Science, Technology and Society

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Supported by the Office of Interdisciplinary Programs, 610-758-3996; incasip@lehigh.edu

**Williams Hall, 31 Williams Drive**

### Core Faculty

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

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>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STS 011</td>
<td>Technology and Human Values</td>
<td>3-4</td>
</tr>
<tr>
<td>IDEA 011 &amp; IDEA 012</td>
<td>IDEAS Seminar I and IDEAS Seminar II</td>
<td></td>
</tr>
<tr>
<td>HIST 007</td>
<td>Technology in America’s Industrial Age</td>
<td>4</td>
</tr>
<tr>
<td>or HIST 008</td>
<td>Technology in Modern America</td>
<td></td>
</tr>
<tr>
<td>STS/JOUR 124</td>
<td>Politics of Science</td>
<td>4</td>
</tr>
<tr>
<td>or POLS 115</td>
<td>Technology As Politics</td>
<td></td>
</tr>
<tr>
<td>PHIL 128</td>
<td>Philosophy Of Science</td>
<td>4</td>
</tr>
<tr>
<td>or PHIL 228</td>
<td>Topics in the Philosophy of Science</td>
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</tr>
<tr>
<td>STS 381</td>
<td>Senior Seminar</td>
<td>4</td>
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</tbody>
</table>

#### Electives

<table>
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<td></td>
</tr>
<tr>
<td>STS/HIST/WGSS 117</td>
<td>Pioneering Women: Women in Science, Medicine and Engineering</td>
<td>4</td>
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<tr>
<td>STS/HIST/118</td>
<td>History of Modern Medicine</td>
<td>4</td>
</tr>
<tr>
<td>STS/JOUR 124</td>
<td>Politics of Science</td>
<td>4</td>
</tr>
<tr>
<td>STS/HIST 145</td>
<td>Introduction to the History of Science</td>
<td>4</td>
</tr>
<tr>
<td>STS 181</td>
<td>Independent Study</td>
<td>1-4</td>
</tr>
<tr>
<td>STS/CSE/EMC 252</td>
<td>Computers, the Internet, and Society</td>
<td>3</td>
</tr>
<tr>
<td>STS/ES/HMS/JOUR 323</td>
<td>Health and Environmental Controversies</td>
<td>4</td>
</tr>
<tr>
<td>STS 341</td>
<td>Issues in American Competitiveness: At Home and Abroad</td>
<td>4</td>
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<tr>
<td>STS 381</td>
<td>Senior Seminar</td>
<td>4</td>
</tr>
<tr>
<td>STS 391</td>
<td>Honors Thesis (fall)</td>
<td>1</td>
</tr>
<tr>
<td>STS 392</td>
<td>Honors Thesis (spring)</td>
<td>3</td>
</tr>
<tr>
<td>STS 481</td>
<td>Readings in Science, Technology and Society</td>
<td>3</td>
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</table>

#### Concentration Requirement

- One of the following:  
  - Concentration in a Complementary Discipline
  - Approved Departmental or Interdisciplinary Program Minor

#### Total Credits

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Concentration Requirement</td>
<td>15</td>
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<tr>
<td>Total Credits</td>
<td>44-47</td>
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</table>

#### STS COURSES

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

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<tr>
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<tr>
<td>STS 112</td>
<td>Engineering and Society</td>
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<td>STS/HIST/WGSS 117</td>
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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 4
ARCH 210 20th Century Architecture 4
DES 066 Design History 4
ECO 311 Environmental Economics 3
ECO 314 Energy Economics 3
EES/ES 002 Introduction to Environmental Science 3
EES/ES 004 The Science of Environmental Issues 1
ES 001 Introduction to Environmental Studies 4
ES 331 Environmental Law I: Pollution & Risk Abatement 4
ES/PHIL 333 International Environmental Law & Philosophical-Policy Design 4
ES/PHIL 343 Comparative Environmental Law & Philosophical-Policy Design 4
ES 338 Environmental Risk 4
HIST 007 Technology in America's Industrial Era 4
HIST 008 Technology in Modern America 4
HIST 107 Technology and World History 4
HIST 308 Industrial America since 1945 4
HIST/ES 315 American Environmental History 4
HIST/ASIA 340 Japanese Industrialization 4
IR 034 Society, Technology and War 4
IDEA 011 IDEAS Seminar I 2
IDEA 012 IDEAS Seminar II 2
IR 344 International Politics of Oil 4
JOUR/ES 125 Environment, the Public and the Mass Media 4
PHIL/REL/HMS 116 Bioethics 4
PHIL 128 Philosophy Of Science 4
PHIL 228 Topics in the Philosophy of Science 4
PHIL/COGS 250 Philosophy of Mind 4
POLS/ES 105 US Environmental Policy and Law 4
POLS/ES 106 Environmental Values and Ethics 4
POLS/ES 107 The Politics of the Environment 4
POLS 115 Technology As Politics 4
POLS/ES 328 U.S. Politics and the Environment 4
POLS/ES 355 Environmental Justice and the Law 4
POLS/ES 375 Seminar: Green Polity 4
REL 006 Religion and Ecological Crisis 4
REL 187 Science, Technology, and the Religious Imagination 4
SOC/HMS 160 Medicine and Society 4
SOC 302 The Sociology Of Cyberspace 4
SOC/JOUR 327 Mass Communication and Society 4
THTR/ARCH 161 Performing Arts Venue Design and Technology 4

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) Pioneering Women: Women in Science, Medicine and Engineering 4 Credits
This course analyses the careers of professional women in science, medicine and engineering, principally in the United States. It examines historical barriers to training and entry into these professions; cultural stereotypes that shape women's options; women's participation in innovation in their fields; their concern for work/life balance; and their contribution to clients and patients, both male and female. It focuses on three locations of professional work: the laboratory, the clinic, and the job site.
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 252 (EMC 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

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**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

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**STS 391 Honors Thesis 1 Credit**


**Attribute/Distribution:** ND

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**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

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**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.