SCIENCE, TECHNOLOGY, & SOCIETY (STS)

STS 1. The Public Life of Science and Technology. 4 Units.
The course focuses on key social, cultural, and values issues raised by contemporary scientific and technological developments through the STS interdisciplinary lens by developing and applying skills in three areas: (a) The historical analysis of contemporary global matters (e.g., spread of technologies; climate change response); (b) The bioethical reasoning around health issues (e.g., disease management; privacy rights); and (c) The sociological study of knowledge (e.g., intellectual property, science publishing). A discussion section is required and will be assigned the first week of class.

STS 103Q. Reading and Writing Poetry about Science. 4 Units.
Preference to sophomores. Students will study recent poetry inspired by the phenomena and history of the sciences in order to write such poems themselves. These poems bring sensuous human experience to bear on biology, ecology, astronomy, physics, earth science, and medicine, as well as on technological advances and calamities. Poets such as Linda Bierds, Mark Doty, Albert Goldbarth, Sarah Lindsay, W.S. Merwin, Adrienne Rich, Pattiann Rogers, Tracy K. Smith, Arthur Sze, and C. K. Williams. Grounding in poetics, research in individually chosen areas of science, weekly analytical and creative writing. Fulfills the Creative Expression requirement. Enrollment limited to 12.

STS 123. Making of a Nuclear World: History, Politics, and Culture. 4 Units.
Nuclear technology has shaped our world through its various applications (e.g., weapons, energy production, medicine) and accidents and disasters (e.g., Chernobyl, Three Mile Island, Fukushima). This course will examine the development of nuclear technology and its consequences to politics and culture at the global, national, regional and local levels from interdisciplinary perspectives. Some of the key questions addressed are: How did different countries and communities experience and respond to the 1945 bombings of Hiroshima and Nagasaki? How did such experiences affect the later development of the technology in different national contexts? How have nuclear tests and disasters change the ways in which risks are understood and managed globally and locally? What kinds of political activism, international arrangements, and cultural tropes and imageries emerged in response to nuclear technology? We explore these questions through key works and recent studies in history, anthropology, sociology, and science and technology studies, as well as through films and literature.

STS 131. Science, Technology, and Environmental Justice. 4 Units.
The Bay Area is renowned for its technological innovations and progressive politics, including environmental justice activism. This course explores the multifaceted intersections of science, technology, and environmental issues, in the Bay Area and beyond. Throughout, students investigate the politics of place, with an eye to inequalities of race, class, gender, generation, and citizenship. Topics include: histories of environmentalism; socio-technological systems; urban and regional planning; public health and biomedicine; food systems; climate change; innovation ecosystems; undone science.

STS 136. Anthropological Inquiries: Cold War, Nuclear Testing, Energy, and Human Rights. 4 Units.
The atomic age has remade communities, public cultures, and the consciousness of individuals all across the globe. What are the political, social, cultural, and scientific legacies of nuclear testing and disasters? Think: Hiroshima, Nagasaki, Chernobyl, Fukushima and Soviet, French, and American nuclear weapons testing. But also think: nuclear energy production as a ¿forward thinking¿ solution to carbon emissions. Indeed, the military and peaceful use of the atom is a transnational phenomenon with local manifestations and consequences, but what are the social implications of the nuclear age? How do scientists and institutions attempt to manage and control risk? This class explores these questions by studying the aftermath of the nuclear age through full-length ethnographies, journal articles, and film. Each week we will investigate the contested nature of this topic through a diversity of perspectives, past and present. This is a survey course, designed for advanced placement high school, undergraduate, and graduate students.

STS 140. Science, Technology and Politics. 5 Units.
This course will critically interrogate the relationship between science and technology and politics. Politics plays a significant role in the production of scientific knowledge and technological artifacts. Science and technology in turn constitute crucial elements of politics and governance in modern democracy. This course will explore these interactions through (1) key theoretical texts in STS and (2) case studies of such issues as climate change, race and science, urban planning, elections and technology, and information technology in social movements. Preference to juniors and seniors. First class attendance mandatory. Enrollment limited to 16.

STS 160Q. Technology in Contemporary Society. 4 Units.
Preference to sophomores. Introduction to the STS field. The nature of science and technology and their relationship, what is most distinctive about these forces today, and how they have transformed and been affected by contemporary society. Social, cultural, and ethical issues raised by recent scientific and technological developments. Case studies from areas such as information technology and biotechnology, with emphasis on the contemporary U.S. Unexpected influences of science and technology on contemporary society and how social forces shape scientific and technological enterprises and their products. Enrollment limited to 12.

STS 165N. Cars: Past, Present, and Future. 3 Units.
(Formerly COMM 165N.) Preference to freshmen. Focus is on the past, present and future of the automobile, bridging the humanities, social sciences, design, and engineering. Focus on the human experiences of designing, making, driving, being driven, living with, and dreaming of the automobile. A different theme featured each week in discussion around a talk and supported by key readings and media. Course is informed by history, archaeology, ethnography, human-technology interaction, mechanical engineering, and cognitive science.

STS 186. Innovation and Entrepreneurship: A Triple Helix of University Industry Government Interactions. 3 Units.
This seminar examines the origins, growth and risks of Knowledge-based ecosystems. Is Silicon Valley sustainable and replicable? Where is 1960’s Boston Route 128 innovation hub today? Are the Golden Triangle (Oxford, Cambridge, London) Moscow’s Skolkovo; North Carolina’s Research Triangle; France’s Sophia Antipolis and other wannabe Silicon Landscapes viable? What is the role of Civil Society, gender balance and diversity, the arts and sciences: natural and social in innovation policy and practice? Innovation in innovation is the invention of organizational formats that facilitate product, process and social innovation. Start-ups and spin-offs, the Entrepreneurial University and Public Venture Capital and have been innovation drivers but are they sufficient? Can debt funded R&D sustain innovation? We will study the Stanford Innovation System and publish our results.
STS 190. Issues in Technology and the Environment. 4 Units.
Humans have long shaped and reshaped the natural world with technologies. Once a menacing presence to conquer or an infinite reserve for resources, nature is now understood to require constant protection from damage and loss. In this course students will examine how politics, culture, and technology intersect in our food practices. Through a survey of academic, journalistic, and artistic works on food and eating, the course will explore a set of key analytical frameworks and conceptual tools in STS, such as the politics of technology, classification and identity, and nature/culture boundaries. The topics covered include: industrialization, modernism, nuclear technology, and biotechnology. Students will explore theoretical and methodological approaches in STS and conduct original research that addresses this human-nature-technology nexus.

STS 191. Introduction to Research in STS. 4 Units.
This seminar introduces key analytical approaches and methodologies in STS, as well as basic tools for conducting original research in STS. Students survey a series of influential empirical studies; identify productive questions of their own interest; and explore how to pursue them through strong research design. Research proposal as final assignment. Preference to STS juniors; others require consent of instructor. The final proposal can serve as an honors prospectus for students who seek to participate in the STS honors program.

STS 199A. Curricular Practical Training. 1 Unit.
Students obtain internship in a relevant research or industrial activity to enhance their professional experience consistent with their degree program and area of concentration. Prior to enrolling students must get internship approved by the STS Program Director. At the end of the quarter, a one-page final report must be supplied documenting work done and relevance to degree program. Meets the requirements for Curricular Practical Training for students on F-1 visas. Student is responsible for arranging own internship. Limited to declared STS majors only. Course may be repeated twice. Instructor consent required. Please contact the department for a permission number.

STS 199J. Editing a Science Technology and Society Journal. 1-2 Unit.
The Science Technology and Society (STS) Program has a student journal, Intersect, that has been publishing STS student papers for a number of years. This course involves learning about how to serve as an editor of a peer-reviewed journal, while serving as one of the listed editors of Intersect. Entirely operated online, the journal uses a work-flow management to help with the submission process, peer-review, editing, and publication. Student editors learn by being involved in the publishing process, from soliciting manuscripts to publishing the journal’s annual issue, while working in consultation with the instructor. Students will also learn about current practices and institutional frameworks around open access and digital publishing.

STS 200A. Food and Society: Politics, Culture and Technology. 5 Units.
This course will examine how politics, culture, and technology intersect in our food practices. Through a survey of academic, journalistic, and artistic works on food and eating, the course will explore a set of key analytical frameworks and conceptual tools in STS, such as the politics of technology, classification and identity, and nature/culture boundaries. The topics covered include: the industrialization of agriculture; technology and the modes of eating (e.g., the rise of restaurants); food taboos; globalization and local foodways; food and environmentalism; and new technologies in production (e.g., genetically modified food). Through food as a window, the course intends to achieve two broad intellectual goals. First, students will explore various theoretical and methodological approaches in STS. In particular, they will pay particular attention to the ways in which politics, culture, and technology intersect in food practices. Second, student will develop a set of basic skills and tools for their own critical thinking and empirical research, and design and conduct independent research on a topic related to food. First class attendance mandatory. STS majors must have Senior status to enroll in this Senior Capstone course.

STS 200D. Top Ten Textnologies. 5 Units.
This course will explore in detail ten of the most successful and long-lived technologies of human communication over the course of ten weeks. We’ll examine the Rosetta Stone, Crazy Horse Mountain, the Voyich Manuscript, Banksy’s Graffiti, Jackson Pollock’s Lucifer, The London Illustrated News, Rihanna’s ‘Work’, the IPad, GoogleVR, and a nickel. We shall create biographies of these textual objects to better understand their effectiveness, the intentionality behind their creation and production, their affordances and functionality in the real world. Students will learn to describe and evaluate the major physical attributes and concepts that essentially underpin all forms of human communication. They’ll then use this knowledge to replicate, augment, and reform current and historical text technologies.

STS 200E. Technology, Nature, and Environmentalism. 5 Units.
Humans have long shaped and reshaped the natural world with technologies. Once a menacing presence to conquer or an infinite reserve for resources, nature is now understood to require constant protection from damage and loss. Humanity’s relationships with the environment have changed over time and differed across societies. In this course, students (1) explore diverse ways in which people in different historical and cultural settings have conceptualized nature and their relationships with it, with a focus on the role of technology; and (2) learn the basics of STS research and conduct an original study that addresses this human-nature-technology nexus. First class attendance mandatory. STS majors must have senior status to enroll in this senior capstone course.

STS 200F. Sociology of Innovation and Invention. 5 Units.
This course examines the social, cultural, and economic factors that foster novelty. We will study a wide array of historical contexts, from the Renaissance to the present day, in which clusters of related innovations transformed the way things are done. We ask when do such innovations cascade out and produce social inventions that, for good and bad, create profound changes in how things are done, leading to new forms of organizations and new categories of people. Seminar/lecture format, reading intensive, final term paper. Prerequisite: admission to the course is restricted to declared STS seniors and is by application only. Email Emily Van Poetsch (emilyvp@stanford.edu) for an application. Applications must be submitted by 5pm on November 1st.

STS 200H. Ethics, Science, & Technology. 4 Units.
Critical analysis of ethical issues raised by recent or emerging advances in science and engineering. Issues: privacy, intellectual property, design equity, the public interest, ethical responsibilities of technical practitioners, research ethics, and freedom of inquiry. Advances from fields such as IT, biotechnology, nanotechnology, neurotechnology, construction technology, and transport technology. Seminar limited to 20 senior STS majors. Prerequisite: a course in ethics or permission of the instructor.

STS 200K. Sciences of Learning. 4 Units.
Understanding the process of learning has enticed and eluded scientists for generations. Abetted by the rise of massive open online courses (MOOCs), learning has attracted new cadres of researchers and stars from scientists in adjacent fields, as well as new forms of financial support and visibility. This seminar investigates the recent dynamics of learning science as a case study in the politics of knowledge. Student projects will enable focused empirical inquiry.
STS 200L. Critique of Technology. 3-5 Units.
Informed citizens living in today’s world, and especially in Silicon Valley, should be able to formulate their own articulate positions about the role of technology in culture. The course gives students the tools to do so. Against the trend towards the thoughtless celebration of all things technological, we will engage in critique in the two senses of the term: as careful study of the cultural implications of technology and as balanced, argumentative criticism. Can technology make life more meaningful, society more fair, people smarter, and the world smaller? We will pay special attention to the insights that literature, and other arts, can offer for reframing digital culture. Selections by Latin American fiction writers (Cortázar, Zambra), philosophers and thinkers (Heidegger and Beller), as well as recent popular works of social commentary, such as You are not a Gadget, The Shallows, 24/7, and Present Shock. Taught in English.
Same as: ILAC 235

STS 299. Advanced Individual Work. 1-5 Unit.
For students in the STS Honors program. Every unit of credit is understood to represent three hours of work per week per term and is to be agreed upon between the student and the faculty member. May be repeated for credit.