

Science, Technology and Society

Program Director: William Best, Professor of Practice (<http://www.ece.lehigh.edu/index.php?page=best>)

Email: wab205@lehigh.edu | **Phone:** 610-758-3551

Website: <http://sts.cas2.lehigh.edu>

*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, MA (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

STS 011	Technology and Human Values ¹	3-4
or		
IDEA 011 & IDEA 012	IDEAS Seminar I and IDEAS Seminar II	
HIST 007	Technology in America's Industrial Age	4
or HIST 008	Technology in Modern America	
STS/JOUR 124	Politics of Science	4
or POLS 115	Technology As Politics	
PHIL 128	Philosophy Of Science	4
or PHIL 228	Topics in the Philosophy of Science	
STS 381	Senior Seminar	4

Electives

10-12

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

Concentration Requirement 15

One of the following: ²

Concentration in a Complementary Discipline

Approved Departmental or Interdisciplinary Program Minor

Double Major

Total Credits 44-47

¹ IDEA 011 IDEAS Seminar I and IDEA 012 IDEAS Seminar II together may substitute for STS 011 Technology and Human Values

² 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.

Students electing the minor must take a set of courses totaling a minimum of 15 hours that includes STS 011 Technology and Human Values or IDEA 011 IDEAS Seminar I and IDEA 012 IDEAS Seminar II and electives chosen from the list of all courses eligible for STS studies.

Core Course

STS 011	Technology and Human Values	3-4
or		
IDEA 011 & IDEA 012	IDEAS Seminar I and IDEAS Seminar II	

Electives

Three electives from approved STS courses (minimum 11 credits) 11-12

Total Credits 15-16

STS COURSES

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

STS 011	Technology and Human Values	4
STS 112	Engineering and Society	4
STS/HIST/WGSS 117	Pioneering Women: Women in Science, Medicine and Engineering	4
STS/HIST/HMS 118	History of Modern Medicine	4
STS/JOUR 124	Politics of Science	4
STS/HIST 145	Introduction to the History of Science	4
STS 181	Independent Study	1-4
STS/CSE/EMC 252	Computers, the Internet, and Society	3
STS/ES/HMS/JOUR 323	Health and Environmental Controversies	4
STS 341	Issues in American Competitiveness: At Home and Abroad	4
STS 381	Senior Seminar	4
STS 391	Honors Thesis (fall)	1
STS 392	Honors Thesis (spring)	3
STS 481	Readings in Science, Technology and Society ¹	3

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 Age	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: From Theory to Practice	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

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 (CSE 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.

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

Preparation for honors research thesis (STS 392). Identification of topic, preliminary compilation of source materials, and preparation of a proposal. Program permission required.

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.