
SCIENCE, TECHNOLOGY, HEALTH AND SOCIETY

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About the Program

The Science, Technology, Health, and Society (STHS) Program offers an interdisciplinary major and minor that focuses on the history, philosophy, and sociology of science, technology, and health. STHS courses encourage students to consider how science, technology, and health are linked to all aspects of human experience, including culture, economics, politics, and religion. Given its interdisciplinary approach, faculty from more than a dozen different disciplines participate in Science, Technology, Health, and Society.

More specifically, STHS majors learn how to 1) examine the connections between social and historical processes and the development of science, technology, and medicine; 2) analyze the role of values and philosophical perspectives in shaping the development and reception of science, technology and health systems; 3) assess the role of diversity, equity, and inclusion in the study of science, technology and health systems; 4) design and execute an interdisciplinary research project; and 5) communicate their interests to a diverse audience.

STHS majors develop a strong understanding of the relationship(s) between science, technology, health, and society, which provides excellent preparation for careers in medicine, education, law, public policy, public health, science writing, and university research and teaching. Minors, especially those majoring in a science, and students taking individual courses broaden their understanding of this important area of human endeavor.

General Requirements for the Major or Minor

General university degree requirements stipulate that 1) at least four units of the major or three units of the minor be taken in residence at Puget Sound; 2) students earn at least a cumulative GPA of 2.0 in courses taken for the major or the minor; and 3) all courses taken for a major or minor must be taken for graded credit. Any exceptions to these stipulations are indicated in the major and minor degree requirements listed below.

Requirements for the Major in Science, Technology, Health, and Society (BA)

A major in Science, Technology, Health, and Society consists of 12 units:

1. *Foundational Courses*: 3 units.
 - a. STHS 202: History of Modern Science and Technology
 - b. PHIL 232: Philosophy of Science
 - c. SOAN 250: Sociology of Science and Technology
2. *Electives*: 5 units.

Students choose five electives from one of the three designated tracks, or work in concert with an STHS advisor to choose electives according to their topical area of interest as described below. The tracks are:

 - a. Health, Medicine, and Society;
 - b. Science and Society;

- c. Technology in the Modern World;
 - d. A student-designed track.
- At least two of the five electives must be STHS-labeled courses. SOAN 360 and 365 may also be used to meet this requirement in the "Health, Medicine, and Society" track.
3. *One of the following Methods Courses*: 1 unit.
 - a. HIST 200
 - b. PHIL 220, 230, or 250
 - c. SOAN 298 or SOAN 299
 4. *Ancillary Courses*: 2 units.

Two courses in the natural sciences, mathematics, or computer science (preferably in the same field of study).
 5. *Capstone Course*: 1 unit.

STHS 480 Senior Practicum in Science, Technology, Health, and Society Studies.

The three pre-designated elective tracks within the STHS major are listed below.

For the student-designed elective category track: during the sophomore year or by the first semester of the junior year, a student who intends to major in Science, Technology, Health, and Society should meet with the director of the Program to select a faculty member as an advisor. The student and advisor form a committee with other members of the Advisory Board for the Science, Technology, Health, and Society Program. The student works with their committee to select a coherent set of electives that advance the student's educational goals. The committee will also ensure that there is a sufficient concentration in STHS courses. The elective category track will go into effect after the agreement is signed by the student, the committee members, and the director of the Program and is filed in the Office of the Registrar. The elective category agreement can be modified later, if needed.

Notes

- a. Students must have a grade of C or higher in all courses for the major and minor.
- b. Students must complete at least four units of the required upper-division (300-400 level) courses at Puget Sound. One of these 4 units may be a course taken as part of a study-abroad program, subject to approval in advance by the program director.

Each year, the STHS program will name a graduating major a Mott Greene Research Scholar for a distinguished senior capstone project. Each year, the program will also present one James Evans Research Award to a major in recognition of exceptional research skills. All graduating majors are eligible to be considered for Honors in the Major.

Requirements for the Minor in Science, Technology, Health and Society

A minor in Science, Technology, Health, and Society consists of 5 units:

1. Two of the following foundational courses:
 - a. STHS 202: History of Modern Science and Technology
 - b. PHIL 232: Philosophy of Science
 - c. SOAN 250: Sociology of Science and Technology
2. Three STHS-labeled Electives. SOAN 360 and 365 may also be used to meet this requirement

Electives

Health, Medicine, and Society

BIOE 255 Pandemic Ethics, Law, and Health Inequities
 BIOE/REL 272 Public Health Ethics
 BIOE/REL 292 Basics of Bioethics
 BIOE/PHIL 292 Basics of Bioethics
 CONN 320 Health and Medicine
 CONN 354 Hormones, Sex, Society, & Self
 ENGL 348 Illness and Narrative: Discourses of Disease
 GLAM 323 Sex and Gender in Classical Antiquity
 PHIL 333 Philosophy of Emotions
 PSYC 325 History and Systems of Psychology
 REL 298 Reproductive Ethics
 SOAN 360 Sociology of Health and Medicine
 SOAN 365 Global Health
 SOAN 370 Disability, Identity, and Power
 STHS 201 Alchemy, Astronomy, and Medicine before 1700
 STHS 302 Cancer and Society
 STHS 318 Science and Gender
 STHS 366 Medicine in the United States: Historical Perspectives

Science and Society

CONN 357 Exploring Animal Minds
 CONN 393 The Cognitive Foundations of Morality and Religion
 CONN 410 Science and Economics of Climate Change
 ECON 225 Environmental and Natural Resource Economics
 ENGL 374 Literature and the Environment
 ENVR 335 Thinking About Biodiversity
 HIST 364 American Environmental History
 PG/PHIL 390 Gender and Philosophy
 PHIL 105 Neuroethics and Human Enhancement
 PHIL 285 Environmental Ethics
 PHIL 340 Philosophy of Cognitive Science
 STHS 100 Apes, Angels, and Darwin
 STHS 201 Alchemy, Astronomy, and Medicine before 1700
 STHS 325 Natural History Museums and Society
 STHS 330 Evolution and Society Since Darwin
 STHS 333 Evolution and Ethics
 STHS 340 Finding Order in Nature
 STHS 344 Ecological Knowledge in Historical Perspective
 STHS 345 Science and War in the Modern World
 STHS 347 Alchemy and Chemistry: Historical Perspectives
 STHS 361 Mars Exploration
 STHS 370 Science and Religion in the United States: From Evolution to Climate Change

Technology in the Modern World

CONN 410 Science and Economics of Climate Change
 ECON 225 Environmental and Natural Resource Economics
 ECON 351 Industrial Organization: Market Structures and Strategic Behavior
 ENVR 328 Nuclear Narratives of the American West
 GLAM 339 Sci-Fi, Fantasy, and the Classics
 HIST 335 Intelligence and Espionage in Europe and the US
 IPE 389 Global Struggles Over Intellectual Property
 PHIL 105 Neuroethics and Human Enhancement
 PHIL 286 Ethics, Data, and Artificial Intelligence
 SOAN 352 Critical Studies of Organizations, Work, and Management
 STHS 301 Technology and Culture

STHS 344 Ecological Knowledge in Historical Perspective
 STHS 345 Science and War in the Modern World
 STHS 347 Alchemy and Chemistry: Historical Perspectives
 STHS 348 Strange Realities: Physics in the 20th and 21st Centuries
 STHS 354 Murder and Mayhem under the Microscope
 STHS 361 Mars Exploration
 STHS 375 Science, Technology, and Politics

Course Offerings

Unless otherwise specified, each course carries 1 unit of credit and is offered at least once each academic year. Please see "Frequency of Course Offerings" on page 20.

Seminars in Scholarly Inquiry. *See Seminars in Scholarly Inquiry in the Core Curriculum section of this Bulletin for course descriptions.*

SSI2 149 Creationism vs. Evolution in the U.S.

SSI1/SSI2 153 Scientific Controversies

SSI1/SSI2 159 Evolution for All

Other courses offered by Science, Technology, Health, and Society faculty. *See Connections in the Core Curriculum section of this Bulletin for course descriptions.*

STHS 301 Technology and Culture

Satisfies the Connections core requirement.

STHS 302 Cancer and Society

Satisfies the Connections core requirement.

STHS 318 Science and Gender

Satisfies the Connections core requirement.

STHS 330 Evolution and Society Since Darwin

Satisfies the Connections core requirement.

STHS 333 Evolution and Ethics

Satisfies the Connections core requirement.

STHS 340 Finding Order in Nature

Satisfies the Connections core requirement.

STHS 345 Science and War in the Modern World

Satisfies the Connections core requirement.

STHS 347 Alchemy and Chemistry: Historical Perspectives

Satisfies the Connections core requirement.

STHS 348 Strange Realities: Physics in the 20th and 21st Centuries

Satisfies the Connections core requirement.

STHS 352 Memory in a Social Context

Satisfies the Connections core requirement.

STHS 354 Murder and Mayhem under the Microscope

Satisfies the Connections core requirement.

STHS 361 Mars Exploration

Satisfies the Connections core requirement.

STHS 370 Science and Religion in the United States: From Evolution to Climate Change

Satisfies the Connections core requirement.

STHS 375 Science, Technology, and Politics

Satisfies the Connections core requirement.

Science, Technology, Health and Society (STHS)

100 Apes, Angels, and Darwin Benjamin Disraeli described the question placed before society by Charles Darwin's work as follows: "Is man an ape or an angel?" This course examines the development of evolutionary thinking during the nineteenth century and the resulting debates over the "Descent of Man." It explores the relationship between Darwin's theory of evolution and the social, political and religious

history of Britain and the British Empire in the nineteenth century. The course serves as an introduction to analyzing the interactions between science and society, with particular attention to how Darwin's theory intersected with debates over God, Science, Empire, Ethics, Race, Gender, Economics, and Politics. *Satisfies the Humanistic Approaches core requirement. Offered every year.*

201 Alchemy, Astronomy, and Medicine before 1700 This course focuses on the history of science, technology, and society from Antiquity to 1700 C.E. It emphasizes both the theoretical understanding of nature and the practical mastery of the technologies of settled existence. Topics include: astronomy in ancient Egypt, Mesopotamia and Greece; ancient Greek and early Chinese medicine; Islamic science in the Middle Ages; Renaissance anatomy, physiology, and natural history; and the Scientific Revolution of the seventeenth century. Issues addressed include: the role of cultural institutions in the production and diffusion of scientific ideas; the transmission of science across linguistic and cultural boundaries; and the interaction of science with art, religion, philosophy and political life. There are no prerequisites, but the course assumes a working knowledge of biology, chemistry, and geometry at the high school level. *Satisfies the Humanistic Approaches core requirement. Offered every other year.*

202 History of Modern Science and Technology Students in this course analyze the history of the physical and biological sciences since 1800, paying special attention to the reciprocal relationship between scientific knowledge and social context. Beginning with the social and intellectual upheaval of the French and Haitian Revolutions, this course highlights how an historical approach can inform our understanding of the triumphs and tragedies of scientific and technological development. Subjects of the course may include creationism, natural theology, evolution, the origin and demise of the electromagnetic worldview, atomic theory, big science, and genetics. *Satisfies the Humanistic Approaches core requirement. Offered every year.*

299 Science, Technology, Health, and Society in the News 0.25 activity units. This course is an activity credit where students write for and participate in STHS in the News, a student-run STHS blog. Students become familiar with the approach and style of academic blog writing, producing essays with novel content that both engage with current events related to science and technology and synthesize ideas from STHS scholarship. Weekly meetings are required to select topics, discuss STHS, promote the development of writing skills, and manage STHS in the News. *Prerequisite: At least one STHS course. May be repeated for credit. Pass/Fail Required.*

300 STEM, Society, and Justice 0.25 units. This is a 'Special Topics' course designed by students with the support of faculty to promote project-based learning for topics that do not fit within the rubric of an independent study or an existing full-unit course. The course broadly addresses themes related to STEM and social justice in a range of ways. Examples include designing a syllabus and seminar series on diversity in STEM or composing supplementary material for science courses on issues that relate to society and justice. *May be repeated for credit. Pass/Fail Required.*

301 Technology and Culture *See Connections in the Core Curriculum section of this Bulletin for course description.*

302 Cancer and Society *See Connections in the Core Curriculum section of this Bulletin for course description.*

318 Science and Gender *See Connections in the Core Curriculum section of this Bulletin for course description.*

325 Natural History Museums and Society This class examines the history of natural history museums. Drawing on the resources and history of Puget Sound's natural history museum, the course is guided by the following questions: How have natural history museums influenced the history of biology? What alternative ways of knowing have historically been excluded from museums as sites of knowledge production? How have debates about human origins and diversity played out in museum settings and to what end? How and why are museums changing as both science and society change, from serving as sites for environmental education to tracking human impacts on the environment? Key topics include the role of museums in racializing human variation, the close relationship between imperialism and natural history, the important role natural history museums played in inspiring Darwin and Wallace's theories of evolution, and recent efforts by museums around the globe to contribute to biodiversity conservation while wrestling with the problematic legacies of their pasts. *Offered every other year.*

330 Evolution and Society Since Darwin *See Connections in the Core Curriculum section of this Bulletin for course description.*

333 Evolution and Ethics *See Connections in the Core Curriculum section of this Bulletin for course description.*

340 Finding Order in Nature *See Connections in the Core Curriculum section of this Bulletin for course description.*

344 Ecological Knowledge in Historical Perspective This course examines the history of both scientific ecology and recent movements to interrogate, question, and revise the West's understanding of nature, including Traditional Ecological Knowledge (TEK). In doing so the course places both defenses and critiques of Western science in historical context, with particular emphasis on potential implications for environmental policy. Students examine how the rise of conservation and environmentalism, responses to imperialism and colonialism, and debates over the role of activism and advocacy in science have influenced ecologists' work, identity, and organizations. In doing so students study the interaction between science and society, while considering the important insights a historical understanding of science can bring to understanding modern concerns and controversies. *Satisfies the Humanistic Approaches core requirement. Satisfies the Knowledge, Identity, Power graduation requirement. Offered every other year.*

345 Science and War in the Modern World *See Connections in the Core Curriculum section of this Bulletin for course description.*

347 Alchemy and Chemistry: Historical Perspectives *See Connections in the Core Curriculum section of this Bulletin for course description.*

348 Strange Realities: Physics in the 20th and 21st Centuries *See Connections in the Core Curriculum section of this Bulletin for course description.*

352 Memory in a Social Context *See Connections in the Core Curriculum section of this Bulletin for course description.*

354 Murder and Mayhem under the Microscope *See Connections in the Core Curriculum section of this Bulletin for course description.*

361 Mars Exploration *See Connections in the Core Curriculum section of this Bulletin for course description.*

366 Medicine in the United States: Historical Perspectives This course surveys the history of medicine in the United States, guided by the following questions: How and why did a particular way of under-

standing the body, health, and medicine become established as “scientific medicine” in the U.S.? What role have alternative understandings of health and disease played in challenging the status and assumptions of biomedical approaches? How has “progress in medicine” been defined, by whom, and for whom? What political, social, and cultural histories are needed to understand both historical and present-day health inequities in healthcare? How do we develop a narrative of the past that acknowledges both the historical triumphs and tragedies of the U.S. healthcare and medical system and why should we try? How can studying this history improve medical practice, institutions, and education, including provider-patient relationships? *Offered every year.*

370 Science and Religion in the United States: From Evolution to Climate Change *See Connections in the Core Curriculum section of this Bulletin for course description.*

375 Science, Technology, and Politics *See Connections in the Core Curriculum section of this Bulletin for course description.*

480 Senior Practicum in Science, Technology, Health, and Society Studies In this experiential-learning course, students work individually or collaboratively to better understand a real-world interdisciplinary problem. As the capstone experience for the STHS major, students will conduct detailed research to produce a final project appropriate to their academic and co-curricular interests, e.g., writing a substantive paper, creating a web exhibit, or designing a syllabus. *Prerequisite: Permission of the STS Director. Cannot be audited. Offered every year.*

495 Independent Study Variable credit up to 1.00 unit. Research under the close supervision of a faculty member on a topic agreed upon. Application and proposal to be submitted to the department chair and faculty research advisor. Recommended for majors prior to the senior research semester. *May be repeated for credit up to 4.00 units. Cannot be audited. Cannot be taken Credit/No Credit.*

498 Internship Seminar Variable credit up to 1.00 unit. This scheduled weekly interdisciplinary seminar provides the context to reflect on concrete experiences at an off-campus internship site and to link these experiences to academic study relating to the political, psychological, social, economic and intellectual forces that shape our views on work and its meaning. The aim is to integrate study in the liberal arts with issues and themes surrounding the pursuit of a creative, productive, and satisfying professional life. Students receive 1.0 unit of academic credit for the academic work that augments their concurrent internship fieldwork. This course is not applicable to the Upper-Division Graduation Requirement. Only 1.0 unit may be assigned to an individual internship and no more than 2.0 units of internship credit, or internship credit in combination with co-operative education credit, may be applied to an undergraduate degree. *Prerequisite: Junior or senior standing, 2.5 GPA, ability to complete 120 hours at internship site, approval of the CES internship coordinator, and completion of learning agreement. May be repeated for credit up to 2.00 units. Cannot be audited. Cannot be taken Credit/No Credit.*