

# UCI Freshman Seminar Program

## WINTER 2015 FRESHMAN SEMINARS

This quarter we are offering 18 different Freshman Seminars. The table below lists all of them as they are listed in the schedule of classes under University Studies 3. Clicking on the abbreviated title of the seminar that interests you in the table will take you to a full description, including the full course title, instructor's department and biography. For some seminars, this table is the only place you will find the room location, so please make a note of it if you enroll.

**Please note that students may take a maximum of THREE University Studies freshman seminars so long as subjects vary.**

All sections are open to students of all majors

Enrollment in Freshman Seminars will be limited to **freshmen** until December 18. After December 18, some seminars are open to all lower division students while others are open to all undergraduates

SOC Title	Code	Instructor	Time	Plac
<a href="#">DIY ELEC</a>	87551	HARRIS, I.	Tu 9:00-9:50 am	<a href="#">HH 2</a>
<a href="#">CHEMIST BREAKS BAD</a>	87552	RYCHNOVSKY, S.	M 2:00-2:50 pm	<a href="#">DBH 1</a>
<a href="#">BLACK WOMAN WORKER</a>	87553	WILLOUGHBY-HER, T.	Tu 1:00-1:50 pm	<a href="#">DBH 1</a>
<a href="#">EVOLUTION ALGEBRA</a>	87554	RUSSO, B.	Tu 11:00-11:50 am	<a href="#">DBH 1</a>
<a href="#">WANT TO BE A STAR?</a>	87555	HILL, D.	Tu 5:00-5:50 pm	<a href="#">MESA C</a>
<a href="#">RECREATIONAL</a>	87556	REGAN, A.	M 1:00-1:50 pm	<a href="#">DBH 1</a>

<a href="#"><u>MATH</u></a>				
<a href="#"><u>ENG4MED</u></a>	87557	KHERADVAR, A.	Tu 11:00-11:50 am	<a href="#"><u>DBH 1.</u></a>
<a href="#"><u>FUTURE OF AGING</u></a>	87558	ROSE, M.	Tu 2:00-2:50 pm	<a href="#"><u>DBH 1.</u></a>
<a href="#"><u>QUANTUM COMPUTING</u></a>	87559	IRANI, S.	M 1:00-1:50 pm	<a href="#"><u>DBH 1.</u></a>
<a href="#"><u>BIOL HARRY POTTER</u></a>	87560	MORRISSETTE, N.	M 11:00-11:50 pm	<a href="#"><u>DBH 1.</u></a>
<a href="#"><u>EDUCATE NOT MEDICAT</u></a>	87561	BIC, Z.	F 10:00-10:50 am	<a href="#"><u>SSL 1</u></a>
<a href="#"><u>KNOWING PLATO</u></a>	87562	BENCIVENGA, E.	W 11:00-11:50 am	<a href="#"><u>HIB 1.</u></a>
<a href="#"><u>SOC OF CARTOONS</u></a>	87563	ROBNETT, B.	W 4:00-6:50 pm	<a href="#"><u>DBH 1.</u></a>
<a href="#"><u>CAMERA</u></a>	87564	BARKER, S.	W 11:00-11:50 am	<a href="#"><u>CAC 1</u></a>
<a href="#"><u>NAZI GERMANY</u></a>	87565	LEVINE, G.	W 2:00- 2:50 pm	<a href="#"><u>DBH 1.</u></a>
<a href="#"><u>INVASIVE SPECIES</u></a>	87566	PRATT, J.	Tu 12:00-12:50 pm	<a href="#"><u>DBH 1.</u></a>

<a href="#">SPANISH WORLDWIDE</a>	87567	SCHWEGLER, A.	Tu 10:00-10:50 am	<a href="#">SSL 1</a>
<a href="#">CIVIL RIGHTS MOVMT</a>	87568	GILLMAN, H.; CHEMERINSKY, E.	M 2:00-2:50 pm	<a href="#">ALH 5</a>

## SCHOOL OF THE ARTS

### *I Am A Camera*

#### **Stephen Barker, Drama**

Stephen Barker, former Chair of Drama, Chair of Art, and Head of Doctoral Studies, is the Associate Dean in the Claire Trevor School of the Arts. In other previous lives a professional actor, director, dancer, choreographer, and advertising executive, he now works centrally in critical, aesthetic, and performance theory. Has written books and articles on numerous artists and philosophers including Nietzsche, Derrida, Freud, and Beckett; books include *Autoaesthetics: Strategies of the Self After Nietzsche*; *Signs of Change: Premodern, Modern, Postmodern*; and *Interrogating Images*. His most recent book, *Thresholds: The Art of Limit-Play*, is forthcoming. Barker is a founder of the journal *Derrida Today* and is on the faculty of the London Graduate School. He has recently translated volumes by French philosophers Bernard Stiegler and François-David Sebbah for Stanford University Press.

### *So You Want To Be A Star?*

#### **Donald Hill, Drama**

Identify what success means to you. Create strategies to achieve your goals. Develop a research process for how to find a mentor. Learn the art of how to become unstoppable in going for what you want in life.

Don Hill has worked in the professional theater as an actor, stage manager, production manager, director, producer and union negotiator in a thirty-two year career spanning both coasts. As the Vice Chair of the Drama Department, Professor Hill teaches stage management and acting. For the past three years he was voted "Outstanding Professor of the Year" for the Claire Trevor School of the Arts by the graduating senior class.

## SCHOOL OF BIOLOGICAL SCIENCES *Invasive Species*

### **Jessica Pratt, Ecology & Evolutionary Biology**

Non-native invasive species are wreaking havoc on native ecosystems across the globe. The negative consequences of invasive species are far reaching, costing the U.S. more than \$100 billion annually for prevention, control, management, and research. This seminar will introduce the ecology, influence, and impact of invasive species, with focus on the most problematic invaders in Southern California

ecosystems.

I am a community ecologist broadly interested in research and education in the applied fields of conservation biology and restoration ecology. I have been a dedicated researcher and educator in the fields of ecology and conservation since 2003 and have been working and living in Southern California since 2005. I have conducted research on animal behavior, tropical bird foraging ecology, the conservation value of tropical agricultural ecosystems, the dynamics of butterfly species range shifts in response to climate change, and most recently for my Ph.D., the effects of plant species responses to environmental change on associated animal communities. My teaching experience spans middle school up to the university level and I have taught courses ranging from genetics to conservation biology.

### ***The Future of Aging***

#### **Michael Rose, Ecology & Evolutionary Biology**

After centuries as an unsolved problem of biology, aging is now a solved problem of biological science. The question for the future of aging is how to make its solved biology into improved medicine and public health, so that aging is no longer a major cause of death later in the 21st Century.

I have been on the faculty of Biological Sciences since 1987, Professor since 1990. This is one of my favorite courses to teach, as it is a reflection of topics I research and frequently post about in social media.

### ***The Biology of Harry Potter***

#### **Naomi Morrissette, Molecular Biology & Biochemistry**

The goal of this seminar is to expose students to the extraordinary diversity of biology using the magic of the Harry Potter books as a point of departure for a weekly discussion of fantastical but real biological phenomena. Course topics will include: Dreams, visions and hallucinations: how bioactive compounds affect perceptions; Weird animals: how cuttlefish produce surface coloration to match the environment; Bertie Bott's Beans: the physiology of taste receptors; Werewolves and porphyria; Mythical and genetic chimeras; Magical plants: natural products and the development of medicines; The elixir of life and longevity: telomeres and the biological basis of aging.

Professor Morrissette has always been curious about the natural world and is a bookworm. Her area of expertise is parasitology, but she loves the Harry Potter books (which are far superior to the movies) and is excited about many unusual aspects of biology.

### **SCHOOL OF ENGINEERING *Engineering for Medicine***

#### **Arash Kheradvar, Biomedical Engineering**

This seminar course describe the relationship between Engineering and Medicine and how the two disciplines can work together to improve patient care.

Arash Kheradvar, M.D., Ph.D., FAHA is an associate professor of Biomedical Engineering and Medicine

at the University of California, Irvine. His research interests are focused on cardiac fluid dynamics, developing novel heart valves, and new cardiac imaging technologies. He is the author of more than 20 journal articles and the lead inventor of 30 issued and pending patents in cardiovascular area, mainly on heart valve technologies. Dr. Kheradvar received M.D. from Tehran University of Medical Sciences in 2000. He joined California Institute of Technology in 2002 and completed his Ph.D. in Bioengineering in 2006. He is currently a member of the Edwards Lifesciences Center for Advanced Cardiovascular Technology at UC Irvine where he conducts research. More information about Kheradvar Research Group can be found at: <http://kheradvar.eng.uci.edu/>

## **SCHOOL OF HUMANITIES**

### ***Black-Woman-Worker: South Africa's Race Politics After Apartheid***

**Tiffany Willoughby-Herard, African American Studies**

The politics of blackness in South Africa have been subject to a range of post-racial neoliberal projects. Such projects have discarded attention to enduring racialized poverty. In this freshman seminar we look at the material conditions that gave rise to black women's militant embrace of race, class, and gender in the antiapartheid struggle. In this class we will look at contemporary organizing by activists in South Africa and think about their roots in Fatima Meer's black-woman-worker analysis.

Tiffany Willoughby-Herard (Assistant Professor, African American Studies, University of California, Irvine) conducts research in Black political thought on Black internationalism, the Black radical tradition, and Black feminism and Third World feminisms. Her first book, *Waste of a White Skin* (forthcoming University of California Press), emphasizes transnational linkages that made the politics of scientific racism and civilizing missions directed toward "poor Whites" the central currency for US and South African intellectuals and race relations policy makers. She examines the role of the Carnegie Corporation's international philanthropy in South Africa as an expression of the making of global whiteness and the consolidation of Afrikaner Nationalism.

### ***Nazi Germany: History, Facts and Myths***

**Glenn Levine, German**

In the U.S. much of the knowledge people have about Nazi Germany comes from movies depicting World War II, in which Germans are most often depicted as uniformly evil, simplistic beings whose main purpose is to be gunned down by U.S. G.I.s. Or else we see Nazis in films about the Holocaust, usually in the role of sadistic murderers of innocent civilians. Yet of course the reality is more complex, and ultimately much more interesting. This seminar is for students who want to learn about that troubled period of European history, and gain a more nuanced and complex understanding of the country and the people who brought such destruction on the world and themselves. We will address many questions, including these:

- What were the national socialist ideals and worldview? How, when and where did they develop?

- Who were Adolph Hitler and the Nazi party, and how did they come to power?
- How did Hitler and the Nazis succeed at capturing the hearts and minds of the German people after taking power in 1933?
- What factors and events led to the outbreak of World War II?
- Why and how did the Nazis target the Jews and other minorities for persecution?
- How did Nazi Germany succeed at murdering six millions European Jews, along with many thousands of other minorities such as Sinti Roma (“gypsies”) and homosexuals?
- What effects did the trauma of the Nazi years have on the German people after their defeat in 1945?
- How did Germans deal with the near complete destruction of their society, the intense hatred of much of the world, and the “collective guilt” of their crimes?

In our ten meetings we will read excerpts from Caplan's Nazi Germany in the Short Oxford History of Germany series (2008) and discuss these and other questions in class. There will be no term paper, exams, or other written assignments, though students will be asked to read for and prepare short presentations on some of our topics and questions.

Glenn Levine is a Professor of German in the Department of European Languages and Studies. Professor Levine teaches courses in German and German-Jewish history and culture, as well as applied linguistics and language pedagogy. He is an applied linguist who researches and publishes on second-language acquisition, bilingualism and language pedagogy. He is also closely involved with the Jewish Studies program at UCI.

### ***Knowing Plato***

#### **Ermanno Bencivenga, Philosophy**

A careful reading of Plato's Theaetetus, the first great masterpiece in the history of the theory of knowledge.

A member of UCI for 35 years. The author of over forty books in three languages and the winner of 5 teaching awards.

### ***The Spanish Language Worldwide***

#### **Armin Schwegler, Spanish**

This "fun course" studies the history and contemporary usage of Spanish worldwide. Special emphasis is placed on Latin American dialect varieties (including Mexican, Cuban, Argentinean, Colombian, and USA Spanish). By taking this course students will gain a better appreciation for (1) how and why a once very marginal tongue has become one of the world's major languages, (2) the extent to which Spanish dialects differ today, and (3) how Spanish evolved from Roman times into what it is today. No prior knowledge of spoken or written Spanish required.

For info about Professor Schwegler, visit: [http://www.faculty.uci.edu/profile.cfm?faculty\\_id=2476](http://www.faculty.uci.edu/profile.cfm?faculty_id=2476)

### **Ian Harris, Computer Sciences**

Do you want to understand and build electronic devices? This seminar will introduce all the basics that you will need to start making projects on your own. This will be a hands on class so you will be required to spend about \$80 total on parts that you will build with. We will cover very practical issues, like how to buy electrical parts, how to wire components together, and how to read a component data sheet. You do not need to know about electronics to take this seminar.

Ian G. Harris is currently Vice Chair of Undergraduate Studies in the Department of Computer Science at UCI. He received his BS degree in Computer Science from Massachusetts Institute of Technology in 1990. He received his MS and PhD degrees in Computer Science from the University of California San Diego in 1992 and 1997 respectively. His research interests involve the security and testing of hardware and software systems.

### ***Quantum Computing***

#### **Sandra Irani, Computer Sciences**

As computational devices reach their limits in speed and size, computer scientists and physicists have turned to the question of whether we can build computers based on the principles of quantum mechanics. The laws governing the behavior of the physical world at the scale of electrons are fundamentally different than the classical, macroscopic world. Scientists believe that a computational device that exploits quantum mechanical phenomena will be able to perform complex computational tasks impossible with a classical computer. This seminar will explore the basis of quantum computation, as well as its potential and its limitations. No computer science or quantum mechanics background is required.

Sandy Irani graduated with a degree in in Electrical Engineering and Computer Science from Princeton University in 1986. She completed her PhD in Computer Science at University of California, Berkeley in 1991 and the following year was a recipient of the University of California President's Postdoctoral Fellowship. In the Fall of 1992, she joined the faculty of University of California at Irvine where she is currently a full professor. She served as chair of the Computer Science Department from 2005 to 2008. Her research has focused on the application of algorithm design and analysis to computing systems. In particular, she has specialized in the area of on-line algorithms and their applications to scheduling and resource allocation. In the last few years she has been working in Quantum Computation and Quantum Information Science.

### ***Practicing Problem Solving with Recreational Math***

#### **Amelia Regan, Computer Sciences**

There is no better or more enjoyable way to study problem solving techniques than with classical recreational math problems. These time tested puzzles will challenge the most an less experienced students in the class. Often novices at this find better and more elegant solutions than the instructors who have surely seen most of these problems before.

Amelia Regan is a Professor of Computer Science and Transportation Systems Engineering. Her primary interests are in modeling and optimization of large scale networks of all types.

## **SCHOOL OF LAW**

### **The Supreme Court and the Civil Rights Movement**

Erwin Chemerinsky, *Founding Dean, UCI School of Law*

Howard Gillman, *UCI Chancellor*

**Note: This seminar is for Campuswide Honors Students only. To request authorization to enroll, students should email the Campuswide Honors Program Office at [honors@uci.edu](mailto:honors@uci.edu).**

Between 1954 and 1974, laws that required segregation of the races were eliminated and the first major federal civil rights legislation since the Civil War was adopted. This course will examine what happened and why. It will begin with a look back and end with a look forward. Most of the class will be spent examining the range of dramatic events, from simple acts of protest to widespread civic unrest, and major Supreme Court decisions that led to triumphs and tragedies over two decades. We will explore in depth the interplay between popular culture; citizen activism; and federal, state, and local policy.

Erwin Chemerinsky earned his J.D. from Harvard Law School. He has held faculty appointments at Duke Law School, Gould School of Law at USC and DePaul College of Law. His expertise is in constitutional law, federal practice, civil rights and civil liberties, and appellate litigation. Dean Chemerinsky is the founding Dean of the UCI School of Law and the author of many book; the most recent, *The Case Against the Supreme Court*, was released this fall.

Howard Gillman, Ph.D., became UC Irvine's sixth chancellor on Sept. 18, 2014. He had previously served as provost and executive vice chancellor since June 2013 and interim chancellor since July 1, 2014. An award-winning scholar and teacher, he has academic appointments in the departments of political science, history, law, and criminology, law & society. Among his books are *The Constitution Besieged: The Rise and Demise of Lochner Era Police Powers Jurisprudence* (Duke 1993), *The Votes That Counted: How the Court Decided the 2000 Presidential Election* (Chicago 2001), and *American Constitutionalism* (with Mark Graber and Keith Whittington). He has also co-edited two other volumes and authored more than 40 articles and book chapters. He has received many awards for his scholarship, and for teaching excellence and dedication to students.

## **SCHOOL OF MEDICINE *Introduction to Neuroscience Electronics (aka Do-it-yourself (DIY) Neuroscience)***

### **An Do, Neurology**

Seminar Description: The neurosciences research is seen as very expensive and challenging to become involved in. However, the DIY electronics and "Maker" movement can change all of this. Many hobbyists are starting to use neuronal signals to build exciting hobby projects. This seminar will help students gain understanding on how neural signals are acquired and processed, including electromyogram (EMG) and electroencephalogram (EEG). In this hands-on class, students will learn to design their own signal

acquisition amplifier arrays as well as program microcontrollers to perform this signal acquisition. These fundamental skills can later be used for academic research projects, senior design projects, or for exciting hobby projects.

As an assistant professor in the Department of Neurology, I spend 80% of my time doing research in brain-computer interfaces, and developing the technology to become a clinical tool to treat paralysis. I am the PI/Co-PI on several federal (NSF, VA), state (Roman Reed Spinal Cord Injury Research Foundation), and foundation grants (American Academy of Neurology) to undertake this research. As a result of this research, my lab has made breakthroughs in the field. One notable breakthrough is the development of a BCI, which for the first time in human history, has enabled a person with paraplegia due to spinal cord injury to regain brain-controlled walking. My lab is now currently heavily engaged in the design of specialized electronics for fully implantable brain-computer interface systems. I spend the remaining 20% time performing clinical duties at the UCI Medical Center, where I practice general neurology and neuro-rehabilitation.

### **SCHOOL OF PHYSICAL SCIENCES *Science of Breaking Bad***

#### **Scott Rychnovsky, Chemistry**

The popular television series "Breaking Bad" describes the tribulations of Walter White on his journey from high school chemistry teacher to evil drug lord. Along the way we are introduced to a lot of interesting science, much of it in the area of chemistry. The seminar will sample the scientific elements in a number of episodes and discuss the underlying science. The seminar should be of particular interest for students with an interest in chemistry and related fields.

I am a chemist and a professor. I do not have cancer. I do not make illegal drugs. My research interests are in the area of synthetic organic chemistry. I was born in Albuquerque, but you should not read too much into that statement.

### ***Evolution Algebra--A non-associative approach to non-Mendelian genetics***

#### **Bernard Russo, Math**

A precise mathematical formulation of Mendel's laws of genetics was given in 1941 by none other than the founder of modern information theory, Claude Shannon. Mendelian genetics thus introduced a new subject to mathematics: genetic algebras, the study of which enhanced the understanding of genetic and evolutionary phenomena.

Nowadays, non-Mendelian genetics is a basic language of molecular geneticists, and it offers "evolution algebras" as a tool for its study. Motivated by examples from biology and physics, the seminar will establish the framework of evolution algebra theory and discuss some applications of it in genetics. Contact will be made, in an elementary way, with the mathematical concepts of Markov chain, dynamical system, and graph theory.

Founding member of campus in 1965. Has taught five freshman seminars since 2005.

## **PROGRAM IN PUBLIC HEALTH *Educating Instead of Medicating in Public Health***

### **Zuzana Bic, Public Health**

The goal of the seminar is to learn how to think healthy and increase the level of health literacy.

Dr. Bic studies the impact and application of "lifestyle medicine" (nutrition, physical activity, stress management) on slowing the process of aging and developing of other chronic diseases (headaches, diabetes II, cardiovascular diseases, osteoporosis, fibromyalgia /chronic fatigue syndrome, arthritis, cancer, depression, drug abuse, and others.). She is also working to develop health literacy programs for the K-12 curriculum and for the general public and is an advisor for the Students' Public Health Association at UCI. <http://faculty.sites.uci.edu/zbic/>

## **SCHOOL OF SOCIAL SCIENCES *Sociology of Cartoons***

### **Belinda Robnett-Olsen, Sociology**

Course Description: Cartoons provide powerful messages to viewers about race/ethnicity, class gender, sexuality, sexual orientation, and violence. Millions of children and adults view these seemingly innocuous messages on a daily basis. In this course, we will examine and critique cartoons, including Disney features, Anime, and current popular shows.

Belinda Robnett-Olsen is Professor of Sociology at the University of California, Irvine. Her research interests include racial and ethnic inequality, gender relations, and social movements. She seeks to understand how racial-ethnic and gender hierarchies are formed by and maintained within formal and informal societal institutions including social movement organizations and the dating market.

Freshman Seminar Program

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A [Division of Undergraduate Education](#) Program

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