### Science and Technology Studies

#### Professional

**390. Teaching Methods in Science and Society (1)**
- **Discussion:** 1 hour. Prerequisite: graduate level and consent of instructor. Practical experience in methods and problems related to teaching Science and Society courses. Discussion of critical pedagogies specific to teaching of science-societal issues, preparing for and conducting discussion sections, analyses of texts and supporting material, formulation of assignments, exams. May be repeated for credit. (S/U grading only).—F, W, S. (F, W, S.)

#### Science and Technology Studies

**College of Letters and Science**

**Timothy Choy, Ph.D., Program Director**

**Program Office,** 101 Young Hall; staadvising@ucdavis.edu; http://sts.ucdavis.edu

**Committee in Charge**

- **Mario Biagioli, Ph.D.** (Science and Technology Studies, School of Law)
- **Patrick Carroll, Ph.D.** (Sociology)
- **Joseph Dumit, Ph.D.** (Anthropology)
- **Kathleen Frederick, Ph.D.** (English)
- **James Griesemer, Ph.D.** (Philosophy)
- **Kalin Milburn, Ph.D.** (Science and Technology Studies)
- **Colin Milburn, Ph.D.** (English, Science and Technology Studies)
- **Roberta Millstein, Ph.D.** (Philosophy)
- **Kris Ravezz-Biagioli, Ph.D.** (Cinema and Digital Media, Science and Technology Studies)
- **Daniel Stolzenberg, Ph.D.** (History)

**The Major Program**

The Science and Technology Studies (STS) major brings the perspectives of the humanities and social sciences to bear on the analysis and synthesis of science, technology, and medicine. It considers science, technology, and medicine, in tandem with their social, political, economic, and cultural contexts and implications. The major draws on the research programs of faculty in a wide range of departments, including American Studies, Anthropology, Economics, Environmental Science and Policy, History, Philosophy, Political Science, Science and Technology Studies, and Sociology. The major is suitable for students pursuing a broader understanding of science than is available within a traditional science major and for students in the social sciences interested in science and society.

**The Program.** Graduation with a degree in Science and Technology Studies requires completion of introductory courses in the social sciences and humanities, in the natural sciences, and introductory, laboratory, and seminar courses in STS. Upper division work includes twelve units from each of two different, complementary areas of concentration ("modules") and an additional module (plus prerequisites) providing depth, concentration, and field work opportunities in the sciences. The modules are: (1) Cultural Studies of Science and Technology; (2) Ethics, Values, and Science Policy; (3) History and Philosophy of Science; IV. Medicine, Society, and Culture. Courses in the modules require careful selection to make the best use of the STS major. Prerequisites for courses in the sciences can be extensive and require substantial advance planning for timely completion. Students are encouraged to take advantage of faculty and staff advising to plan their course of study.

**Career Alternatives.** The STS major will create an opportunity to analyze science and allied practices from historical, philosophical, sociological, political, anthropological, and cultural perspectives. STS prepares students for careers that must address the broader social, cultural and political ramifications of science, technology and medicine such as law, journalism, public policy, economics, government, and science education. Students of STS from many universities nationwide have pursued, in addition to academic careers in STS, include employment in: systems engineering, websites, design, science museums, research organizations, government service, libraries, law, medicine, veterinary medicine, dentistry, nursing, teaching, public health administration, media companies, management consultant practice, and the Peace Corps.

### A.B. Major Requirements

**UNITS**

**Preparatory Subject Matter................. 16**

Science and Technology Studies

- **Science and Technology Studies 1**
- **Science and Technology Studies 20**

Eight units selected from American Studies 1A, 1E, 5, Environmental Humanities 3; Philosophy 30, 31, 32; Science and Society 1, 2, 3, 5; Science and Technology Studies 32; Lower-division science courses from the Approved Science Electives (see list below)...

**Depth Subject Matter................. 44**

Twelve units each from two of the following four modules:

- (1) Cultural Studies of Science and Technology: American Studies 101G, 158; Community and Regional Development 118, 162; History 139A, 139B; Science and Technology Studies 108, 109, 120, 130A, 131, 150, 160, 162, 165, 173, 176; Sociology 150, 175...
- (2) Ethics, Values, and Science Policy: Agricultural and Resource Economics 120, 147; American Studies 125; Communication 170; Computer Science 188; Environmental Science and Policy 165; History 1858; Philosophy 116, 120; Physics 137, 160; Plant Pathology 140; Political Science 171, 175, Science and Technology Studies 109, 120, 162, 164; Veterinary Medicine 170...
- (3) History and Philosophy of Science: History 135A, 135B, 136, 185A, 185B; Philosophy 104, 105, 118, Science and Technology Studies 120, 130A, 130B, 131, 160, 161, 163, 164...
- (4) Medicine, Society, and Culture: American Studies 101G; Communication 165; Public Health Sciences 101, 160; History 139A, 139B, Science and Technology Studies 109, 120, 121; Sociology 154...

Note: Although a course may be listed in more than one module, that course may satisfy only one requirement.

**Science and Technology Studies 175 .... 4**

**Science and Technology Studies 180 or 190 .... 4**

**Science Electives:** Select twelve units, at least eight of which must be from the STS major, from courses, from the Approved Science Electives list below. [Unit totals will vary with required prerequisites].

**Total Units for the Major............. 60-80**

**Approved Science Electives.** Courses may be drawn from any of the following approved subject areas:

- Aeronautical Science and Engineering;
- Animal Genetics; Animal Science;
- Anthropology; Applied Behavioral Sciences;
- Art and Humanities; Visual and Cultural Studies; World Cultures; Writing Experience; History, Philosophy, Political Science, Science and Technology Studies; Agriculture and Resource Economics, Animal Science, Anthropology, Applied Behavioral Sciences;
50. Ancient Science (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: Mathematics 16A or the equivalent. Study of science in ancient Greece and Rome; consideration of its social context; concentration on the basic concepts of physics, the world of medicine and biology, the history of mathematics, the evolution of astronomy, astrology and meteorology. (Same course as Classics 50.) Offered in alternate years. GE credit: ArtHum, Wrt|AH, WC, WE.—Webster

51. Ancient Medicine (4)
Lecture—3 hours; discussion—1 hour. Medicine in ancient Greece and Rome; physiological conceptions of the body within scientific and social frameworks; exploration of sanitation technology and health in antiquity; management of the female body; medicine and the economy. (Same course as Classics 51.) Offered in alternate years. GE credit: AH, WC, WE.—Webster

92. Internship (1-12)
Internship—3-36 hours. Prerequisite: consent of instructor. Work experience off and on campus in all subject areas in the program. GE credit: SciEng or SocSci, Wrt|SS, WE.—Carroll

108. Intellectual Property in Science (4)
Lecture/discussion—4 hours. Prerequisite: course 1, or other Social Science or Humanities writing course. Historical and conceptual framework for contemporary debates about intellectual property and science. Topics include US patent system and copyright law, interaction between patents and industrial policy, credit in academic and industrial science, role of IP in global knowledge. GE credit: SocSci, Wrt|ACGH, SS, WE.—Biagioli

Visualizing in Science (4)
Lecture—3 hours; extensive writing or discussion—1 hour. Historical, aesthetic and critical approaches to the emergence of new technologies since the invention of photography. Examine various approaches to media (formalist, semiotic, structuralist, Frankfurt School, cybernetics, visual and gamer theory). (Same course as Cinema and Technocultural Studies 160.) GE credit: AH or SS, Ot, Wt, Vt.

Lecture—3 hours; extensive writing or discussion—1 hour. Historical, aesthetic and critical approaches to how information technologies produced ghost effects or a sense of terror in response to new media like the photograph, gramophone, film, typewriter, computer, Turing Machine. Focus on technological media transforms sense perception. Offered in alternate years. (Same course as Cinema and Technocultural Studies 160.) GE credit: ArtHum or SocSci | ACGH, AH or SS, VL, WE.—Ravetto-Biagioli

121. Time: Mechanism and Measurement (4)
Lecture/discussion—3 hours; term paper. Prerequisite: course 1. Cultural concepts of time; units and instruments of time measurement; historical differences in the social organization of time; and time measurement in twentieth-century science. GE credit: SocSci, Wrt|SS, WE.

126. Surveillance Technologies and Social Media (4)
Lecture—3 hours; film viewing—3 hours; term paper. Prerequisite: Technocultural Studies 1 or course 20. Study of the ubiquitous presence of CCTV, face recognition software, global tracking systems, biosensors, and data mining practices that have made surveillance a part of everyday life. Exploration of the boundary between security and control, information and spying. (Same course as Cinema &
Sexuality Studies 545

190. Seminar in Science, Technology and Medicine Studies (4)
Lecture/discussion—3 hours; term paper; Prerequisite: open to junior and senior Science and Technology Studies majors only. Intensive reading, discussion, research and writing by small groups in selected topics of science, technology, and medicine studies scholarship. Emphasis on individual research projects.

192. Internship (1-12)
Internship—3-36 hours. Prerequisite: consent of instructor. Work experience off and on campus in all subject areas permitted. In Science & Technology Studies under the supervision of a member of the faculty. May be repeated three times for up to 12 units for credit. (P/NP grading only.)

198. Directed Group Study (1-5)
Prerequisite: consent of instructor. (P/NP grading only)

199. Special Study for Advanced Undergraduates (1-5)
Prerequisite: consent of instructor. (P/NP grading only)

Graduate

200. Theories and Methods in Science & Technology Studies (4)
Seminar—3 hours; term paper. Theories and methods of Science & Technology Studies as a field of critical and empirical scholarship, and examination of various contexts in which STS has emerged worldwide. May be repeated one time for credit with consent of instructor.

298. Group Study (1-5)
Prerequisite: consent of instructor. (S/U grading only)

299. Research (1-12)
Prerequisite: consent of instructor. (S/U grading only)

Professional

396. Teaching Assistant Training Practicum (1-4)
Prerequisite: graduate standing. May be repeated for credit. (S/U grading only)

Sexuality Studies

[College of Letters and Science]
http://gsws.ucdavis.edu/sexualitystudies

The interdisciplinary minor in Sexuality Studies explores the racial, ethnic, class and gender aspects of human relations in the modern world. Students study human societies and cultures from a multi-ethnic perspective and across established academic departmental lines. The minor is jointly sponsored by African American and African Studies, Asian American Studies, Chicana/o Studies, American Studies, and Women and Gender Studies.

Minor Program Requirements:

- Select one course from each of the following six groups to total 24 units:
  - (A) courses in Anthropology and Native American Studies
  - (B) courses in Asian American and African American Studies
  - (C) courses in Asian American Studies
  - (D) courses in Native Americans Literatures
  - (E) courses in Women's Studies
  - (F) courses in Women and Gender Studies

- The minor is sponsored by the Program in Gender, Sexuality and Women's Studies.

Minor Program Requirements:

Sexuality Studies

Social and Ethnic Relations

[College of Letters and Science]

The interdisciplinary minor in Social and Ethnic Relations explores the racial, ethnic, class and gender aspects of human relations in the modern world. Students study human societies and cultures from a multi-ethnic perspective and across established academic departmental lines. The minor is jointly sponsored by African American and African Studies, Asian American Studies, Chicana/o Studies, American Studies, and Women and Gender Studies.

Minor Program Requirements:

- Select one course from each of the following six groups to total 24 units:
  - (A) American courses in African American and African Studies
  - (B) American courses in African American Studies
  - (C) courses in African American Studies
  - (D) courses in Native Americans Literatures
  - (E) courses in Women's Studies
  - (F) courses in Women and Gender Studies

- The minor is sponsored by the Program in Gender, Sexuality and Women's Studies.

Social Sciences

[College of Letters and Science]

Program Office. 469 Kerr Hall; 530-752-0741

Committee in Charge

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Dina Okamoto, Ph.D. (Sociology)
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Ann Stevens, Ph.D. (Economics)