

SCIENCE, TECHNOLOGY, AND SOCIETY

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Courses given in Science, Technology, and Society have the subject code STS. For a complete list of subject codes, see Appendix B.

Technology and science are activities of central importance in modern life, intimately bound up with industrial society's evolving character, problems, and potentials. If scientific and technological pursuits are to further enhance human well-being, they and their effects on society and the individual must be better understood by non-technical professionals and ordinary citizens as well as by engineers and scientists. Issues of professional ethics and social responsibility confront technical practitioners. At the same time, lawyers, public officials, civil servants, and business people are increasingly called upon to make decisions requiring a basic understanding of science and technology and their ethical, social, and environmental consequences. Ordinary citizens, moreover, are being asked with increasing frequency to pass judgment on controversial matters of public policy related to science and technology. These circumstances require education befitting the complex sociotechnical character of the contemporary era.

Science, Technology, and Society (STS) is an interdisciplinary program devoted to understanding the natures, consequences, and shaping of technological and scientific activities in modern industrial society. Achieving this understanding requires critical analysis of the interplay of science and technology with human values and world views, political and economic forces, and cultural and environmental factors. Hence, students in STS courses study science and technology in society from a variety of perspectives in the humanities and social sciences. To provide a basic understanding of technology and science, STS majors are also required to achieve either literacy (B.A.) or a solid grasp of fundamentals (B.S.) in some area of engineering or science.

GENERAL INFORMATION

Selected STS courses may be used, individually or in groups, for various purposes:

1. To satisfy University General Education Requirements
2. To satisfy the Technology in Society Requirement of the School of Engineering
3. To comprise parts of student-designed concentrations required for majors in fields such as Human Biology and Public Policy
4. To satisfy the requirements of the STS Honors Program complementing any major (see below)
5. To satisfy requirements for majors in STS (see below)
6. To satisfy requirements for a minor in STS (see below)

STS courses are particularly valuable for undergraduates planning further study in graduate professional schools (for example, in business, education, engineering, law, journalism, or medicine) and for students wishing to relate the specialized knowledge of their major fields to broad technology and science-related aspects of modern society and culture.

UNDERGRADUATE PROGRAMS

Degree programs in STS are interdisciplinary curricula devoted to understanding the nature and significance of technology and science in modern society. Majors analyze phenomena of science and technology in society from ethical, aesthetic, historical, economic, and sociological perspectives. In addition, students pursuing the B.A. degree study a technical field in sufficient depth to obtain a grasp of basic concepts and methods, and complete a structured concentration on a theme, a particular STS issue, problem, or area of personal interest related to science and technology in society. Those seeking the B.S. degree complete at least 50 units in technology, science, and mathematics. The particular technical courses chosen reflect the student's special interest in science and technology in society. Specific requirements for the bachelor's degree in STS are as follows:

BACHELOR OF ARTS

1. STS Core (eight courses):
 - a) Interdisciplinary Foundational course: STS 101 or 101Q
 - b) Disciplinary Analyses (five courses with no more than two in each category):
 - 1) Philosophical perspectives: STS 110, 113, 117, 118
 - 2) Historical perspectives: STS 102 (available as core course 2003-04), 121, 122, 123, 124, 125, 127, 128, 130, 133
 - 3) Social Science perspectives: STS 107, 137, 138, 149, 150, 155, 162, 171, 172
 - c) Advanced courses (one course in each category):
 - 1) Disciplinary analysis: STS 207, 210, 215, 219, 221, 229, 231, 255, 269, 280A
 - 2) Senior Colloquium: STS 200
2. Technical Literacy (five courses):
 - a) CS 105 or 106A or equivalent; and
 - b) A four-course sequence (minimum of 12 units) in one field of engineering or science (sample sequences available in the STS office); or
 - c) Four of the following "Engineering Fundamentals" courses: Engineering 14, 15, 20, 30, 40, 50, 60, 70 (see the descriptions in the "School of Engineering" section of this bulletin).
3. Thematic Concentration (minimum of 20 units, at least five courses, one each from among those designated on the appropriate concentration course list as "foundational" and "advanced"). Thematic Concentrations are organized around an STS-related problem or area. The following Thematic Concentration topics have been pre-certified: the intersections of technology and science with aesthetics, development, history and philosophy, information and society, public policy, social change, and work and organizations.

Course lists for these concentration topics are available in the STS office. A student selecting one of the certified topics may include one or more courses not on the corresponding course list if they are germane to the concentration and meet the student's special interests. Alternatively, the student may choose to design a Thematic Concentration topic and course package subject to program approval. Each Thematic Concentration, certified or self-designed, requires the signature of an appropriate faculty adviser. See the program chair for details.

BACHELOR OF SCIENCE

The student pursuing the B.S. degree shall complete the STS Core and a structured package of at least 50 units of technical courses intended to enable students to understand socially significant technical phenomena in some field of engineering or science. Introductory courses in mathematics or physics (for example, Mathematics 19 or Physics 19) are normally not counted as parts of this technical depth component.

The B.S. candidate follows one of two models in fulfilling the minimum 50-unit requirement:

1. "Focused Depth": at least 24 units and seven courses in a single field of science or engineering, with the remaining units (except for at most two stand-alone courses) grouped in clusters of at least three courses each in other fields of science or engineering. For example, a Focused Depth package might contain eight mechanical engineering, three physics, three mathematics, and three computer science courses, and one course each in electrical engineering and chemistry.
2. "Clustered Depth": two or more clusters of at least five courses and 15 units each in different fields of science or engineering, with at most two stand-alone courses, and remaining courses, if any, in sequences of three or more courses. For example, a Clustered Depth package might contain five-course clusters in computer science, electrical engineering, and physics, and three courses in civil engineering and one course each in biology and chemical engineering.

It is strongly recommended that B.S. majors complete Computer Science 106A or its equivalent.

MINORS

Students planning careers in many technical and non-technical fields, including business, education, engineering, science, law, medicine, and public affairs, are faced with important STS issues in their professional practice. Therefore, a minor in STS is likely to prove practically valuable as well as intellectually stimulating.

Requirements—The STS minor requires successful completion of six courses satisfying the following four requirements:

1. Foundational Course: STS 101 or 101Q
2. One disciplinary analysis course from each of the following three categories:
 - a) Philosophical/Ethical Perspectives: STS 110, 113, 115, 117, 118, 119
 - b) Historical Perspectives: STS 102 (available as core course 2003-04), 121, 123, 124, 125, 127, 128, 129, 130, 132, 133
 - c) Social Scientific/Policy: STS 107, 137, 138, 149, 150, 155, 162, 170, 171, 172, 183
3. Two advanced courses, from one or two of the following categories, building on courses taken under requirements 1 and 2:
 - a) Philosophical/Ethical Perspectives: STS 210, 215
 - b) Historical Perspectives: STS 221, 229
 - c) Social Scientific/Policy Perspectives: STS 207, 219, 231, 255, 279, 280
4. At least one of the courses taken under requirements 1 to 3 must incorporate a weekly small group discussion.

Note—Students wishing to use a course not listed above to satisfy one of the requirements for a minor in STS may petition to do so. For details, inquire at the STS office, Building 370, room 109.

HONORS PROGRAM

STS offers a limited number of students an opportunity to achieve honors through in-depth study of the interaction of science and technology with society. The honors program is open to students majoring in any field (including STS). Students accepted for this program carry out an honors project, the work for which normally begins in Spring Quarter of the junior year and is completed by mid-May of the senior year. Students who want their theses to be considered for the Firestone Prize must submit them to STS by May 20, 2003; all theses must be submitted to STS by June 1, 2003. STS thesis projects usually entail writing an honors essay, although occasionally students have chosen to produce a technical artifact or carry out some other work that itself represents original thinking.

When a project results in a work other than an essay, students must also submit an accompanying scholarly exegesis of the work in question.

ADMISSION

Application for admission to the STS honors program is typically made during the last quarter of the student's junior year. By the eighth week of that quarter, interested students must have completed, or be completing that quarter, at least two of the four courses required to satisfy honors requirements 1 to 4 listed below. Each applicant must also have submitted a formal proposal for her or his project to the STS Honors Committee, including the name(s) of potential thesis advisors. For proposal parameters, see the brochure *Honors Program Requirements*, available in the STS office. Students whose proposals are approved are encouraged to apply to attend Honors College in early September to get a running start on their theses. STS honors students are also encouraged to sign up for 2-5 units of credit per quarter in STS 190A,B,C for work on the honors project. While not required, doing so will leave the student sufficient time to finish the thesis in three quarters. Writing a senior honors thesis while simultaneously carrying a full academic load each quarter is a very difficult task to complete with distinction. STS majors pursuing honors in STS or another honors program take STS 200 for 2 units instead of 4 and do not write a research paper for this required course. However, failure to complete the thesis will require additional research work in STS 200. (Note: under exceptional circumstances, a student may be admitted to the STS honors program early in the first quarter of his or her senior year.)

REQUIREMENTS

For non-STS Majors

1. Foundational Course: STS 101 or 101Q
2. One Philosophical and Ethical Perspectives Course: STS 110, 113, 115, 117, 118
3. One Historical Perspectives Course: STS 102 (available as core course 2003-04), 107, 121, 123, 124, 125, 127, 128, 129, 130, 133
4. One Social Science Perspectives Course: STS 107, 137, 138, 149, 155, 162, 170, 171, 172 or 183
5. Honors Project: an original critical essay (or investigative project with accompanying explanatory essay) on an STS topic of general importance (up to 12 units may be taken while working on the thesis). Past honors projects are on file in the STS office library.

For STS majors

1. Completion of STS Core.
2. Requirement 5 above.

To earn honors, the project must receive a grade of at least 'B' on the completed thesis. The student not majoring in STS must also achieve a grade point average (GPA) of at least 3.3 in the courses taken to satisfy requirements 1 to 4 above. In the case of STS majors, the student must compile a GPA of at least 3.3 in the entire STS core. If all these requirements are met, the designation "Honors Program in Science, Technology, and Society" is affixed to the student's permanent record and appears in the commencement program.

COURSES

(WIM) indicates that the course satisfies the Writing in the Major requirements.

The STS web site at <http://www.stanford.edu/group/STS/> has updated course scheduling information, course syllabi, faculty and staff information, and information about how to declare a major or a minor in STS.

INTRODUCTORY

STS 101. Science, Technology, and Contemporary Society—(Graduate students register for 201; same as ENGR 130.) Analysis of the interplay of science, technology, and society in the contemporary U.S. Topics: key social, cultural, and values issues raised by contemporary scientific and technological developments; distinctive features of science and engineering as sociotechnical activities; major influences of scientific and technological developments on 20th-century society, including

transformations and problems of work, leisure, human values, the fine arts, and international relations; ethical conflicts in scientific and engineering practice; and the social shaping and management of contemporary science and technology. GER:3b

4-5 units, Aut (McGinn)

STS 101Q. Technology in Contemporary Society—Stanford Introductory Seminar. Preference to sophomores. Introduction to the STS field. Topics: the natures 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. Salient social, cultural, and ethical issues raised by recent scientific and technological developments. Case studies from specific areas, e.g., 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 the scientific and technological enterprises and their products. Focus is on developing the ability to think critically, comprehensively, and in a balanced way about technology in contemporary society. Enrollment limited to 12. GER:3b

4 units, Aut (McGinn)

STS 102. Science, Technology, and Art: The Worlds of Leonardo—(Graduate students register for 202; same as HISTORY 14/314.) The intersections among science, technology, and society, and an interdisciplinary introduction to Renaissance studies. Why does this 15th-century artist, engineer, and inventor continue to fascinate and inspire innovative, interdisciplinary work. The world of the historical Leonardo, looking at his range of interests and accomplishments such as the Mona Lisa, human anatomies, flying machines, and the culture of invention that shaped him. Students think with Leonardo, reconstructing some of his projects. The persistence of the Renaissance as a touchstone for innovation in the 21st century, examining the myth of Leonardo. GER:3a

5 units, Aut (Gorman)

STS 107. Technology and Economic Change—(Enroll in ECON 113.)

5 units, not given 2002-03

STS 110. Ethics and Public Policy—(Same as MS&E 197, PUBLPOL 103B.) Ethical issues in science- and technology-related public policy conflicts. Develops the capacity for rigorous critical analysis of complex, value-laden policy disputes. Topics: the natures of ethics and morality; the natures of and rationales for liberty, justice, and human rights; and the use and abuse of these concepts in recent and current policy disputes. Cases from: biomedicine, environmental affairs, the technical professions, communications, and international relations. (WIM) GER:3a

5 units, Win (McGinn)

STS 113. Science, Ethics, and Society: Debates and Controverses in Europe and in America—(Enroll in FRENGEN 128.)

3-5 units, Spr (Dupuy)

STS 115. Ethical Issues in Engineering—(Same as ENGR 131.) Ethical issues in contemporary engineering practice. Topics: moral rights and responsibilities of engineers in relation to society, employers, colleagues, and clients; cost-benefit-risk analysis, safety, and informed consent; the ethics of whistle blowing; ethical conflicts of engineers as expert witnesses, consultants, and managers; ethical issues in engineering design, manufacturing, and operations; ethical issues arising from engineering work in foreign countries; and ethical implications of the social and environmental contexts of contemporary engineering. Use of real life case studies, guest practitioners, and field research. Limited enrollment. GER:3a

4 units (McGinn) not given 2002-03

STS 117. Art and Technology—(Enroll in Art History 172.)

4 units (Lee) not given 2002-03

STS 118. The Invention of Modern Architecture—(Enroll in ARTHIST 141/341.)

4 units (Turner) not given 2002-03

STS 119. Cyborgs and Synthetic Humans—(Enroll in ARTHIST 162/362.)

4 units (Bukatman) not given 2002-03

STS 121. Technology and Culture in 19th-Century America—(Enroll in HISTORY 115.)

5 units, Aut (Corn)

STS 121A. A History of Vision: Between Art and Science—This course, linked to a current project at the Stanford Humanities Laboratory, explores ways of extending, deceiving, and simulating vision during the 17th century. From the exploration of distant worlds with the telescope to the invisible creatures revealed by the microscope, connecting new instruments to changing conventions in graphic representation. The study and reconstruction of devices designed to produce new visual experiences, from the camera obscura to the magic lantern. Authors include Descartes, Kepler, and Galileo.

5 units, Spr (Gorman)

STS 122. American Spaces: An Introduction to Material Culture and the Built Environment—(Enroll in History 152.)

5 units, Spr (Corn)

STS 123A. The Scientific Revolution—(Enroll in HISTORY 213/313, HPS 102.)

5 units, Win (Findlen)

STS 124. American Economic History—(Enroll in ECON 116.)

5 units, Aut (Wright)

STS 125. The Emergence of Modern Medicine—(Enroll in HISTORY 13.)

5 units (Findlen) not given 2002-03

STS 126. The Prehistory of Computers—(Enroll in HISTORY 204B/304B.)

3-5 units (Riskin) not given 2002-03

STS 127. Science and Technology in the Islamic World—(Enroll in HISTORY 290/390.)

5 units, Aut (Dallal)

STS 128. Science and Technology in WW II and What Happened Afterward—(Same as EE 45.) The efforts of engineers, mathematicians, and scientists during WWII. The effect on the postwar world in areas such as information, communication, transportation, materials, and medicine. Examples of science and counter science in the war effort, and what became of them after the war, drawn from: encryption and computation; radar, communication, and electronics; control and optimization; materials; drugs and medicine.

3 units, Win (Osgood)

STS 129A. The History of Artificial Life—(Enroll in HISTORY 203D/303D.)

5 units, Spr (Riskin)

STS 130. Origins and History of the Scientific Fact—(Enroll in HISTORY 206P/306P.)

5 units (Riskin) not given 2002-03

STS 132. Yesterday's Tomorrows: Technology and the Future in History—The changing American expectations regarding the development and consequences of science and technology. Topics: the emergence of a culture of prognostication in the late 19th century (Edward Bellamy, H. G. Wells); the turn-of-the-century reception of new communications technologies; 30s World Fairs and Depression futures; the 60s, technology assessment, and anti-technology ("the future isn't what it used to be").

5 units (Corn) not given 2002-03

STS 133. Invention of Science—(Enroll in CLASSGEN 133.)

3-4 units, Aut (Netz)

STS 137. Telecommunication Policy and the Internet—(Enroll in COMM 137/237.)

4-5 units, Aut (Bar)

STS 138. International Security in a Changing World—(Enroll in POLISCI 114S.)

5 units, Win (Blacker)

STS 140. Digital Divide: Gender, Class, and Political Economy of High-Tech Globalization—(Enroll in SYMBSYS 151.)

4 units, Spr (Carlson)

STS 145. History of Computer Game Design: Technology, Culture, and Business—(Same as HPS 163.) The developing culture and technology of computer and video game design. Historical contexts include entertainment media, computing technology, applications of gaming technology, and business history. Topics: play in human culture, early computer games from chess to Spacewar, the role of artificial intelligence research, the history of computer graphics and sound technology, the evolution of techniques and genres of computer game design, video game machines, games and the microcomputer revolution, networked gaming, gadgets and games as factors in the evolution of software and hardware, marketing, gendering of games and game play, virtual worlds, simulation, video and computer game industries, and technology transfer such as military simulations. Enrollment limited to 90.

4-5 units, Win (Lowood)

STS 147. Borderlines: Technology, Migration, and Surveillance—Focus is on various technological modes of maintaining a national space, including the historical development of a militarized border, finger printing, and other biometric technologies. Post-9/11 debates and laws, relating such technologies to questions of liberty and security.

4 units, Win (Aneesh)

STS 148. Programming in Society—Acts of programming inform and shape world of computers, ATMs, video games, cell phones, PDAs, GPS systems, global capital flows, smart bombs, and the Internet. What is the intellectual ancestry of programming? Where are its political roots? Exploration of links relating programming to the Enlightenment, 20th-century military designs, and the expansion of capitalism.

4 units (Aneesh) not given 2002-03

STS 149. Trials of the 20th Century: Technology, Law, and Culture—(Enroll in CASA 85.)

5 units (Jain) not given 2002-03

STS 150. Car Culture—(Same as CASA 181.) Since at least the 50s, the U.S. has been notorious as a nation in love with the car. An examination of this premise, analyzing new methods of production brought by automobile manufacture, how automobiles shaped urban growth, debates about pollution and environmental degradation, and debates around auto safety. How the car has influenced American practices including courting, eating out, and suburban living. GER:3b

5 units, Spr (Jain)

STS 155. Science, Technology, and Gender—(Enroll in CASA 132.)

5 units, Spr (Jain)

STS 162. Computers and Interfaces: Psychological and Social Issues—(Enroll in COMM 169/269.)

4-5 units, Spr (Nass)

STS 170. Work, Technology, and Society—(Enroll in MS&E 182.)

4 units, (McGinn) not given 2002-03

STS 171. Technology in National Security—(Enroll in MS&E 193/293.)

3 units, Aut (Perry)

STS 172. Issues in Technology and Work for a Post-Industrial Economy—(Enroll in MS&E 181.)

3 units, Aut (Barley)

STS 172A. South Asian Studies: Globalization—(Enroll in CASA 149/240.)

5 units, Spr (Gupta/Visvanatha)

STS 173. Introduction to High Technology Entrepreneurship—(Same as ENGR 145.) A high-level overview of the entrepreneurial process, enterprise, and individual. For those who would like to form or grow a technology company, and those with a general interest in the field. Weekly assignments, case studies, lectures, workshops, and projects. For juniors and seniors in engineering, sciences, and humanities. No auditors.

3 units, Win (Byers)

STS 175. Technology, Body, and Work—How does technology shape the structure and experience of work? Conversely, how do social and political interests lead to particular work technologies? Exploration of management principles, production systems, and related technologies as affected by such concerns. Focus on information technologies and the relationships with the human body in contemporary work environments.

4 units (Aneesh) not given 2002-03

STS 180. Social Issues in Science and Technology—Students investigate an area of science and technology that raises timely social concerns. Reading, research, group discussion, and a public presentation of the issues. Topics vary depending on the expertise and interests of students and faculty.

1 unit (Roberts) not given 2002-03

STS 183. Media Economics—(Enroll in COMM 183/283.)

4-5 units, Win (Bar)

STS 184. Technology Policy—(Enroll in PUBLPOL 194.)

5 units, Win (Windham)

STS 185. Intellectual Property and the Information Era—Many intellectual property rules that evolved in the world of physical artifacts do not work well in the context of digital programming or genetic sequencing. How do we evaluate difficult choices posed by new technologies? The idea of authorship in connection with copyright and patent laws and their current applications. Cases from biotechnology, print and visual media, and the music industry.

4 units, Spr (Aneesh)

STS 190A,B,C. Honors Project—Project for students in STS honors program.

STS 190A. Submission of Proposal

2-5 units, Aut (Staff)

STS 190B. Continued Study and Writing

2-5 units, Win (Staff)

STS 190C. Final Work on Project

2-5 units, Spr (Staff)

STS 191. Honors Tutorial

1 unit, Aut, Win, Spr (Staff)

STS 195. Junior Seminar—What is scientific and technological knowledge? What are the social and cultural conditions of its production? Strongly recommended for STS majors to explore topical and methodological issues in STS before the senior seminar. Interested students encouraged to develop a proposal for summer research grants.

4 units, Spr (Aneesh)

STS 199. Individual Work

1-5 units, Aut, Win, Spr (Staff)

STS 200. Senior Colloquium—Key analytical and theoretical texts treating the natures and interplay of science, technology, and society. Only STS majors writing senior honors theses may take for 2 units. Prerequisite: STS major with senior standing and four STS core courses, or consent of the instructor.

2-4 units, Win (Aneesh), Spr (Riskin)

ADVANCED UNDERGRADUATE AND GRADUATE

STS 201. Science, Technology, and Contemporary Society—(Same as 101; see 101.)

4-5 units, Aut (*McGinn*)

STS 202. Science, Technology, and Art: The Worlds of Leonardo—(Same as 102; see 102.)

5 units, Aut (*Gorman*)

STS 207. Science, Technology, and Economic Growth—(Enroll in ECON 224.)

2-5 units, Aut (*David*)

STS 210. Ethics, Science, and Technology—Cutting-edge ethical issues raised by advances in science and technology. Topics: biotechnology (including agriculture and reproduction), the built environment, energy technologies, and information technology. Prerequisite: 110 or another course in ethics. Limited enrollment.

3-4 units Spr (*McGinn*)

STS 215. Computers, Ethics, and Social Responsibility—(Enroll in CS 201.)

3-4 units, Spr (*Johnson*)

STS 219. Management and Organization of Research and Development—(Enroll in MS&E 281.)

3-4 units (*Barley*) alternate years, given 2003-04

STS 220. The Quantum Century: A History of 20th-Century Physics—(Enroll in HISTORY 140/340.)

5 units, Win (*Riordan*)

STS 221. The Politics and Ethics of Modern Science and Technology—(Same as HISTORY 267A/367A.) The WW II decision to build and use the atomic bomb. The controversy over the H-bomb. The Oppenheimer loyalty-security case and the relationship of scientist to the state. Medical experimentation on humans and pitfalls of technology. Relations among science, technology, and university.

5 units, Spr (*Bernstein*)

STS 226. The History of Women and Medicine in the U.S.—(Enroll in HISTORY 264, HPS 171.)

5 units, Aut (*Horn*)

STS 228. SHL: H. Buckminster Fuller, Polymath—(Enroll in COMPLIT 355E.)

3-5 units (*Schnapp*) not given 2002-03

STS 229. When Worlds Collide: The Trial of Galileo—(Enroll in HISTORY 216/316.)

5 units (*Findlen*) not given 2002-03

STS 230. The Wired Historian—(Same as HISTORY 201P/301P.) Equip historians with skills and tools for teaching, research, and the presentation of their work. Topics include: the construction of effective web sites on historical topics, online instructional materials, intellectual property and copyright on the web, creating and using digital resources for historical research. Hands-on lab work and demonstrations. Digital media resources available at Stanford. Each student carries out a digital project relating to his/her research or teaching interests.

3 units, Spr (*Gorman*)

STS 231. Technology and Work—(Enroll in MS&E 284.)

4 units, Win (*Barley*) alternate years, not given 2003-04

STS 233. Cultures and Technologies—(Enroll in CASA 385X, EDUC 306C.)

4 units, not given 2002-03

STS 255. The Anthropology of Disasters—(Enroll in CASA 383.)
5 units (*Jain*) not given 2002-03

STS 256. Readings in Science, Technology, and Society—Contemporary writings in science and technology studies, with focus on anthropological approaches and contributions to the field.

5 units (*Jain*) not given 2002-03

STS 269. Experimental Research in Advanced User Interfaces—(Enroll in COMM 268/368G.)

1-5 units (*Nass*) not given 2002-03

STS 278. Democracy, Nationalism, and Science—(Enroll in CASA 141A.)

5 units, Spr (*Visvanathan*)

STS 279. Technology, Policy, and Management in Newly-Industrializing Countries—Technology as the key to development and prosperity in most parts of the world. Building technological capability in newly industrializing countries at the national and firm level. Government intervention, the concept of technology leader and follower environments, the transfer of technology from leader countries, indigenous technological capability, human capital, culture and innovation, the role of small firms and new enterprises in technological capability. How innovation is different in technology followers, organizing for shop floor innovation, building an innovation culture, the role of R&D, design, and technology strategy in followers. Cases from Korea, India, Brazil, Singapore, and other NICs. Enrollment limited to 50.

2-4 units (*Forbes*) not given 2002-03

STS 280A. Research Workshop: Commercialization of Knowledge—(Enroll in EDUC 374A.)

1-3 units, Aut (*Powell*)

STS 299. Advanced Individual Work

1-5 units, Aut, Win, Spr (*Staff*)

OVERSEAS STUDIES

Courses approved for the Science, Technology, and Society major and taught overseas can be found in the "Overseas Studies" section of this bulletin, or in the Overseas Studies office, 126 Sweet Hall.

BERLIN

STS 117V. The Industrial Revolution and its Impact on Art, Architecture and Theory—(Same as ARTHIST 141Y.)

5 units, Aut (*Neckenig*)

STS 119V. Architecture and the City, 1871-1990: Berlin as a Nucleus of Modernity—(Same as ARTHIST 110Y, HISTORY 229V, URBANST 143U.)

4 units, Spr (*Neckenig*)

STS 120V. Industry, Technology, and Culture, 1780-1945

4 units, Win (*Neckenig*)

FLORENCE

STS 125V. The Scientific Revolution: From the Renaissance to the 18th Century—(Same as PHIL 145P, HISTORY 215V.)

4-5 units, Aut (*La Vergata*)

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