

Science and Society Courses

There are several components to the SAS curriculum. These include large stand-alone lecture courses, smaller seminar courses (SAS 90s), the SAS minor and the Contemporary Leadership minor.

Lecture/discussion courses. These classes introduce students to critical thinking and important contemporary topics in science. SAS 1 introduces students to a variety of topics through guest lectures and discussion. Other courses focus on the details of a single topic (e.g., Disease and Society, Global Climate Change) that is explored from multiple angles. Also, classes may introduce students to groups of organisms that are not traditionally discussed in undergraduate courses, but are still important in society.

Seminar courses. These are small classes built along the freshman seminar model. These classes offer more detailed, hands on opportunities to examine specific topics in a smaller classroom setting.

FALL QUARTER

SAS 1 – Critical Inquiry and Contemporary Issues:

This course centers on critical and integrative thinking. The course begins with an analysis of global population trends and moves through to applications of a variety of analytical tools to thinking critically about related science-societal issues. GE credit: SciEng or SocSci, Div, Wrt / SE, SS, WE. Instructor: Dr. Ed Caswell-Chen, Department of Entomology & Nematology, epcaswell@ucdavis.edu, Fall Quarter.

SAS 4 – Water in Popular Culture:

The overall goal of this course is to use the popular media of film to raise the awareness of students to the importance of water in their lives. Along the way, this course will also further develop students' critical thinking skills regarding presentation of science in popular media. GE credit: SciEng or SocSci, Wrt. / SE, SL, SS. Instructor: Dr. Greg Pasternack, Department of Land, Air and Water Resources, gpast@ucdavis.edu, Fall Quarter.

SAS 11 – California Geography:

Introduction to cultural/societal patterns of California and their relationship to natural resources, biomes, geomorphology, and physiography. Focus on diversity of California's environments and their impacts on and alterations by human activities. Environmental issues in the State. GE credit: SciEng or SocSci, Wrt. / SE, SS, WE. Professor James Richards, Department of Land Air and Water Resources, jhrichards@ucdavis.edu, Fall Quarter.

SAS 12 – Plants and Society: (cross listed as PLS12) *

Dependence of human societies on plant and plant products. Plants as resources for food, fiber, health, enjoyment and environmental services. Sustainable uses of plants for food production, raw materials, bioenergy, and environmental conservation. Global population growth and future food supplies. GE credit: SciEng or SocSci, Wrt., Div. / SE, SS. Instructors: Dr. Li Tian, Dr.

Georgia Drakakaki, Dr. Albert Fischer, Dr. Marie Jasieniuk, Dr. Donald Nevins, Department of Plant Sciences. Fall, Winter and Spring Quarters.

SAS 20 - GENETICS AND SOCIETY: *

This course considers the basic concepts of genetics and modern methods of biotechnology. By examining the process of scientific discovery and the public perception of this process, students are empowered to evaluate for themselves the present and future impact of genetics on society. GE credit: SciEng or SocSci, Wrt. / OL, SE, SL, SS, WE. Instructors: Dr. Doug Cook, Dr. Pam Ronald, Dr. Lynn Epstein, Dr. Gitta Coaker, Department of Plant Pathology. Fall, Winter and Spring Quarters.

SAS 30 - Mushrooms, Molds, and Society:

Historical and contemporary issues are used to examine societal issues arising from the biological activities of fungi. Students gain an appreciation of fungi as organisms and the manner and extent to which their activities have influenced civilization. Issues that arise from our daily interactions with fungi form the context for the course. GE Credit: SciEng or SocSci, Wrt. / SE, SS. Instructor: Dr. Tom Gordon, Department of Plant Pathology, trgordon@ucdavis.edu, Fall Quarter.

SAS 90E – Biotechnology: A New Era, A New Struggle?

This seminar examines the development of animal biotechnology. Particular attention is given to the discussion of potential societal impacts, factors shaping public opinion, and ethical questions regarding applications of biotechnology. Instructor: Dr. James Murray, Department of Animal Science, jdmurray@ucdavis.edu, Fall Quarter.

SAS 90F – Food Distribution in a Hungry World: (Currently not offered)

This seminar examines biological, technological, environmental, and socioeconomic factors influencing post-harvest losses of food. In addition, we examine the distribution systems at local, regional, national, and international levels. Instructor: Dr. Elizabeth Mitchum, Department of Plant Science, ejmitcham@ucdavis.edu, Fall Quarter.

WINTER QUARTER

SAS 2 – Feeding the Planet: Influences on the Global Food Supply:

The goal of this course is to give students a good understanding of the interlinking factors that influence the availability of food worldwide. Social, economic, environmental, climatic, and scientific constraints and their interconnections are presented. Past, present and anticipated problems are analyzed critically. GE credit: SciEng or SocSci, Wrt / SE, SL, SS. Instructors: Dr. Richard Bostock, Dr. Mike Davis, Department of Plant Pathology, rmbostock@ucdavis.edu, rmdavis@ucdavis.edu, Winter Quarter.

SAS 05 - Pathways to Discovery: Science and Society: (CDG)

Highlights a current issue and/or controversy found in contemporary society and looks at how this problem impacts and is affected by the physical, social and biological sciences. Course varies with topics offered. May be repeated two times for credit. GE credit: SciEng or SocSci, Wrt./SE, SS. Winter Quarter.

SAS 8 – Water Quality at Risk: (cross-listed as ERS 08)

Natural and human threats to water quality. Balance of science and policy in all aspects of attaining, maintaining, and managing water quality, water contamination. Decoding popular media coverage of water quality and water contamination. (Not open to students who have successfully completed ERS 8). GE credit: SciEng or SocSci, Wrt. / SE, SL, SS, WE. Instructor: Dr. Peter Hernes, Department of Land, Air and Water Resources, pjhernes@ucdavis.edu, Winter Quarter.

SAS 13 - Disease and Society: (Formally SAS 05)

Broad and balanced introduction to the concept of disease, the societal and personal impacts of past, present and future diseases, and the science behind disease discoveries, causes, evolution, diagnosis, treatment, and prevention. GE credit: SciEng or SocSci. / SE or SS, SL. Instructor Dr. Johan Leveau, Department of Plant Pathology, jleveau@ucdavis.edu, Winter Quarter.

SAS 25 – Global Climate Change: Convergence of Biological, Geophysical, & Social Science:

Causes of global climate change and the biological, geophysical, and social consequences of such change. Methods used by different scientists for predicting future events. Complexity of global affairs. Decision making under uncertainty. GE credit: SciEng or SocSci, Div, Wrt. / OL, QL, SE, SL, SS, VL, WC, WE. Instructor: Dr. Arnold Bloom, Department of Plant Sciences, ajbloom@ucdavis.edu, Winter Quarter.

SAS 25V - Global Climate Change: Convergence of Biological, Geophysical, & Social Science: *

Web virtual lecture; web electronic discussion-2 hours; autotutorial-5 hours; extensive writing-2 hours. Causes of global climate change and the biological, geophysical, and social consequences of such change. Methods used by different scientists for predicting future events. Complexity of global affairs. Decision making under uncertainty. (Students cannot take both course 025 and 025V for credit). GE credit: SE or SS, DD, OL, QL, SL, VL, WC, WE. (II.)

Instructor: Dr. Arnold Bloom, Department of Plant Sciences, ajbloom@ucdavis.edu, Fall, Winter, and Spring Quarters.

SAS 42 – Earth, Water, Science, and Song:

Fusion of water and soil science with performing arts. Creative communication of scientific concepts and facts through exercises in song writing and poetry. Design, discuss and conduct public performances related to the functioning of the natural world. GE credit: ArtHum or SciEng, Div, Wrt. / AH, OL, SE. Instructor: Dr. Wendy Silk, Department of Land, Air and Water Resources, wksilk@ucdavis.edu, Winter Quarter.

SAS 70A - Genetic Engineering in Medicine, Agriculture, and Law:

The course is designed to provide non-science majors and entering life-science students with a foundation in molecular biology and genetics as it applies to genetic engineering and to address the social, legal, and ethical issues that arise from emerging new genetic technologies in medicine, agriculture, and law. The course is offered in a distance learning format with a class on the same topic at UCLA. The class will meet twice weekly for 2.5 hours each. Class meetings will consist of interactive, media-oriented lecture section that includes hands-on "experiments" and demonstrations and films and guest-speakers that bring real-life societal issues into the classroom. GE credit: SocSci or SciEng. / SE, SI, SS. Instructor: Dr. John Harada, Department of Plant Biology, jjharada@ucdavis.edu, Winter Quarter.

SAS 121 - Global Poverty: Critical Thinking and Taking Action: (pending senate approval , formerly SAS120), No Credit if previously took (SAS 120) Winter 2013 or before.

Social science and engineering analysis of causes and effects of world poverty and of policies to reduce it via economic growth, foreign aid, and community-level interventions, e.g., in potable water, sanitation, lighting, small scale energy, irrigation, health and microfinance. GE credit: SocSci/SS, WC. Instructor: Dr. Lovell Jarvis, Department of Agricultural and Resource Economics, lsjarvis@ucdavis.edu, Winter Quarter.

SAS 130 – Contemporary Leadership:

This course centers on leadership, including issues, skills, and practices as they relate to individuals, organizations, diverse social settings and communities. Addresses written and verbal communications, personal styles, collaboration and ethics. (First Day Attendance Mandatory, Limited Enrollment). GE credit: OL. Instructor: Dr. Annie King, Department of Animal Science, ajking@ucdavis.edu, Winter, Spring Quarters.

SPRING QUARTER

SAS 3 – Science, Technology and Society: (not currently offered)

Impact of developments in science and technology on the individual in society and how economics, politics, culture and values affect technological development. Not open for credit to students who have completed former course Applied Behavioral Sciences 18. GE credit: SciEng or SocSci, Wrt. / SE, SS.

SAS5 –Pathways to Discovery: Science and Society – Topic: Civilizations, Soil and Culture:

The focus of this course is to explore past civilizations and examine how their management of soil and other natural resources allowed them to flourish, decline, or perhaps fail. This course will examine agricultural practices, irrigation approaches, deforestation, and land management with a focus on soil conservation. Students will be asked to critically explore current management of natural resources and discuss sustainability of our own society. GE credit: SciEng or SocSci, Wrt. Instructor: Dr. Sanjai Parikh, Department of Land Air Water Resources, sjparikh@ucdavis.edu, Spring Quarter.

SAS 7 – Terrorism and War:

Introduction to the course concept: how events of September 11th changed military and homeland security concepts; biology of Ground Zero; and present-day low grade conflicts. 'New biology' meets 'new terrorism' by using the recent events as a jump-off point for this course. GE credit: SciEng or SocSci, Div, Wrt. / SE, SS, WE. Instructor: Dr. James Carey, Department of Entomology, jrcarey@ucdavis.edu, Spring Quarter.

SAS 07V – Terrorism and War:

Web Virtual Lecture-3 hours, autotutorial-5 hours, web electronic discussion-1 hour, extensive writing; term paper or discussion. Prerequisite: consent of instructor.

Terrorism and war from science and social sciences perspectives: terrorism (terrorist cells, WMD's, religious extremism), warfare (military strategy, genocide), and statecraft (diplomacy, clash of civilizations, epochal wars). GE credit: SocSci, Wrt/SS, WC, WE. Instructor: Dr. James R. Carey, Department of Entomology, jrcarey@ucdavis.edu, Dr. John Arquilla, Department of Defense, Spring Quarter.

SAS 9 – Crisis in the Environment:

This course explores the question: Is there a crisis in the California and/or global environment? It also explores contemporary environmental issues: Causes; Effects and Solutions. In this course we want students to integrate discussion of political, societal and economic impacts of environmental problems. GE credit: SciEng or SocSci, Wrt. / SE, SS, WE. Instructors: Dr. Randy Dahlgren, Dr. Benjamin Houlton, Department of Land, Air and Water Resources, radahlgren@ucdavis.edu, bzhoulton@ucdavis.edu, Spring Quarter.

SAS 10 – Water and Power in Society: (cross listed as HYD 10)

Water resources issues: How water has been used to gain and wield socio-political power. Water resources development in California as related to current and future sustainability of water quantity and quality. Roles of science and policy in solving water problems. GE credit:

SciEng or SocSci, Wrt/SE or SS, WE. Instructor: Graham Fogg, Department of Land, Air and Water Resources, gefogg@ucdavis.edu, Spring Quarter.

SAS 18 – GIS and Society:

Learn Geographic Information Systems (GIS) as a spatial technology and as a tool for change in society. Evaluate physical, biological and social impact of GIS in the context of case studies such as land, water and community planning. Earn GIS certificate from Environmental Science Research Institute (ESRI) via their online virtual campus. GE credit: SciEng or SocSci, Wrt. / QL, SE, SL, SS, VL. Instructor: Dr. Wes Wallender, Department of Land, Air and Water Resources, wwwallender@ucdavis.edu, Spring Quarter.

SAS 40 – Photography: Bridging Art and Science:

Photography is used to explore the common ground between art and science. Photographic processes, creativity and aesthetics, chaos and order, principles of space, time and light. Photographic interpretation and documentation of the natural world. Camera required. GE credit: ArtHum or SciEng or SocSci, Div. Wrt. / AH, SE, SI, VI, WE. Instructor: Dr. Terry Nathan, Department of Land, Air and Water Resources, trnathan@ucdavis.edu, Spring Quarter.

SAS 90G – Science, Society and the Environment:

Contemporary environmental issues, scientific approaches to addressing these issues, and accompanying societal and ethical considerations. Instructor: Dr. Barry Wilson, Department of Animal Science, bwwilson@ucdavis.edu, Spring Quarter.

SAS 110 – Applications of Evolution in Medicine, Human Behavior, and Agriculture

Prerequisite: Biological Sciences 2A, 2B, and 2C. Applications of evolutionary biology in medicine, human behavior, and agriculture. Examination of the imprint of evolution on the human life cycle from conception to death. GE credit: SciEng/SE, SL, WE. Instructor: Dr. Jay Rosenheim, Department of Entomology & Nematology, jarosenheim@ucdavis.edu, Spring Quarter.

SAS 120 – Science and Contemporary Societal Issues: (Course not offered every year)

Course centers on the study of a contemporary societal issue/problem emphasizing critical thinking with information drawn from different disciplines. Multiple instructors illustrate the necessity of an inter-disciplinary and cooperative approach in solving societal issues. Topic will vary. GE credit: SciEng or SocSci, Wrt. / SE, SS. Spring Quarter.

SAS 130 – Contemporary Leadership:

This course centers on leadership, including issues, skills, and practices as they relate to individuals, organizations, diverse social settings and communities. Addresses written and verbal communications, personal styles, collaboration and ethics. (First Day Attendance Mandatory, Limited Enrollment). Instructor: Dr. Annie King, Department of Animal Science, ajking@ucdavis.edu, Winter, Spring Quarters.

*Offered every quarter