Science, Technology and Society

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Core Faculty

Gail Cooper, Ph.D. (Department of History); Steve Cutcliffe, Ph.D. (Department of History); Sharon Friedman, Ph.D. (Department of Journalism and Communication); Steve Goldman, Ph.D. (Department of Philosophy); John Smith, Ph.D. (Department of History); Al Wurth, Ph.D. (Department of Political Science); and William Best, Professor of Practice (College of Engineering)

The Science, Technology and Society (STS) program is the product of a continuing cross-college effort to create a common ground from which to explore the relations between science, technology and society: between ideas, machines and values.

The STS program serves as a focal point for a wide range of courses that study the natures of science and of technology, and analyze their social and personal implications. It lends coherence and visibility to offerings otherwise dispersed throughout the catalog.

SCIENCE, TECHNOLOGY AND SOCIETY (STS) MAJOR

The major in science, technology and society studies prepares students for graduate study or for a wide variety of career opportunities including policy analysis, planning, or community relations with public or private sector agencies concerned with the social relations of scientific research and technological innovation. The intrinsically cross-disciplinary character of science-technology-society interactions is reflected in the B.A. requirements.

MAJORS must complete a minimum of 30 credit hours in STS courses, listed below, together with at least 15 credit hours in any traditional academic discipline: engineering, physical or life science, the humanities, or the social sciences. This collateral set of courses should be chosen in consultation with the program director to provide the foundation needed to engage STS studies issues in which that discipline is implicated. The senior seminar provides an opportunity for students to integrate the knowledge they have gained and the skills they have acquired in their coursework.

Opportunities for student research are available, especially through STS 181: Independent Study and STS 391: Honors Thesis.

STS studies is a social science major in the College of Arts and Science, and majors must fulfill the college’s B.A. distribution requirements. A detailed description of the STS studies major requirements follows.

Detailed Description of STS Major Requirements Course List

Core Courses

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>STS 011</td>
<td>Technology and Human Values</td>
</tr>
<tr>
<td>HIST 007</td>
<td>Technology in America's Industrial Age</td>
</tr>
<tr>
<td>or HIST 008</td>
<td>Technology in Modern America</td>
</tr>
<tr>
<td>STS/JOUR 124</td>
<td>Politics of Science</td>
</tr>
<tr>
<td>or POLS 115</td>
<td>Technology As Politics</td>
</tr>
<tr>
<td>PHIL 128</td>
<td>Philosophy Of Science</td>
</tr>
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Electives

Select three additional advanced courses (at least two of which must be at the 100 level or higher) from the list of approved STS studies courses

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Concentration Requirement

One of the following: 1

Concentration in a Complementary Discipline

Approved Departmental or Interdisciplinary Program Minor

Double Major

Total Credits 45-47

1 Minimum of 15 hours to be chosen in conjunction with STS studies advisor.

HONORS IN STS

In order to receive Honors in STS, the student must attain a 3.5 grade-point average in courses presented for the major and a 3.2 grade-point average over all, and must complete the 4 credit Honors Thesis sequence (STS 391 and STS 392) beyond the required minimum of 30 Core credits required of all STS majors.

STS STUDIES MINOR

The program also offers a minor in science, technology & society studies which is open to all undergraduates. To declare a minor in STS, students must complete a minor declaration form (http://catalog.lehigh.edu/coursesprogramsandcurricula/artsandsciences/sciencetechnologyandsociety/2015-16_STS_Minor_Declaration_Form.pdf).

Students electing the minor must take a set of courses totaling a minimum of 15 hours that includes STS 011 Technology and Human Values and electives chosen from the list of all courses eligible for STS studies which follows below.

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Electives

Three electives from approved STS courses (minimum 11 credits)

Total Credits 15

STS COURSES

Students should consult with the program director when selecting courses for either the major or the minor.

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<tr>
<td>STS 011</td>
<td>Technology and Human Values</td>
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<tr>
<td>STS 112</td>
<td>Engineering and Society</td>
</tr>
<tr>
<td>STS/HIST/WGSS 117</td>
<td>Women, Science, and Technology</td>
</tr>
<tr>
<td>STS/HIST/HMS 118</td>
<td>History of Modern Medicine</td>
</tr>
<tr>
<td>STS/JOUR 124</td>
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</tr>
<tr>
<td>STS/HIST 145</td>
<td>Introduction to the History of Science</td>
</tr>
<tr>
<td>STS 181</td>
<td>Independent Study</td>
</tr>
<tr>
<td>STS/MAT 221</td>
<td>Materials in the Development of Man</td>
</tr>
<tr>
<td>STS/CSE/EMC 252</td>
<td>Computers, the Internet, and Society</td>
</tr>
<tr>
<td>STS/ES/HMS/JOUR 323</td>
<td>Health and Environmental Controversies</td>
</tr>
<tr>
<td>STS 341</td>
<td>Issues in American Competitiveness: At Home and Abroad</td>
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<td>STS 381</td>
<td>Senior Seminar</td>
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<tr>
<td>STS 391</td>
<td>Honors Thesis (fall)</td>
</tr>
<tr>
<td>STS 392</td>
<td>Honors Thesis (spring)</td>
</tr>
<tr>
<td>STS 481</td>
<td>Readings in Science, Technology and Society</td>
</tr>
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</table>

1 Open to undergraduates by petition only.

OTHER STS COURSES

These courses, appropriate to STS studies, are offered by various departments. Course descriptions may be found under the catalog entry for the individual department. New courses are frequently added to this list and announced in bulletins published by the STS program. For further information, please contact the program director.

ARCH 107 | History of American Architecture |
ARCH 210 | 20th Century Architecture |
Courses

**STS 011 Technology and Human Values 4 Credits**
Impact of technology on society in relation to ethical problems raised by the exploitation of technological innovations. Illustrations from history, social studies, philosophy, literature, and film.
*Attribute/Distribution: SS*

**STS 112 Engineering and Society 4 Credits**
An examination of the social, political, commercial, and cultural factors that determine the problems engineers are asked to solve as well as the terms of acceptable solutions to those problems. This is a discussion-based course using a mix of books, articles, and videos.
*Attribute/Distribution: SS*

**STS 117 (HIST 117, WGSS 117) Women, Science, and Technology 4 Credits**
Explores the impact of technology and science on women's social roles and the contribution of women engineers and scientists to their disciplines. Will focus on the American experience. Among the topics discussed are invention, design, laboratory research, education, engineering, professionalism, labor force participation, office mechanization, household appliances, virtual spaces, childcare and reproduction.
*Attribute/Distribution: SS*

**STS 118 (HIST 118, HMS 118) History of Modern Medicine 4 Credits**
Introduction to Western medical history from the 18th century to the present day. Students will explore patient/practitioner relationships, examine changing ideas concerning health, sickness, and disease, chart changes in hospital care and medical education, and tackle topics such as eugenics, medical experimentation, and health insurance.
*Attribute/Distribution: HU*

**STS 124 (JOUR 124) Politics of Science 4 Credits**
Analysis of the multidimensional interaction between the federal government and the scientific community. Explores historical growth of the science-government connection, the scientific establishment both past and present, and the role of scientific advice to the White House and Congress. Also examines scientific ethics, public attitudes toward science, science-society interactions, and case studies of scientific controversies.
*Attribute/Distribution: SS*

**STS 145 (HIST 145) Introduction to the History of Science 4 Credits**
The history of modern science, primarily physical and biological, with emphasis on the development of major theoretical models since the seventeenth century.
*Attribute/Distribution: SS*

**STS 181 Independent Study 1-4 Credits**
Consent of program director required. Designation of the course as HU or SS will depend on the instructor and the content of the course.
*Repeat Status: Course may be repeated.
*Attribute/Distribution: HU, SS*

**STS 221 (MAT 221) Materials in the Development of Man 3 Credits**
Development of materials technology and engineering from the Stone Age to Atomic Age as an example of the interaction between technology and society. In-class demonstration laboratories on composition and structure of materials. Term projects using archaeological materials and alloys. Course intended for, but not limited to, students in the humanities and secondary science education. Engineering students may not use this course for engineering science or technical elective credit.
*Attribute/Distribution: SS*

**STS 252 (EMC 252, GCP 252) Computers, the Internet, and Society 3 Credits**
An interactive exploration of the current and future role of computers, the Internet, and related technologies in changing the standard of living, work environments, society and its ethical values. Privacy, security, depersonalization, responsibility, and professional ethics; the role of computer and Internet technologies in changing education, business modalities, collaboration mechanisms, and everyday life.
*Attribute/Distribution: SS*

**STS 323 (ES 323, HMS 323, JOUR 323) Health and Environmental Controversies 4 Credits**
Exploration of health, and environmental controversies from the perspectives of scientific uncertainty and mass media coverage. Examines genetic engineering, biotechnology, environmental health risks, and nanotechnology. Includes discussion of ethical and social responsibilities and interactions with the public.
*Attribute/Distribution: SS*
STS 341 Issues in American Competitiveness: At Home and Abroad 4 Credits
Issues affecting American commercial competitiveness focusing on topics associated with the recent emergence of a new commercial environment in all First World societies. Team taught in a highly interactive setting with industry, public sector, and government experts, in addition to academics from various disciplines and institutions. Students read topical articles and books, participate in team projects and debates, and conduct team research on competitiveness issues they have chosen for a term report.
Attribute/Distribution: SS

STS 381 Senior Seminar 4 Credits
In-depth study of selected topics in science, technology, and society with special attention to methodological issues. Subject matter may vary from semester to semester. Intended for STS majors and minors, but open to others. Consent of program director.
Prerequisites: STS 011
Attribute/Distribution: SS

STS 391 Honors Thesis 1 Credit
Attribute/Distribution: ND

STS 392 Honors Thesis 3 Credits
Directed undergraduate research thesis required of students who apply and qualify for graduation with program honors.
Prerequisites: (STS 391)
Can be taken Concurrently: STS 391
Attribute/Distribution: ND

STS 481 Readings in Science, Technology and Society 3 Credits
Readings seminar on selected themes and topics in science, technology, and society. May be repeated for credit with permission of the program director.
Repeat Status: Course may be repeated.