section 4
Professor Eileen Lacey
Wednesday 4:00-6:00, 5192 Valley Life Sciences Building, Class number: 22124

Weeks 1-7 of semester, 2 hours per week, plus 1 Saturday field trip on first Saturday of semester

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

The course is open to all freshmen, but we are particularly eager to recruit prospective biology majors who are likely to develop long-term affiliations with the Museum of Vertebrate Zoology and its Undergraduate Apprentice Program.

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

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

Integrative Biology 24, Section 5
How and Why Do Birds Sing (1 unit, P/NP)
Professor George Bentley
Wednesday 2:00-3:00, 4110 Valley Life Sciences Building, Class number: 22125

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 6**  
**The Age of Dinosaurs: What Do We Know? (1 unit, LG)**  
**Professor Kevin Padian**  
**Wednesday 12:00-1:00, 1101 Valley Life Sciences Building, Class number: 26137**

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

Students interested in the class should add themselves to the waitlist and send the instructor a paragraph explaining their interest in the class by August 1, 2019 (to kpadian@berkeley.edu). Enrollment is limited to 8 students and applications will be accepted on a rolling basis.

Kevin Padian has been teaching at Berkeley for thirty-nine 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/

**Journalism 24, Section 1**  
**Looking Backward: Storytellers Using the Future to Change the Present (1 unit, P/NP)**  
**Professor Thomas Leonard**  
**Monday 1:30-2:30, 236 Evans Hall, Class number: 29361**

We will discuss how people find an alternative to the status quo in stories of the future. Storytelling of this type—whether expressed in literature, illustrations and videos, or election rhetoric—has a long history and much can be learned by gaining this perspective. Treatments of Margaret Atwood’s The Handmaid’s Tale and Ray Bradbury’s Fahrenheit 451 are cases in point. People on the political Right as well as on the Left have created pictures of the future that have boosted their cause. We will pay close attention to this as the 2020 election season kicks off.

Professor Leonard is retired from the Graduate School of Journalism and from the campus post of University Librarian. He is the author of three books on political reporting and the growth of American democracy. He is also a past leader of the Media Studies program at Cal. He is particularly interested in the ways that new media are shaping public policy and elections.

**Linguistics 24, Section 1**  
**Language Myths (1 unit, P/NP)**
Everyone has preconceptions about language in general and languages in particular. But are these accurate? The purpose of this course is to discuss a number of widespread “language myths”: misleading, misplaced, or just plain false ideas that the general public has about the nature of language or about specific languages such as standard and non-standard English, French, unwritten languages etc. In our weekly meetings we will discuss and evaluate a number of such common language myths, for example: Are all languages equally complex? Are some more logical? More beautiful? Is there such a thing as a primitive language? Do some people speak more grammatically than others? Is the English language undergoing a process of decay? We will draw on facts from English, other languages that may be familiar to participants, and lesser known languages which bear on the above and other questions. **No linguistic or other prerequisites are required. All interested students are welcome, especially students who have a fascination with language and/or languages.**

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, and has recently served as President of the Linguistic Society of America. 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

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**Mathematics 24, Section 1**

**Using Random Walks in the Physical and Social Sciences (1 unit, P/NP)**

**Professor F. Alberto Grunbaum**

**Wednesday 10:00-12:00, 939 Evans Hall, Class number: 22343**

The class will run for seven (7) weeks. The first two class meetings will be August 28, 2019 and September 4, 2019; the class will then resume for five (5) weeks from October 9, 2019 through November 6, 2019.

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

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

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

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**Mechanical Engineering 24, Section 1**

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

**Professor Benson Tongue**

**Tuesday 10:00-11:00, 180 Barrows Hall, Class number: 32565**

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. **Upright bipeds with bilateral symmetry preferred. Hopefully mammalian.**

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/

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**Molecular and Cell Biology 90A, Section 1**

**Museums of the Bay Area (1 unit, P/NP)**

**Professor G. Steven Martin**

**Thursday 4:00-5:00, 204 Dwinelle Hall, Class number: 19207**

Class meetings 4:00-5:00 pm in 204 Dwinelle Hall on the following dates: 8/29, 9/5, 9/12, 9/26, 10/10, 10/24, 11/7, 11/21 and 12/5. Museum visits on the following Saturdays: 9/7, 9/21, 10/5, 10/19, 11/2 and 11/16.

A museum, it has been said, is the memory of mankind: museums are places where one can appreciate the highest achievements of our own and other cultures. The goals of this seminar are to introduce you to the rich museum resources of the Bay Area and to develop your presentation and discussion skills by talking about what can be learned from them. We will visit six museums selected from the following list: in the East Bay, the Berkeley Art Museum, the Hearst Museum of Anthropology and the Oakland Museum of California; and, in San Francisco, the de Young Museum, the Legion of Honor, the San Francisco Museum of Modern Art, the Asian Art Museum, and the California Academy of Sciences. Topics for discussion will be based on what can be learned from their collections, and could range from Japanese art to human evolution. **We will alternate on-campus discussions with six museum visits over the course of the semester. Museum visits will take place on Saturdays, and students who enroll in this seminar will need to commit to participating in these visits. In the on-campus sessions, each student will be expected to make a short presentation following one of the museum visits and help lead the ensuing discussion. Although this seminar is sponsored by the Department of Molecular and Cell Biology, the discussion topics will be unrelated to molecular or cell biology, and students from all disciplines are welcome. All of the costs of museum visits will be covered.**

I am a Professor Emeritus of Cell and Developmental Biology, and formerly served as Dean of Biological Sciences for the College of Letters and Science. For many years I carried out research on the molecular biology of cancer. But I have always been an avid museum-goer, and view my recent retirement as an opportunity to share my enthusiasm. Feel free to contact me (gsm@berkeley.edu) for more information.

Faculty web site: Faculty web-site: http://mcb.berkeley.edu/faculty/CDB/martins.html

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**Molecular and Cell Biology 90A, Section 2**

**Evolution: Creatures, Not Creation (1 unit, LG)**

**Professor Jeremy Thorner**

**Friday 12:00-1:00, 80 Koshland Hall, Class number: 19208**

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

Jeremy Thorner is a Professor in the Division of Biochemistry, Biophysics and Structural Biology in the Department of Molecular and Cell Biology. He has been a faculty member at UC Berkeley since July 1974. His current research addresses the mechanisms by which cells respond to and decode changes in their extracellular environment and induce the appropriate changes in metabolism, gene expression, growth, and proliferation rate, and cell shape that allow a cell to cope properly with the changed circumstances.

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

**Molecular and Cell Biology 90C, Section 1**  
**Biology in the News (1 unit, P/NP)**  
**Professor Gian Garriga**  
**Monday 11:00-12:00, 174 Koshland Hall, Class number: 24391**

We will discuss topics in biology that are in the news.

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

**Molecular and Cell Biology 90D, Section 1**  
**Human Viruses and Disease (1 unit, P/NP)**  
**Senior Lecturer P. Robert Beatty**  
**Thursday 11:00-12:00, 210 Dwinelle Hall, Class number: 24307**

This seminar will focus on human diseases caused by viruses. We will focus on a specific virus each week including influenza, measles, Ebola, Zika, chikungunya, hepatitis C, and herpes simplex virus. The course will begin with lectures by the instructors to introduce virology and immunology. The remainder of the course will be group work and student-led discussions of specific topics for each virus. **This seminar is part of the Food for Thought Seminar Series.**

Professor Beatty is an infectious disease immunologist who has worked on Chlamydia, Epstein-Barr virus, Leishmania, and dengue virus over the last 25 years. His research is focused on dengue virus immunology especially testing drugs and vaccines to protect against severe disease. He teaches immunology classes at Cal in the Department of Molecular and Cell Biology.

**Molecular and Cell Biology 90D, Section 2**  
**Revolutions in Biology: Past, Present, and Future (1 unit, P/NP)**  
**Professor Russell Vance**  
**Thursday 3:00-4:00, 447 Life Sciences Addition, Class number: 24390**

In this seminar, we will discuss revolutions in biology, with a particular focus on two emerging revolutions that have origins at UC Berkeley: the cancer immunotherapy revolution and the genetic engineering revolution. We will begin with a discussion of Thomas Kuhn’s classic text, *The Structure of Scientific Revolutions*, and ask: what is a scientific revolution? and, how do they occur? We will then examine specific examples of revolutions in biology from the past and present, and discuss what biological
revolutions might be on the horizon. Full disclosure: there is a fair amount of reading required for the class, especially in the first few weeks. Be prepared to read and discuss as much as a (short) book a week for this seminar. Students will be asked to write a short “reaction” paragraph each week in response to the readings, and active class participation is expected. Although this seminar will discuss some science, no particular scientific knowledge is required, and the level of scientific discussion will be accessible to all. Much of the seminar will be dedicated not to science itself, but to the social and philosophical underpinnings of science. Participation from students with a wide range of interests is encouraged. 

Although this seminar will discuss some science, no particular scientific knowledge is required, and the level of scientific discussion will be accessible to all. Much of the seminar will be dedicated not to science itself, but to the social and philosophical underpinnings of science. Participation from students with a wide range of interests is encouraged.

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

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

Molecular and Cell Biology 90E, Section 1
Matter, Mind, Consciousness (1 unit, P/NP)
Professor David E. Presti
Thursday 2:00-3:00, 174 Koshland Hall, Class number: 19210

All we know comes to us via our mental experience: our thoughts, feelings, perceptions, and conscious awareness. However, it is a deep mystery as to how the physical processes of our brain and body are related to the subjective experience of consciousness. Investigation of this mind-body connection is among the most profound challenges in all of science, impacting everything about who we believe we are and how we relate to the rest of what we call reality. While biophysical science has made great progress in understanding the structure and function of brains and bodies, the nature of consciousness remains in many ways as deeply mysterious today as it was centuries ago. I argue that revolutionary ideas will be required in order to take a science of consciousness to a place of deeper insight. We will address this question from the perspectives of biology, philosophy, physics, psychology, and sociology—cognitive science, broadly defined. Students interested in all areas of the arts, humanities, and sciences are encouraged to enroll.

David Presti has taught neuroscience at UC Berkeley for twenty-eight years. For the past fifteen years, he has also been teaching neuroscience to Tibetan monks and nuns in India, Bhutan, and Nepal. He is author of Foundational Concepts in Neuroscience: A Brain-Mind Odyssey (2016) and of Mind Beyond Brain (2018).

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

Natural Resources 24, Section 1
Global Environment Theme House Freshman Seminar (1 unit, P/NP)
Professor Kate O’Neill
Monday 5:00-6:00, Clark Kerr Campus, Building I, Class number: 26968

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

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

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

**Near Eastern Studies 24, Section 1**  
**Animals in Ancient Egypt** (1 unit, LG)  
**Professor Carol Redmount**  
**Tuesday 1:00-2:00, 271 Barrows Hall, Class number: 32748**

The ancient Egyptians had a rich and multifaceted relationship with the natural world around them, especially with animals. Animals, domestic and wild, played symbolic roles in the Egyptian universe as representatives and manifestations of various deities, and 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.  

**Seminar open to freshman students. No background in field required.**

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 2**  
**Professional Orientation for Freshman Engineers** (1 unit, P/NP)  
**Professor Karl van Bibber**  
**Wednesday 4:00-5:00, 3107 Etcheverry Hall, Class number: 32566**

What does it mean to be a professional? Why should you think of yourself and act as a professional engineer already from the beginning of your freshman year? This seminar will deal with topics that are extraordinarily important for you to be familiar with, but are almost never presented in today's fast-paced specialized undergraduate curriculum: professional respect and demeanor, time management and organization of your work, professional ethics and research integrity, intellectual property, effective technical speaking and writing, federal legislative and budget processes, lifelong learning, professional societies, project management, etc. This will prepare you to be not only a highly productive professional
later on, but a much more successful student right now. **This seminar is intended to be useful for all freshmen, primarily but not exclusively engineers.**

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

Karl van Bibber received his BS and PhD from MIT in experimental nuclear physics. After postdoctoral work at LBNL, he served as an Assistant Professor of Physics at Stanford. He joined LLNL where he founded and led the High Energy Physics and Accelerator Technology Group, and was LLNL Project Leader for construction of the SLAC-LBNL-LLNL PEP-II B Factory project. His institutional service includes positions as Chief Scientist for the Physics and Space Technology directorate, and Deputy Director of the Laboratory Science and Technology Office. In 2009 he became Vice President and Dean of Research of the Naval Postgraduate School in Monterey, CA. In 2012 he joined the faculty of UC Berkeley as Professor of Nuclear Engineering, and acceded to Department Chair in July 2012. He also serves as Executive Director of the Nuclear Science and Security Consortium, a DOE Office of Non-Proliferation center-of-excellence comprising eight universities and five national laboratories. His research focuses on basic and applied nuclear science, particle astrophysics, and accelerator science and technology. He is the recipient of an Alfred P. Sloan Research Fellowship, the DOE Deputy Secretary Award for the B Factory, and the Navy Superior Civilian Service Award for the establishment of degree and executive education programs in Energy, the first within the DoD. He is a fellow of the APS and AAAS.

Faculty web site: http://www.nuc.berkeley.edu/karl-van-bibber

**Nutritional Sciences and Toxicology 24, Section 1**
**Nutrition and Wellness (1 unit, P/NP)**
**Professor Gregory Aponte**
**Tuesday 12:00-1:00, 180 Barrows Hall, Class number: 27186**

This seminar will provide basic tools to help guide one through making dietary decisions to achieve and/or maintain a healthy body and mind. The first part of the seminar discussions will explore the basic elements that make up a healthy diet in light of the body's metabolic and physiological needs. The second part will examine the interplay between nutrition and behavior, such as food intake regulation, eating disorders, responses to alcohol, and responses to stress. The focus of topics will vary depending on class interest. **All freshmen are welcome.**

Our laboratory has been characterizing how dietary nutrients (before they are metabolized) can be signals that cause changes in gene regulation and/or the release of bioactive molecules from peripheral tissues and nerves. We discovered specific receptors on sensory neurons that are stimulated by nutrients, hormones, and unique molecules present in lymphatic fluid. We are investigating if these neurons are part of a system whereby dietary molecules (and also molecules from peripheral tissues) can activate local neurons that stimulate spinal nerves or the brain. This system provides a new pathway for the regulation of central nervous system activity, metabolism, and behavior in response to biologically active molecules and nutrients, and expands our concept of the gut-brain axis.

**Nutritional Sciences and Toxicology 24, Section 3**
**Eating Green: The science behind the grassroots food movement (1 unit, P/NP)**
**Professor Amy Joy**
**Thursday 11:00-12:00, 65 Evans Hall, Class number: 27307**

Nutrition has become a hot-bed of controversy. Every day we are bombarded with new and seemingly unsubstantiated claims about a nutrient or dietary supplement with miraculous results that appear too good to be true. Other claims of products that boost our immune system or decrease our risk of heart disease may have little or no clinical significance. We hear concerns about the impact of agricultural methods on our environment as well as frightening reports on devastating illnesses associated with contaminated foods purchased in supermarkets or restaurants. How can we determine if these claims
and others are credible? The goal of this freshman class is to analyze, discuss, and critically appraise the scientific basis for many controversial health and nutrition-related questions. What constitutes a healthy diet? What does eating healthy really mean? Are organic foods better for the environment? Am I eating enough fiber? Is sugar addictive? How much alcohol reduces my risk of cardiovascular disease? Can probiotics prevent irritable bowel syndrome (IBS)? How can I avoid food borne illness? These, as well as other current nutrition controversies, will be studied. Students will also examine their own diet using a simplified food journal.

Amy Block Joy, Emeritus was educated at UC Berkeley (PhD, Nutritional Sciences; BA, Biochemistry/Bacteriology) and has worked at the University of California for 33 years (UCB: 1980 - 1988; UCOP: 1988-1994; and UC Davis: 1994-2013). She directed a poverty program receiving over $150 million in grants to improve the health and well-being of low-income Californians. She has authored dozens of scholarly peer-reviewed journal articles and hundreds of government reports on the study of health disparities among vulnerable populations. She also teaches a freshman class on ethics at UC Davis (2013-2017) and is currently the Vice-President for the UC Berkeley Emeriti Association.

**Physics 24, Section 1**

**How to discover a new particle: the story of the Higgs boson (1 unit, P/NP)**

Professor Heather Gray  
Tuesday 2:00-4:00, 587 Barrows Hall, Class number: 24417

2 hours per week; for 7 weeks, starting Tuesday, September 3, 2019.

The discovery of a new particle, the Higgs boson, by the ATLAS and CMS experiments at the Large Hadron Collider in Geneva, Switzerland in 2012 was the culmination of 60 years of research and experimentation since its prediction. It is also the final piece of the puzzle, the last particle, in the Standard Model of particle physics. This seminar will provide an introduction to particle physics and the Standard Model. I will explain what this Higgs boson is and why it is so important. I will also discuss the enormous accelerators and detectors used to discover the Higgs and conclude with a discussion about what the Higgs boson can tell us about the future of particle physics. **The course is intended for anyone interested in physics, but not planning to major it. In particular, no background in either mathematics or physics will be assumed. This seminar is part of the Food for Thought Seminar Series.**

Heather attended the University of Cape Town in South Africa from 1999-2005 where she obtained a BSc, BSc(Hons) and then a MSc in Physics. She then attended the California Institute of Technology and obtained her PhD in Physics in 2011. She then worked at CERN as a Research Fellow and Research Staff Scientist from 2012-2017 before moving to LBNL as a Divisional Fellow in 2017. Heather joined the UC Berkeley faculty in 2019. She received the IUPAP C11 Young Scientist Prize in 2018.

Faculty web site: https://physics.berkeley.edu/people/faculty/heather-gray

**Plant and Microbial Biology 24, Section 1**

**Introduction to the Plant Sciences at Berkeley (1 unit, P/NP)**

Professor Lewis Feldman  
Tuesday 11:00-12:00, 55 Evans Hall, Class number: 27068

This seminar is meant to provide students the opportunity to explore ways plants have touched or influenced their lives, both personally and in an historical sense. Examples could include unique cultural uses of plants, perhaps as foods or medicines, or in a ceremonial way. As well, you could also use this seminar to explore an aspect of plants in which you may have an interest and about which you would like to learn more, such as the ways plants figure into art (e.g., Rousseau’s Jungle paintings). Plants too have recently been associated with controversial issues, such as genetically engineered foods and with so-called crop circles. We want to use this seminar as a way of expanding our appreciation and understanding of
this unique group of organisms. For the first few meetings we will have talks/discussions from individuals whose daily lives involve plants. For the remaining weeks each student will present a 10-to-15-minute “seminar” on a plant topic in which they have an interest. This talk should be based on readings and could also involve some personal, firsthand experiences with plants. Additionally, you will prepare a short paper based on readings associated with one of our guest speakers. Another objective of his seminar is to expose students to the great breadth and variety of botanical resources available at Berkeley, and will include field trips to the Botanical Garden and the Herbaria, and a tour of the trees of the Berkeley campus. For students thinking of majoring in the biological sciences, with an emphasis on plants, this course will provide them an overview of plant-related opportunities (e.g., research experiences, resources, faculty contacts) with which to explore their interest (and possible major) in plants. This seminar is part of the Food for Thought Seminar Series.

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

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

**Plant and Microbial Biology 24, Section 2**
The Marvelous Miniature World of Microbes (1 unit, P/NP)
Professor Arash Komeili
**Thursday 4:00-5:00, 209 GPB, Class number: 27290**

This freshman seminar will introduce you to the marvelous world of microbiology. Students will split their time between light lab work and discussion-based lectures focused on the microbes that live all around us. We will touch on microbial communities, central dogma, and biological engineering with techniques that include culturing microbes, extracting and sequencing DNA, and microscopy. This pass/no pass seminar culminates in students sharing observations and images collected during different experiments in a final showcase. We seek a diverse group of students ready to use their life experiences as they explore the microbial world. No prior experience in a laboratory is necessary and students considering all courses of study are welcome!

Arash Komeili is a faculty member in the Plant and Microbial Biology Department. His research focus is the study of cellular organization in bacteria. In particular, his group studies the formation of magnetic particles by a fascinating group of microbes called magnetotactic bacteria. He has been at Berkeley since 2005.

Faculty web site: www.komeililab.org

**Portuguese 24, Section 1**
Discovering Brazil: An Introduction to Latin America’s Largest Country through Movies, Music, and Literature (1 unit, P/NP)
Professor Candace Slater
**Tuesday 1:00-2:00, 180 Barrows Hall, Class number: 33059**

This course uses movies, music, and a number of memorable stories by some of the most famous Brazilian authors to better understand the nation’s past and present. The goal is to look at both its pressing problems and overwhelming creativity and resilience. As one large chunk of Latin America, Brazil offers both comparisons and contrasts to other countries such as Mexico and neighboring Argentina. However, it is also part of the larger Portuguese-speaking world which includes not just Portugal but also African countries including Angola and Mozambique, as well as outposts in Asia. In addition, since Brazil is
the size of the continental U.S., it invites comparisons between how slavery played out in both and still affects continuing cultural and artistic forms. The primary requirement for the course is to attend the classes (attendance is required) and to do the preparation (readings, film viewing, etc.) that will allow students to interact with one another as well as to get a good initial overview of a vast and surprising country. **No special preparation. Students with an interest in Latin America are particularly welcome but an existing interest is not required. All readings and class discussions will be in English.**

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/](http://spanish-portuguese.berkeley.edu/our-faculty/)

**Rhetoric 24, Section 1**  
**Fake News (1 unit, LG)**  
**Professor Daniel F. Melia**  
**Tuesday 1:00-2:00, 7415 Dwinelle Hall, Class number: 25073**

"Fake News," which can often be shown to be not fake at all, is itself news today. Since lying and "spin" have been part of politics (and selling of all kinds) since the dawn of primates (the famous gorilla, Koko, lied to her keepers), why is it now news? What kind of world would it be if we lost all trust in the intent of others to tell us the truth in important matters? This course will examine the rhetoric of public lying and its philosophical context. **Any student interested in the subject of public truth and its evaluation would be welcome. There will be some reading (Sissela Bok, "Lying," and Darrell Huff, "How to Lie with Statistics").**

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

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. Some of these courses fulfill Letters and Science breadth requirements; for details 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.

Anthropology 39, Section 1
Refugees and Forced Migration: What are the Problems and What are the Solutions? (2 units, LG)
Professor Nancy Scheper-Hughes
Friday 12:00-2:00, 221 Kroeber Hall, Class number: 25458

This freshman-sophomore seminar will be a ‘thinkery’ for freshman and sophomores. We will gather together at the end of the week to discuss current events bearing on the current ‘crisis’ of global immigration and its relationship to many factors from climate change, political chaos, drug cartels, poverty and violence. Although this is a global phenomenon, we will focus on the US borderlands. We will examine the so-called ‘catastrophe’ of mass migrations from the point of view of the migrants themselves who are fleeing for their lives from political and domestic violence, drug cartels, gangs, death squads and extreme poverty, for which US policies in Central America are partly responsible. We will read both scholarly and timely journalistic coverage of US immigration policies including Former Attorney General Jeff Sessions and President Trump’s ‘zero Tolerance’ for children. We will draw on anthropological and ethnographic descriptions of migrants’ experiences in crossing the borders, detention policies by US agents ICE and Homeland security, and the government policy of ‘deterrence’ by forcing migrants to cross borders at isolated and dangerous routes. The seminar will evolve according to the concerns, needs, and requests of the student participants. Requirements: This is a working group, and students are expected to come to seminar prepared to discuss the day’s topic and readings. There will be assigned readings circulated by pdf or on-line. Each student will prepare a one-page reaction paper with bullet points for discussion to bring and present each week. In lieu of exams each student will prepare two (2) “Op Ed” pieces on a topic relevant to the readings. These will be presented and discussed in the seminar.

There will also be visitors and guest lectures.

Professor Scheper-Hughes is a cultural and medical anthropologist and the author of many books and scholarly articles. She is also a public anthropologist, who practices anthropology with commitment. She has conducted engaged research in Brazil, Argentina, Cuba, South Africa, Ireland, the Philippines and the Middle East. She is a strong believer in the rights of all students to dissent without fear and without rancor. She served as a Peace Corps Volunteer in Northeast Brazil (1964-1966) as a SNCC civil rights worker Selma, Alabama (1967-1968) and is the founder of Organs Watch, a human rights documentation and research project that has identified international schemes of human trafficking for organs.

She has served as an advisor to the UN, WHO, US Department of Justice, and to Pope Francis on human trafficking for organs.

Classics 39K, Section 1
Travel and Transport in the Ancient World (4 units, LG)
Professor J. Theodore Peña
Tuesday and Thursday 2:00-3:30, 106 Mulford Hall, Class number: 32530
Examination of how people moved both themselves and objects from one place to another in the ancient Greek and Roman worlds. Drawing on archaeological, literary, and pictorial evidence we consider an array of topics, including transport technology & infrastructure, the organization & costs of travel & transport, routes & travel times, banking, dining & overnighting on the road, packaging, labeling, & handling of cargoes, the roles of both short- and long-distance trade in the economy, reasons why people traveled, extreme travel, and the general travel experience. We also explore new digital technologies that allow us to better recreate and understand the nature and experience of travel and transport in pre-industrial times. This seminar may be used to satisfy the Historical Studies breadth requirement in Letters and Science.

J. Theodore Peña is a Professor in the Department of Classics. He specializes in the archaeology of Roman and pre-Roman Italy, the ancient economy, and material culture studies.

Faculty website: http://classics.berkeley.edu/people/faculty/person_detail.php?person=145

Earth and Planetary Science 39, Section 1
Earth Science along the California Coast (2 units, LG)
Professor Nick Swanson-Hysell
Monday 5:00-6:00, 401 McCone Hall, Class number: 32582

There are four mandatory lectures that will be held Mondays 5:00-6:30 in 401 McCone Hall: September 9, September 30, October 21, and November 4. The field trip itself will be from Friday, November 8 through Monday, November 11.

The focus of this seminar is to provide an opportunity for students to learn about the Earth through direct field observation. The central aspect of the course is a four-day field trip along the California Coast that introduces a variety of geological issues including the evolution of California, the formation of volcanic rocks, faults and earthquakes, and environmental change including water resources and changing sea level. A fee is required to cover costs associated with transportation and food. A tent and sleeping bag are needed as we will be camping on the trip (these can be rented for a reasonable cost). The course is for first years only! This class gives priority to undeclared freshmen interested in the physical sciences. Please fill out this form if you are interested in this class: http://tinyurl.com/eps39FA19

Professor Swanson-Hysell is a geoscientist whose research integrates original field observations with laboratory data sets in order to further understanding of global change through time. His research group develops data from sequences of volcanic and sedimentary rocks where information can be extracted about the positioning of the continents, the evolution of the magnetic field, shifting dynamics of the carbon cycle and large changes in climate.

Electrical Engineering 39, Section 1
Gadgets Electrical Engineers Make (2 units, P/NP)
Professor Jeffrey Bokor
Thursday 10:00-12:00, Jacobs Hall Room 220, Class number: 28064

This seminar is intended to offer a taste of how the hardware that is powering the information age really works. Electrical engineers must invest considerable effort to learn their science and math fundamentals. Eventually, though, the fun comes in building innovative and practical gadgets. We will side-step the science and math and get right into the hardware. We’ll take a look at what’s inside some of today’s most exciting products and technology as well as look ahead at the future products that are just around the corner. Our focus will be on hardware and we will see how much fun engineers can have using their hands other than by typing on a keyboard.
Jeffrey Bokor received the B.S. degree in electrical engineering from the Massachusetts Institute of Technology, and the M.S. and Ph.D. degrees in electrical engineering from Stanford. After a stint at the legendary Bell Labs, Dr. Bokor joined the faculty of the EECS department at UC Berkeley, with a joint appointment at the Lawrence Berkeley National Laboratory (LBNL). His current research activities include new devices for nanoelectronics, and ultrafast processes in magnetic materials.

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

Legal Studies 39D, Section 1
Current Political and Moral Conflicts and the U.S. Constitution (2 units, LG)
Mr. Alan Pomerantz
Wednesday 10:00-12:00, 175 Barrows Hall, Class number: 19189

The debate about politics and morals has moved steadily into the realm of the Supreme Court, but people differ on what exactly the role of the Court should be. Some have strongly argued that the Court's interpretation and application of the Constitution have adversely affected our fundamental rights and usurped powers from other branches of government. This position claims the Court has created an "Imperial Judiciary," a supreme authority, not a supreme court. Others argue as strongly that the Court has acted properly to find and protect evolving fundamental freedoms and individual rights in the face of unprecedented political and governmental efforts to limit them. This position claims the Court has, in fact, fulfilled the role envisioned for the Court by the Constitution. This seminar will follow the Socratic method in examining moral and political issues that have a constitutional basis and the Court's participation in the debate on topics such as transgender and gay rights (including gay marriage); "sincerely held religious beliefs" as a defense to compliance with anti-discrimination laws; abortion; privacy; limitations on speech including "hate" speech, college speech codes, trigger warnings and micro-aggressions; and euthanasia. We will read Supreme Court cases, as well as political and legal commentary from across the political spectrum. The prime focus of the seminar is to encourage students to develop their critical thinking skills. Accordingly, students are expected to develop, support and defend their own views and opinions regarding the relevant topics.

Alan J. Pomerantz, Esq., is a practicing lawyer and Senior Counsel at Pillsbury Winthrop Shaw Pittman, a major international law firm. A graduate of the NYU School of Law, he also studied under the Fulbright Program in Chile and received an advanced legal degree from the University of Amsterdam (Netherlands). He has lectured and taught widely, including at the NYU School of Law, NYU College of Arts and Science, the University of Amsterdam, Columbia Graduate School, and the University of Concepcion (Chile). He has published numerous articles and contributed to several treatises on legal topics. Mr. Pomerantz is recognized by several peer publications as one of the world's leading lawyers. He is also the recipient of the 2015 Fulbright Commission Global Citizens Award, and the 2016 Global Award for his legal work. Mr. Pomerantz has participated in important and controversial matters affecting individual rights, including the right of public artistic expression, the right of privacy for acts of consenting adults, and numerous free speech cases.

Native American Studies 90, Section 1
Myth, Memory, and History: Understanding Native America (4 units, LG)
Lecturer Diane Pearson
Monday, Wednesday and Friday 11:00-12:00, 109 Dwinelle Hall, Class number: 22886

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

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

South and Southeast Asian Studies 39, Section 1
Filipino Spirituality: Influences of Catholicism, Islam, and Indigenous Beliefs in Philippine Art and Literature (2 units, LG)
Dr. Maria Josephine Barrios-Leblanc, Ms. Cynthia Aban and Lecturer Karen Llagas
Tuesday 9:00-11:00, 204 Dwinelle Hall, Class number: 16723

Have you ever wondered why the homes of Filipino families in the United States display religious statues or celebrate Christmas and Lent in a different way from other Christians? Have you read Filipino poems, stories, songs, and festivals that focus on or mention Babaylan spiritual leaders, the Virgin Mary, the Black Nazarene, the infant Jesus or the Muslim faith? This class looks into literature and art as influenced by pre-colonial belief systems, the Catholic religion and Islam. Among the topics that will be discussed are gods and goddesses in creation myths; self-mutilation in Lenten rituals as depicted in films; healing songs, rituals and theater; the cult of the Virgin Mary and the short story; modernism in the short stories of Ibrahim Jubaira; amulets, power and peasant uprisings as depicted in fiction; and the mystical mountains of Banahaw and Makiling in myth making.

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

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

Cynthia Aban is a singer and kulintang player with the multi-awarded performing band Grupong Pendong which utilizes indigenous instruments in creating contemporary music. Before coming to UC Berkeley, she was a Ph.D. student at the University of the Philippines studying Filipino psychology.

Faculty web site: http://sseas.berkeley.edu/people/faculty/chat-aban

Karen Llagas lectures in UC Berkeley’s Beginner and Intermediate Filipino classes; she teaches Tagalog privately and in group classes in the San Francisco Bay Area and online.

Undergraduate Business Administration 39AC, Section 1
Philanthropy: A Cross-Cultural Perspective (3 units, LG)
Mr. Colin P Lacon and Ms. Alicia Perez
Thursday 8:00-11:00, C320 Cheit Hall, Class number: 20070

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

Colin Lacon is the President and CEO of Northern California Grantmakers (NCG). NCG works to support and strengthen its members and promote effective philanthropy. Previously, he served six years as Senior Program Officer for the Strengthening Communities Program at the Stuart Foundation, and he held several positions for the City of Oakland, including director of strategic grants management in the Office of the City Manager.
Alicia Perez oversees advocacy and communications efforts for Safe Passages as well as serving as liaison with government officials. In addition, Alicia oversees the implementation of the Safe Passages Early Childhood Initiative. Prior to Safe Passages, Alicia worked in the Office of the Superintendent for Oakland Unified District. She oversaw the district’s outreach efforts for opening of schools and student registration, the district’s state and federal advocacy efforts, and the implementation of several social service programs for students. In the legislative realm, Ms. Perez has been a policy advisor for former Assembly Member Delaine Eastin and to Oakland Councilmember Nancy J. Nadel. She has worked in the creation and implementation of social programs for children and families in Oakland and Chicago, and internationally in El Salvador, Colombia and Spain. Alicia E. Perez holds a Master’s degree in Public Policy from the University of Chicago. She earned her B.A. from U.C. Berkeley in Social Welfare and Comparative Literature.

**Undergraduate Business Administration 39E, Section 1**  
**Civic Technologies (2 units, LG)**  
*Professor David Harris*  
*Wednesday 4:00-6:00, N440 & N444 Chou Hall, Class number: 20072*

As you prepare to cast a vote in what may be your first election, you will be invited to explore the ways in which social media and related technologies are reshaping political landscapes around the world. In the course, we will look at the ways in which politicians have already adopted social media platforms such as Twitter, Facebook and YouTube, paying close attention to current developments in national, state and local politics as events unfold in real time during the semester. We will also closely examine an array of emerging “civic technologies,” including those developed by new political parties (Pirate Party, Partido de la Red), nonprofit organizations (Sunlight Labs, Democracy.Earth, Participatory Democracy Foundation), for-profit startups (Brigade, PopVox, Democracy.com) and government agencies (We The People, Tunisian and Icelandic crowdsourced constitutions, eStonia, Participatory Budgeting). Students will be encouraged to develop critical perspectives on the strengths and weaknesses of new approaches to democracy from technical, political-economic and critical-theoretical perspectives.

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

David was appointed as the Chancellor’s Public Scholar in 2015 at UC Berkeley, for his teaching work at the Haas School of Business in association with the Center for Social Sector Leadership. David founded the Governance Futures Lab at the at the Institute for the Future (IFTF), where he has conducted research on the future of governance, philanthropy, media, and social movements since 2008. David is the founder of the Global Lives Project, a video library of life experience around the world, produced by thousands of collaborating filmmakers, photographers and translators. David has presented his work to audiences at the Smithsonian, Harvard, Stanford, Apple, Google, Adobe, and the United Nations University, among other institutions. His writings have been published by the BBC, Guardian, Adbusters, Focus on the Global South, Hivos, Alternet, and Grist, and translated into dozens of languages. David worked at the White House Council on Environmental Quality while participating in the UCDC program as an undergraduate at UC Berkeley. He later studied Sociology at the University of São Paulo and speaks English, Portuguese, Spanish and French.

**Vision Science 39, Section 1**  
**The Relation of Science and Religion (1.5 units, P/NP)**  
*Professor Stanley Klein*  
*Tuesday 2:00-3:30, 394 Minor Hall, Class number: 29433*
This freshman/sophomore seminar encourages students to reflect on the relationship between science and religion. I chose this topic because of reading an article by Richard Feynman titled: “THE RELATION OF SCIENCE AND RELIGION: Some fresh observations on an old problem.” Feynman is probably the most famous physicist of the 20th century other than Einstein. The seminar will feature invited speakers including theologians, scientists, and humanities professors studying religion. There will be short readings on most weeks. One four-page paper will be assigned. The course will include some present deep puzzles in science such as the role of mind and consciousness and their possible neural correlates. We will also explore a range of religions and consider their science compatibility. I suspect there will be some surprises that many religions are more science compatible than most people think. If you have any doubt about taking this seminar I strongly recommend reading the last two paragraphs of Feynman’s surprising essay that shocked me when I read it. His essay is at: http://calteches.library.caltech.edu/49/2/Religion.htm

Stanley Klein is a physicist doing research on how our brains do vision. He is also active with various groups devoted to improving communications such as between science and religion. Relevant to this seminar is his commitment to finding approaches for our society to function better by learning how to listen to views different from our own. Prof. Klein is vice chair of the Academic Senate committee “Demonstrations and Student Action.”

Faculty web site: http://cornea.berkeley.edu
**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 Colonial Honduras (1 unit, LG)**  
**Professor Rosemary Joyce**  
**Wednesday 11:00-12:00, 192 Barrows Hall, Class number: 24389**

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 provides participants experience in reading original, hand-written documents from the period of Spanish colonization of Central America. Many assignments involve working to transcribe the words from these handwritten documents into printed text, and some involve analyzing the content of the text. Because the documents are written in Spanish, some knowledge of Spanish is helpful, and having no prior knowledge of Spanish will limit participants' ability to understand what documents are saying.**

I am an anthropologist who conducts research in archives, museums, and through field archaeology in Honduras, on sites ranging in age from the earliest known villages (occupied by 1600 BC) to colonial forts and towns from the eighteenth and nineteenth centuries. My publications deal with people's identities as men and women, and as members of different racialized groups, and how those identities influence their power and status. I am a specialist in ancient pottery, which has led me to research on foodways, including the detection of traces of chocolate in pots dating before 1100 BC. This is an aspect of my interest in everyday lives and their complexity, including feasting, ceremonies around birth and death, and artistic craft production.

Faculty web site: [http://anthropology.berkeley.edu/people/rosemary-joyce](http://anthropology.berkeley.edu/people/rosemary-joyce)

**English 84, Section 1**  
**High Culture, Low Culture: Modernism and the Films of the Coen Brothers (2 units, P/NP)**  
**Professor Julia Bader**  
**Tuesday 9:00-12:00, 300 Wheeler Hall, Class number: 32587**

We will concentrate on the high and low cultural elements in the noir comedies of the Coen brothers, discussing their use of Hollywood genres, parodies of classic conventions, and representation of arbitrariness. We will also read some fiction, including stories from Jhumpa Lahiri’s Interpreter of Maladies, and attend events at the Pacific Film Archive and Cal Performances.

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.
Natural Resources 84, Section 1
Global Environment Theme House Sophomore Seminar  (1 unit, P/NP)
Professor Kate O’Neill
Monday 5:00-6:00, Clark Kerr Campus, Building I, Class number: 26969

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

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

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

South and Southeast Asian Studies 84, Section 1
Contemporary Southeast Asian Society and Culture through Film (2 units, LG)
Dr. Maria Josephine Barrios-Leblanc and Lecturer Hanh Tran
Friday 2:00-4:00, 180 Barrows Hall, Class number: 24045

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

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

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

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

Vision Science 84, Section 1
Current Topics in US Healthcare (1 unit, P/NP)
Professors Kenneth Polse and Nancy McNamara
Thursday 11:00-1:00, 490F Minor Hall (Fong Library), Class number: 29423

Class meetings are August 29th; September 5th, 12th, 19th & 26th; and October 3rd & 10th, 2019.

Problems associated with affordability, accessibility and quality of health care in the US began to escalate in the late 1980s. Over the past twenty-five years both Republican and Democratic administrations have attempted to address these problems, but without success. In 2008, President Obama was elected on a mandate to change the health care system in a way that would provide affordable and accessible care to all Americans. After considerable debate, controversy and compromise, the Patient Protection and Affordable Health Care Act of 2010 (ACA) was signed into law by President Obama on March 23, 2010. The ACA (often referred to as Obamacare) was the most significant health care legislation passed since the Medicare Act of 1964. Since the ACA has become law, Republicans have attempted at least 40 times to repeal the law. In addition to Congressional efforts to repeal the ACA, its’ constitutionality has been challenged twice and upheld by the US Supreme Court. Even though the ACA’s constitutionality has been upheld and a majority of US citizens would like to maintain Obamacare (with some modifications), the Republicans were determined to repeal and replace the ACA. Although it appeared likely that President Trump and the Republican controlled Congress would repeal the ACA, it did not happen. At least for the present, what will be included US Health Care for 2018 and beyond will offer to the millions of individuals and families who have coverage under the ACA remains a guess since it is possible by executive action and actions taken by the Director of Health and Human Services, many changes can be made to the present law.

To begin to understand what repeal, replace, or simply modifications to the ACA will mean, we first will examine health care prior to Obamacare since there is some probability that many of the pre-ACA health care delivery paradigms may again become the law. Secondly, we will discuss some of the more important strengths and weaknesses of Obamacare, which will help us understand what changes are urgently needed to strengthen Obamacare. Finally, we will explore health care in other developed countries which will provide considerable insight in the health care systems for nations that consider health care a right and not a privilege.

Typically, the class will review an assigned section of the bCourse outline and other papers, videos, etc. that are related to that day’s seminar. This review will serve as the beginning for class discussion/debate. Also, two to three times during the course, students will give a short presentation on a specific topic which will be followed by class discussions. Some of the topics will include single payer vs. third-party medical coverage, factors driving up the cost of medical care, possible strategies to control medical costs, the role of insurance companies, how pharmaceutical and device manufacturers contribute to high medical costs, and health care delivery in other developed countries. Students interested in pursuing a career in health care delivery (e.g., physician, nurse, etc.), health care planning/administration, or simply just interested in the impact of current health care on society should find most of the topics covered of interest.

From 1972-2003 Professor Polse served as faculty member, Clinic Director, and Associate Dean in the School of Optometry, University of California, Berkeley (UCB). Recently retired, Dr. Polse is currently
Professor of Graduate Studies at UCB. His research developed from years of clinical experience, convincing him that it is the clinician’s astute observations that often drive the research agenda. He also believes that discovery and clinical implementation require close collaborative efforts between basic and clinical scientists, a principle that has guided his research career. Some of Professor Polse’s professional services and honors include President, International Society for Contact Lens Research; memberships on the AOA Council on Research and the National Advisory Eye Council (NIH); a Senior Fulbright Fellowship; AAO Garland Clay Award; AAO Max Shapero Lecture; BCLA Principal Keynote Speaker; UCB Sarver Endowed Chair; and Montague Ruben Medal. Since 1974, Professor Polse has had many students, residents, and post-doctoral fellows participate in his laboratory. He has received continuous research support from NIH and Industry for thirty years, resulting in many successful studies (including two NIH-sponsored randomized clinical trials) and over 140 papers published in peer-reviewed journals.

Professor Nancy A. McNamara graduated from the Michigan College of Optometry in 1991 and completed a cornea/contact lens residency at the University of California, Berkeley, School of Optometry in 1992. Following residency, Dr. McNamara obtained a Doctor of Philosophy degree in Vision Science at UC Berkeley under the mentorship of Dr. Ken Polse. She then received a K23 award from the National Eye Institute (NEI) to examine the basic mechanisms of ocular surface disease in the laboratory of Carol Basbaum at the University of California, San Francisco. In 2006, she joined the faculty of the Francis Proctor Foundation at UC San Francisco where she established an independent research program to study the pathogenesis of autoimmune-mediated ocular surface disease and worked as a clinical investigator with the Sjögren’s International Collaborative Clinical Alliance (SICCA). She currently holds a joint faculty appointment at UC Berkeley and UC San Francisco. She serves as Co-director of the Dry Eye Clinic at the UC Berkeley Meredith Morgan University Eye Center where she maintains an active clinical practice. Her professional accomplishments include standing membership in the Disease and Pathophysiology of the Visual System Study section at NEI. She has been the recipient of numerous awards, including AAO’s Ezell Fellowship (1996), Ciba Vision’s Postdoctoral Fellowship (1996-98), the Irvin M. and Beatrice Borish Outstanding Young Researcher Award (2007), the American Cancer Society’s Research Scholar Award (2009), and the Allergan Foundation Research Award from the American Optometric Foundation (2014-15). Most recently, in 2018, she completed a Masters degree in Health Policy and Law from UC San Francisco and the UC Hastings School of Law in order to pursue her long-standing interest in health policy and to explore the economic burden of health and health care on providers, patients and society.

Vision Science 84, Section 2
Comparative eye design: Differences between animals and relationship to visual needs (1 unit, P/NP)
Professor Christine Wildsoet
Thursday 4:00-5:00, 394 Minor Hall, Class number: 29424

The eyes have it in terms of diversity of design. There are lessons to be learned from comparing eye designs across the animal kingdom. This seminar will review and compare the structure of various components of the eye and its motor and neural accessories, by way of understanding the diversity of eye designs, as well as their strengths and limitations from a functional perspective. Examples where such analyses have spawned new bioengineering lines of research will be given. The course includes hands-on activities and an excursion. **This seminar examines and compares the eyes and vision of different animals, as primitive as jellyfish to other primates, in the context of their usual habitat and behavior. Those interested in ecology, vet med through to medicine and optometry may find this topic interesting, especially if you are curious about what eyes look like, as some eye dissections are included.**

This seminar is designed for students interested in eyes and/or vision and curious about biological design and evolution, with possible career goals of vision research or eye-related health professions.
Professor Wildsoet is on the faculty of the School of Optometry, where she is involved in pharmacology teaching and coordinating two summer research programs for Optometry students. She is also a member of the Vision Science group. Her research is multidisciplinary as is her research group, which includes basic scientists and clinicians, both local and international. The focus of research in her lab is myopia (nearsightedness), specifically the mechanisms underlying the development of myopia and its clinical management. The overriding goals of this research is understand the environmental factors driving the current myopia epidemic and the development of novel and improved treatments for controlling myopia. Understanding how this growth regulatory process is derailed in myopia can provide the keys to new treatments. Over the course of her research career, Professor Wildsoet has had the opportunity to work with a range of animals and birds to address other questions related to eye design as well.

Faculty web site: http://wildsoetlab.berkeley.edu