

## **WINTER QUARTER 2008 CLASSES**

### **IST-8A -001 Shedding Light on Life – An Introduction to Biophotonics (4 Units)**

***Marco Molinaro, Biophotonics***

Biophotonics is the science of generating and harnessing light (photons) to image, detect and manipulate biological materials. Biophotonics is an emerging area of scientific research that uses light and other forms of radiant energy to understand the inner workings of cells and tissues in living organisms. This approach allows researchers to see, measure, analyze and manipulate living tissues in ways that have not been possible before.

Biophotonics is used in biology to study molecular mechanisms, functions of proteins, DNA, and other important molecules. It is used in medicine to study tissue and blood at the macro (large-scale) and micro (very small scale) organism level, and to detect, diagnose and treat diseases in a way that are non-invasive to the body. The National Science Foundation (NSF) has recently funded a major Science and Technology Center (STC) at UC Davis to thoroughly explore the subject of biophotonics. The Center for Biophotonics Science and Technology (CBST) at UC Davis is the only NSF-funded center in the country devoted to the study of light and radiant energy in biology and medicine. The center brings together scientists, industry, educators and the community to research and develop applications for biophotonics. This course involves lectures, discussions with researchers, field-trips, hands-on activities, and demonstrations to other students and the public.

*This course fulfills Science & Engineering Topical Breadth and Writing General Education requirements*

### **IST-8A-002 Biotechnology: The Science and Issues Surrounding The Interface of Life Sciences and High Technology (4 Units)**

***Martina Newell-McGloughlin, Director, UC Systemwide Biotechnology Research &  
Education Program***

The goals of this course are to provide an integrated picture of the fields at the confluence of the life sciences and high technologies that include biotechnology, information technology, and nanotechnology. The course will cover, at a very basic level, the technologies involved, explain the progress made to-date and outline the future of the technology for each application. This will include these technologies as they apply to agriculture including crop production, animal biotechnology, the environment, industrial biotechnology, and animal and human health. We will discuss the major contributions biotechnology and nanotechnology will make to medicine and health care, for humans and animals, in providing improved approaches to the diagnosis, treatment, and prevention of disease. On the other side of the issue, the emergence of Biotechnology has raised many questions of great public interest, including the safety of genetically modified organisms (GMOs) in food and ethical issues on genetic privacy, stem cell research, cloning and gene therapy. These issues will be discussed in the context of the technology. There will also be a field trip to a local biotech company.

*This course fulfills Science and Engineering Topical Breadth and Writing General Education requirements.*

### **IST-8B-001 Chivalry (4 Units)**

***Winder McConnell, German & Russian***

We will examine the origins of chivalry; the controversial matter of whether or not there was a "code" of chivalrous behavior subscribed to by medieval knights; chivalry and women; chivalry and the Church; chivalry and war; and chivalry in the imagination of our own time - chivalry in Hollywood. We will consider the extent to which chivalry means anything in our age and, if so, in what ways does it manifest itself, whether consciously or unconsciously.

*This course fulfills Arts and Humanities Topical Breadth and Writing General Education requirements.*

### **IST-8C -001 The Examined Life (4 Units)**

*Naomi Janowitz, Religious Studies*

Socrates said that the unexamined life is not worth living. What, then, is the examined life? We will consider other people's examinations of their lives (John Stuart Mill, Rousseau) and also examine our own lives, including our pasts (what were we like as children) and presents (who are we now) and our conscious and our unconscious wishes for the future (through dreams). *This class meets from 10:30-11:50 a.m.*

*This course fulfills Social Sciences Topical Breadth and Writing General Education requirements.*

### **IST -8C-002 Stories From World Societies (4 Units)**

*John Boe, English*

Instruction and practice in storytelling (both true life stories and folk tales), in writing true life stories, and in analyzing folk tales (from psychological, literary, and cultural perspectives). Each student will perform two folk tales, will write and perform one more or less true life tale, and will give an oral presentation on a book about stories or storytelling.

*This course fulfills Social Sciences Topical Breadth and Writing General Education requirements.*

## **WINTER QUARTER 2008 SEMINARS**

### **IST 9-001 ISHP Oral History (1-2 Units)**

*John Boe, University Writing Program*

This class will be part of an oral history project developed by Provost Pat Turner. Our goal will be to interview people who were once IS students and to get them to talk about what the experience was like for them, what it meant to them, and how it affected them in college and beyond. IS will supply us with a list of former IS students, and current students will contact these former students to set up interviews. It will be ideal to do the interviews in person, but if need be, we could do phone interviews.

As a group, we will create an interview template (of questions that should be asked), and we will talk about the skills involved in doing a good interview. Students will tape record the interviews (thirty minutes is a likely length), then transcribe and edit the interviews (we hope to have transcription software available, and there will be instruction in editing). For one unit of credit students will complete one interview, transcription, and editing. For two units, students will do two interviews.

We will not have regular classes, but will meet, when needed, in Thompson lounge, at a mutually convenient time. Melody Jue will serve as TA for this seminar.

### **IST 9-002 Research Opportunities In The Biological Sciences (1 Unit)**

*Ken Shackel, Pomology - Limited to 12\**

This seminar exposes students to current research topics in the Biological Sciences at UC Davis. Faculty members make short presentations to a group of 12 students and take them on a tour of their laboratories and research facilities. Recent speakers/topics have included such diverse elements as: Judy Stern - Obesity and Nutrition Research; Dave Rizzo - Sudden Oak Death; Rachel Schwartz for Bernie May - Conservation Genetics; Peter Rodman - Dispersal in Titi Monkeys; Mike Parella - Advancing IPM in Greenhouse Crops; Barry Wilson - Cell Culture, Toxicology and Animal Research; Abhaya Dandekar - Genetic Engineering; Brad Shaffer - Amphibian Reptile Ecology. *\*Priority will be given to students in the College of Biological Sciences*

**IST 9-006 *The Turn of the Screw, From Novella to Opera* (1 Unit)**  
***Simone Clay, French & Italian***

Students will see the opera “The Turn of the Screw” in Sacramento on Sunday, February 24, 2008 at 2:00 p.m. We will meet three times\*: twice before the performance in order to cover the adaptation of the novella by Henry James, and a synopsis of the opera. This novella was also adapted to film; as a result, we’ll discuss further adaptations of the original novella. After the field trip, we will meet once more to discuss students’ reactions to the performance, to discuss the setting and the attribution of voices, and to compare some elements with previous performances of “The Turn of the Screw”. ***\*This class meets February 14, 21 & 28.***