

PROGRAM IN HISTORY AND PHILOSOPHY OF SCIENCE AND TECHNOLOGY

Co-chairs: Michael Friedman (Philosophy), Timothy Lenoir (History)

Committee-in-Charge: Barton Bernstein (History), Joe Corn (History), Paula Findlen (History), Michael Friedman (Philosophy), Sarah Jain (Cultural and Social Anthropology), Timothy Lenoir (History), Reviel Netz (Classics)

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Courses in History and Philosophy of Science and Technology have the subject code HPS. For a complete list of subject codes, see Appendix B.

The Program in History and Philosophy of Science and Technology (HPST) is an interdisciplinary program focusing on the historical and contemporary aspects of science, medicine, and technology. It offers graduate degrees at the doctoral level through the departments of History and Philosophy, as well as at the master's level through a variety of affiliated department and programs, principally Classics, Cultural and Social Anthropology, English, and Modern Thought and Literature. In addition, graduate students in such affiliated departments and programs may participate in the HPST program by taking selected courses (see below). Its courses span the period from antiquity to the late 20th century, with special emphasis on ancient and Islamic science; Renaissance science; the scientific revolution; history of medicine and the body; history and philosophy of biology; history and philosophy of modern physics; history of the philosophy of science in the modern period; history of computers and information sciences; and gender, science, and technology. These courses are designed both for students looking for a humanistic perspective on the sciences and for students trying to understand the relationship of the sciences to humanistic knowledge.

Stanford has unique resources for the history and philosophy of science. Situated in the heart of Silicon Valley at an institution with a long and distinguished tradition in many sciences, the University is surrounded by archives for the recent history of science and technology. Stanford University Libraries has rich holdings in Special Collections for the Scientific Revolution, as well as the modern and contemporary study of science and technology. The University is in close proximity to some of the most interesting public science museums in the country: the California Academy of Sciences, the Exploratorium, the Computer History Museum, and the Tech Museum. Graduate students can take advantage of faculty, classes, and archives at UC Berkeley through Stanford's exchange program. The core of the community is the colloquium series which brings together faculty and students several times a quarter to discuss the work of invited speakers on topics of broad concerns to science and technology studies.

UNDERGRADUATE DEGREES

Students who wish to pursue the history and philosophy of science and technology should major in the Department of History, which offers an interdisciplinary major in History and Science, in the Department of Philosophy, which offers a specific degree in History and Philosophy of Science, or in the Program in Human Biology, which offers a concentration in history of science and medicine. A concentration in the anthropology of science or in ancient science can be arranged with the departments of Cultural and Social Anthropology and Classics respectively. Alternatively, students may consult with a member of the Committee-in-Charge to construct an individually designed major. The major must conform to the requirements for Individually Designed Majors (see the "Individually Designed Majors" section of the bulletin).

GRADUATE DEGREES

Students can pursue a Ph.D. in HPST through the departments of History and Philosophy. Students can pursue an M.A. in HPST through any of the participating departments and programs. Students completing the requirements of the HPST program for the M.A. or Ph.D. (including appropriate dissertation work) graduate with a diploma stating their concentration in HPST. In addition, students may also participate in the HPST program on a non-degree basis. The degree and program requirements are as follows:

All students participating in the program are required to attend the HPST colloquium series and are expected to present their own research at least once in the course of their studies at Stanford. The colloquium series meets four times per quarter as a one-unit course.

All students participating in the program take the HPST core graduate seminar (a one quarter, 6-unit course). This course is offered every other year, crosslisted in HPST, History, and Philosophy, and is team-taught by two faculty as an introduction to historical and philosophical perspectives on science and technology. In alternate years, both History and Philosophy offer their departmental core seminars in history or philosophy of science and technology respectively.

The core seminars are designated each year by the HPST program committee.

In addition to the HPST colloquium series, all doctoral students in HPST complete a four-course sequence:

1. HPST core seminar
2. Department core seminar in History or Philosophy
3. One elective seminar in history of science and/or technology
4. One elective seminar in philosophy of science and/or technology

In addition to participating in the HPST colloquium series, all master's students in HPST are required to complete a three-course sequence:

1. HPST core seminar (or department core in alternate years)
2. One elective in history of science
3. One elective in philosophy of science

In addition to participating in the HPST colloquium series, all students in other programs participating in HPST are required to complete a two-course sequence:

1. HPST core seminar
2. One elective seminar in history or philosophy of science

Electives, in all cases, are to be selected from a list approved each year by the HPST program committee.

COURSES

INTRODUCTORY

HPS 60. Introduction to Philosophy of Science—(Same as PHIL 60.) Survey of 20th-century views on the nature of scientific knowledge. Logical positivism and Popper; the problem of induction; Kuhn, Feyerabend, and radical philosophies of science; subsequent attempts to rebuild moderate empiricist and realist positions. GER:3a

5 units, Win (Tanona)

HPS 61. Philosophy and the Scientific Revolution—(Same as PHIL 61.) The relationship between the scientific revolution of the 17th

century that resulted in the birth of modern science and the contemporaneous intellectual developments constituting the birth of modern philosophy. Readings focus on Galileo and Descartes. GER:3a

5 units, Aut (*Friedman*) alternate years, not given 2004-05

SCIENCE IN HISTORY

This sequence is designed to introduce students to fundamental aspects of the history of science from antiquity to the 20th century. Students concentrating in the history of science are advised to take most or all of this sequence as a core foundation.

HPS 102. The Scientific Revolution—(Enroll in HISTORY 213/313.)
5 units (*Findlen*) not given 2003-04

HPS 103. The Darwinian Revolution—(Enroll in HISTORY 133/333.)
4 units (*Lenoir*) not given 2003-04

HPS 104. The Quantum Century: A History of 20th-Century Physics—(Same as HISTORY 140/340.) The major scientific changes which have characterized the 20th century. The ideas of relativity, quantum notions, and scientific fashions from nuclear physics to particle physics, and from superconductivity to chaos. Emphasis is on corresponding changes in sociology, demography, and the impact on philosophy and the changed role of physics.

3-5 units (*Riordan*) not given 2003-04

MEDICINE IN HISTORY

This sequence is designed to introduce students to fundamental aspects of the history of medicine from antiquity to the 20th century. Students concentrating in the history of medicine are advised to take most or all of this sequence as a core foundation.

HPS 121. The Emergence of Modern Medicine—(Enroll in HISTORY 13.)
5 units (*Findlen*) not given 2003-04

HPS 122. The Rise of Scientific Medicine—(Enroll in HISTORY 33A.) GER:3b
4-5 units, Spr (*Lenoir*)

PHILOSOPHICAL PERSPECTIVES ON SCIENCE, MEDICINE, AND TECHNOLOGY

This sequence is designed to introduce students to fundamental aspects of the philosophy of science. Students concentrating in the philosophy of science are advised to take HPS 60 above as a starting point, and combine a number of the electives listed below in conjunction with courses in the other concentrations that address their specific interests.

HPS 140. Popper, Kuhn, and Lakatos—(Enroll in EDUC 214, PHIL 156.)
3 units, Spr (*Phillips*)

HPS 142. Central Topics in the Philosophy of Science: Theory and Evidence—(Enroll in PHIL 164/264.)
4 units, Aut (*Strevens*)

HPS 143. Philosophy of Physics—(Enroll in PHIL 165/265.)
4 units (*Tanona*) not given 2003-04

HPS 144. Philosophy of Biology—(Enroll in PHIL 167A/267A.)
4 units, Aut (*Sober*)

HPS 145. Philosophy, Biology, and Behavior—(Enroll in PHIL 167B/267B.)
4 units (*Godfrey-Smith*) not given 2003-04

HPS 146. Plato's Forms and Plato's Mathematics—(Enroll in PHIL 116/216.)
3-5 units (*Moravcsik, Netz*) not given 2003-04

HPS 147. Kant's Philosophy of Physical Science—(Enroll in PHIL 224.)
4 units, Aut (*Friedman*)

HPS 148. Seminar in Philosophy of Science: Higher and Lower in Explanation—(Enroll in PHIL 242B.)

3 units, Spr (*Strevens*)

HPS 149. Philosophy of Science Seminar—(Enroll in PHIL 242A.)
3 units, Win (*Sober*)

ADVANCED

HISTORICAL PERSPECTIVES ON SCIENCE

The following classes focus on specific episodes in or approaches to the history of science.

HPS 152. New Worlds, Imaginary Worlds—(Enroll in HISTORY 213A/313A.)

5 units (*Findlen*) not given 2003-04

HPS 153. Science, Technology, and Art: The Worlds of Leonardo—(Enroll in STS 102, HISTORY 14/314.)

5 units (*Findlen*) not given 2003-04

HPS 154. When Worlds Collide: The Trial of Galileo—(Enroll in HISTORY 216/316.)

5 units (*Findlen*) not given 2003-04

HPS 155. The Prehistory of Computers—(Enroll in HISTORY 204B/304B.)

3-5 units (*Riskin*) not given 2003-04

HPS 157. The History of Artificial Life—(Enroll in HISTORY 203D/303D.)

5 units (*Riskin*) not given 2003-04

CONTEMPORARY PERSPECTIVES ON SCIENCE, MEDICINE, AND TECHNOLOGY

The following classes focus on contemporary cultural and social science approaches to science, technology, and medicine.

HPS 160. Science and High Technology in the Silicon Valley, 1930-1980—(Enroll in HISTORY 262S/462.)

4-5 units (*Lenoir*) not given 2003-04

HPS 161. Bodyworks: Medicine, Technology, and the Body in Late 20th-Century America—(Enroll in HISTORY 274A/374A, ENGLISH 274B, COMPLIT 274A/374A.)

5 units (*Lenoir, Bender*) not given 2003-04

HPS 163. History of Computer Game Design: Technology, Culture, and Business—(Enroll in STS 145.)

4 units, Win (*Lowood*)

HPS 164. Science, Technology, and Gender—(Enroll in CASA 132.)
3-5 units, Win (*Jain*)

HPS 165. The Anthropology of Disasters—(Enroll in CASA 383.)
5 units (*Jain*) not given 2003-04

HPS 166. The Wired Historian—(Enroll in HISTORY 201P/301P, STS 230.)

3 units (*Gorman*) not given 2003-04

HPS 167. Health Care as Seen Through Medical History, Literature, and the Arts—(Enroll in HUMBIO 175.)

4 units, Aut (*Zaroff*)

HPS 168. Trials of the 20th Century: Technology, Law, and Culture—(Enroll in CASA 85.)

5 units (*Jain*) not given 2003-04

HPS 170. Car Culture—(Enroll in CASA 181, STS 150.)
5 units, Aut (*Jain*)

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

5 units, Win (*Horn*)

HPS 172. SHL: R. Buckminster Fuller, Polymath—(Enroll in COMPLIT 355E.)

3-5 units, Aut (Schnapp, Gorman, Quimby)

HPS 199. Directed Reading

1-15 units, Aut, Win, Spr, Sum (Staff)

HPS 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, Aut, Win (Aneesh)

HPS 201. HPST Colloquium—Several meetings per quarter to discuss the work of invited speakers on topics of broad concerns to science and technology studies. Enrollment is required of students participating in the program.

1 unit, Aut, Win, Spr (Staff)

HPS 204A. Critical Studies: Science, Language, and Culture—(Enroll in HISTORY 204A/304A.)

4-5 units, Win (Lenoir)

HPS 299. Graduate Individual Work

1-15 units, Aut, Win, Spr, Sum (Staff)

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