

# PROGRAM IN HISTORY AND PHILOSOPHY OF SCIENCE AND TECHNOLOGY

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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.

The Program in History and Philosophy of Science and Technology (HPST) is an interdisciplinary program focusing on historical and contemporary aspects of science, medicine, and technology. Graduate degrees at the doctoral level are offered through the departments of History and Philosophy; master's degrees are offered through affiliated departments and programs, principally Classics, Cultural and Social Anthropology, English, and Modern Thought and Literature. The program's courses span the period from antiquity to the late 20th century, with emphasis on: ancient science; Renaissance science; the scientific revolution; Enlightenment and transatlantic science; 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; and gender, science, and technology. These courses are designed for students looking for a humanistic perspective on the sciences and for those 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 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 consider a major in one of the following: the Department of History which offers an interdisciplinary track in History, Science, and Medicine; the Department of Philosophy which offers a degree field in History and Philosophy of Science; or the Program in Human Biology where a student can craft their own area of concentration in the History of Science and Medicine. Course work in science, technology, and medicine or in ancient science and philosophy 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. specializing in the history and philosophy of science and technology through the departments of History and Philosophy. Students can pursue an M.A. specializing in the history and philosophy of science and technology through any of the participating departments and programs. In addition, students may also participate in the HPST program on a non-degree basis. Students should consult departmental descriptions for the details of graduate degree requirements specific to their main department. They are also encouraged to design an interdisciplinary component in their program of studies, drawing on the most relevant classes across the humanities, sciences, and engineering which allow them to connect their discipline-specific work to a broader understanding of science and technology as historical and contemporary phenomena. Prospective students should work closely with their advisers in developing this aspect of their program of studies.

## COURSES

### INTRODUCTORY

**HPS 60. Introduction to Philosophy of Science**—(Same as PHIL 60.) 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:DB-Hum

*5 units, Aut (Longino, H)*

**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:DB-Hum

*5 units, not given this year (Friedman, M)*

### COGNATE COURSES

See respective department listings for course descriptions and General Education Requirements (GER) information. See degree requirements above or the program's student services office for applicability of these courses to a major or minor program.

**HISTORY 44N. The History of Women and Gender in Science, Medicine, and Engineering**

*4 units, Win (Schiebinger, L)*

**PHIL 16N. Values and Objectivity**

*3 units, Aut (Ryckman, T)*

**CLASSGEN 16. Eureka! Archimedes and his Science**

*3-5 units, Win (Netz, R)*

### 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.

**COGNATE COURSES**

**HISTORY 40S. Dinosaurs, Sea Serpents, and Abominable Snowmen: Unknown Animals in Modern History**  
5 units, Aut (Roberts, P)

**HISTORY 42S. Climate Science in the 20th Century: A History**  
5 units, Spr (Howe, J)

**CLASSGEN 133. Invention of Science**  
3-5 units, Aut (Netz, R)

**HISTORY 232F/332F. The Scientific Revolution**  
5 units, not given this year (Findlen, P)

**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.

**COGNATE COURSES**

**HISTORY 243G/343G. Tobacco and Health in World History**  
5 units, Aut (Proctor, R)

**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.

**COGNATE COURSES**

**PHIL 107/207. Plato and Heraclitus**  
3 units, Spr (Moravcsik, J)

**PHIL 115/215. Foundations of Medieval Psychology**  
3-5 units, Aut (Wood, R)

**PHIL 163/263. Significant Figures in Philosophy of Science**  
4 units, Win (Ryckman, T)

**PHIL 164/264. Central Topics in the Philosophy of Science: Theory and Evidence**  
4 units, not given this year

**PHIL 165/265. Philosophy of Physics**  
4 units, Aut (Ryckman, T)

**PHIL 167A/267A. Philosophy of Biology**  
4 units, not given this year

**PHIL 167B/267B. Philosophy, Biology, and Behavior**  
4 units, not given this year

**PHIL 184F/284F. Feminist Theories of Knowledge**—(Same as FEMST 166.)  
4 units, Spr (Longino, H)

**PHIL 189. Philosophical Applications of Cognitive Science**  
4 units, not given this year

**PHIL 224. Kant's Philosophy of Physical Science**  
4 units, not given this year (Friedman, M)

**PHIL 360. Core Seminar in Philosophy of Science**  
4 units, Spr (Longino, H)

**PHIL 365. Seminar in Philosophy of Science: Structural Realism**  
4 units, not given this year (Ryckman, T)

**ADVANCED****HISTORICAL PERSPECTIVES ON SCIENCE**

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

**HPS 152. Witchcraft, Magic and the Occult in Early Modern Europe and the Americas**—What was the witch craze about, and how was it related to magic? Farmers and townspeople, and prominent European intellectuals of the age, who wrote about magic and witchcraft. How Old World ideas translated to Spanish Latin America and New England. How and why European concepts of magic and witchcraft reshaped in the New World.  
5 units, Spr (Brosseder, C)

**COGNATE COURSES**

**CLASSGEN 213. The Poetics of Ancient Science**  
3-5 units, Aut (Netz, R)

**HISTORY 232G/332G. When Worlds Collide: The Trial of Galileo**  
5 units, Spr (Findlen, P)

**HISTORY 241G/341G. History of the Senses**—(Same as STS 134/234.)  
5 units, Spr (Riskin, J)

**STS 125/225. Science, Technology, and Art: The Worlds of Leonardo**—(Same as HISTORY 31.)  
5 units, Win (Findlen, P)

**HISTORY 243S/443A. Human Origins: History, Evidence, and Controversy**  
5 units, not given this year (Proctor, R)

**CONTEMPORARY PERSPECTIVES ON SCIENCE, MEDICINE, AND TECHNOLOGY**

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

**HPS 199. Directed Reading**  
1-15 units, Aut, Win, Spr, Sum (Staff)

**HPS 201. HPST Colloquium**—Several meetings per quarter to discuss the work of speakers on topics of broad concerns to science and technology studies. Required of students in the program. See <http://hpst.stanford.edu/colloquia.html> for times and locations. May be repeated for credit.  
1 unit, Aut, Win, Spr (Staff)

**HPS 299. Graduate Individual Work**—May be repeated for credit.  
1-15 units, Aut, Win, Spr, Sum (Staff)

**COGNATE COURSES**

**CASA 132. Science, Technology, and Gender**  
3-5 units, Spr (Jain, S)

**FEMST 244. History of Women and Medicine in the United States**  
5 units, Aut (Horn, M)

**HISTORY 141. Minds and Worlds from Aristotle to Newton to Einstein**  
5 units, Spr (Riskin, J)

**HISTORY 241S. Science and Culture Wars**  
5 units, Win (Riskin, J)

**HISTORY 244C/444C. The History of the Body in Science, Medicine, and Culture**  
5 units, Spr (Schiebinger, L)

**HISTORY 244L/344L. Theory and Practice of Feminism in Science**  
5 units, not given this year (Schiebinger, L)

**HUMBIO 175. Health Care as Seen Through Medical History, Literature, and the Arts**  
4 units, Aut (Zaroff, L)

**STS 145. History of Computer Game Design: Technology, Culture, and Business**  
4 units, not given this year (Lowood, H)