

# HISTORY AND PHILOSOPHY OF SCIENCE

Courses offered by the Program in History and Philosophy of Science are listed under the subject code HPS on the Stanford Bulletin's ExploreCourses web site.

The Program in History and Philosophy of Science (HPS) teaches students to examine the sciences, medicine and technology from a number of perspectives, conceptual, historical and social. The community of scholars includes core faculty and students in History and Philosophy and affiliated members in Classics, Anthropology, English, Political Science, Communication, and other disciplines. Together, they draw upon the multiple methods of their disciplines to study the development, functioning, applications, and social and cultural engagements of the sciences.

Stanford's Program in History and Philosophy of Science is a collaborative enterprise of the departments of History and Philosophy. Each department has its own undergraduate and graduate degree programs in this area, but these overlap and interact through the structure of requirements, advising, team-taught courses, an active graduate student community and a shared colloquium series (<http://HPS.stanford.edu/colloquia.html>).

The program's courses span 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 from the early modern period to the present
- central issues in contemporary philosophy of science
- gender, science, and technology

## Undergraduate Degrees

HPS offers undergraduates the opportunity to study science, medicine and technology by combining scientific and humanistic perspectives in a single program. Students can pursue HPS through the two departments (History and Philosophy) that coordinate this interdisciplinary program.

The HPS Program offers students an in-depth understanding of the nature and evolution of scientific ideas, practices, and institutions; their contemporary significance to intellectual life; and their material transformation of the modern world.

The Department of History offers an interdisciplinary track in History of Science, and Medicine (<http://exploreddegrees.stanford.edu/schoolofhumanitiesandsciences/history/#bachelorstext>). This track is especially well suited to students who wish to combine history and science, or who are interested in studying the history of science and medicine in combination with premed science requirements in preparation for a future career in medicine and public health.

The Department of Philosophy offers a special program in History and Philosophy of Science (<http://exploreddegrees.stanford.edu/schoolofhumanitiesandsciences/philosophy/#bachelorstext>). This program is especially well suited to students who want to combine their concentration in Philosophy with the study of science and its history.

Students interested in HPS should contact the faculty advisors (in 2015-16 Paula Findlen for History and Michael Friedman for Philosophy) to discuss the undergraduate program.

## Graduate Degrees

Graduate students in the Program in History and Philosophy of Science can pursue a Ph.D. either in History, through its Ph.D. concentration in History of Science, Medicine, and Technology, or in Philosophy, through its Ph.D. subplan in History and Philosophy of Science. Diplomas will be issued by the respective departments, but the HPS study will not be noted on the transcript nor on the diploma. Ph.D. students completing the requirements of the HPS program will receive a certificate issued by the Program.

Graduate students in the Program in History and Philosophy of Science that wish to pursue a Ph.D. in Philosophy must fulfill Departmental degree requirements (<http://exploreddegrees.stanford.edu/schoolofhumanitiesandsciences/philosophy/#doctoraltext>) and the following requirements:

1. HPS colloquium series attendance
2. One of the following graduate level Philosophy of Science courses: 263, 264, 264A, 265, 265C, 266, 267A or 267B
3. One elective seminar in the history of science
4. One elective seminar (in addition to the course satisfying requirement 2) in philosophy of science

Philosophy Ph.D. students declaring the HPS subplan in Access will have it appear on the official transcript but is not printed on the diploma.

The Program in History and Philosophy of Science degree requirements for the Ph.D. in History of Science, Medicine and Technology, in addition to the general History Department Ph.D. degree requirements (<http://exploreddegrees.stanford.edu/schoolofhumanitiesandsciences/history/#doctoraltext>), are:

1. HPS colloquium series attendance
2. the History Department core seminar in History of Science, Medicine and Technology
3. Four other courses in the history of science, technology and/or medicine
4. One course in the philosophy of science
5. Four additional courses in a given geographical or national field of research, one of which must be a core course

The courses described above must include two research seminars, at least one of which must be in the history of science, technology and/or medicine. Students are expected to write papers on substantially different topics for each seminar. You should also aim to present your research at the annual meeting of a professional society associated with the history of science, technology and/or medicine sometime during your third or fourth year. For more information, see the program's (<http://hps.stanford.edu/grad.html>) web site.

## Bachelor of Arts Programs

HPS offers undergraduates the opportunity to study science, medicine and technology by combining scientific and humanistic perspectives in a single program. Students can pursue HPS through the two departments (History and Philosophy) that coordinate this interdisciplinary program.

The HPS Program offers students an in-depth understanding of the nature and evolution of scientific ideas, practices, and institutions; their contemporary significance to intellectual life; and their material transformation of the modern world.

The Department of History offers an interdisciplinary track in History of Science, and Medicine (<http://exploreddegrees.stanford.edu/schoolofhumanitiesandsciences/history/#bachelorstext-histfielstuddegropti-hisscimed>). This track is especially well suited to

students who wish to combine history and science, or who are interested in studying the history of science and medicine in combination with premed science requirements in preparation for a future career in medicine and public health.

The Department of Philosophy offers a special program in History and Philosophy of Science (<http://exploreddegrees.stanford.edu/schoolofhumanitiesandsciences/philosophy/#doctoraltext-doctphilphilphdsubhispisci>). This program is especially well suited to students who want to combine their concentration in Philosophy with the study of science and its history.

Students interested in HPS should contact the faculty advisers (in 2015-16 Paula Findlen for History and Michael Friedman for Philosophy) to discuss the undergraduate program.

#### Course Sequences

The following courses are offered in 2015-16 in the area of History and Philosophy of Science.

### Introductory

		Units
HPS/PHIL 60	Introduction to Philosophy of Science	5
HPS 61	Philosophy and the Scientific Revolution	5

### Science in History

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

		Units
HISTORY 40/140	World History of Science	3
HISTORY 140A	The Scientific Revolution	5
HISTORY 44/144	Women and Gender in Science, Medicine and Engineering	3
HISTORY 44Q	Gendered Innovations in Science, Medicine, Engineering, and Environment	4-5
HISTORY 240/340	The History of Evolution	4-5
HISTORY 203C/303C	History of Ignorance	5
HISTORY 232D	Rome: The City and the World, 1300-1800	4-5
HISTORY 332G	When Worlds Collide: The Trial of Galileo	4-5
HISTORY 342	Darwin in the History of Life	4-5
HISTORY 431	Early Modern Things	4-5
MATH 163	The Greek Invention of Mathematics	3-5
OSPFLOR 44		
HISTORY 243C/343C	People, Plants, and Medicine: Atlantic World Amerindian, African, and European Science	4-5
HISTORY 344F	Gender Methods in History, Medicine, and Technology	4-5
HISTORY 202B/302B	Coffee, Sugar, and Chocolate: Commodities and Consumption in World History, 1200-1800	4-5
HISTORY 234	The Enlightenment	3-5
HISTORY 204D/304D	Advanced Topics in Agnotology	4-5
HISTORY 205A/305A	The History of Information	4-5
HISTORY 241K/341K	Technology in Modern American Culture	4-5
HISTORY 444	Graduate Research Seminar: Gender in Science, Medicine, and Engineering	5

HISTORY 430 Graduate Research Seminar: Early Modern Europe 4-5

### Medicine in History

This sequence is designed to introduce students to the history of medicine from antiquity to the 20th century.

		Units
HISTORY 40	World History of Science	3
HISTORY 41Q	Madwomen: The History of Women and Mental Illness in the U.S.	3
HISTORY 130A	In Sickness and In Health: Medicine and Society in the United States: 1800-Present	5
AMSTUD 156H	Women and Medicine in US History: Women as Patients, Healers and Doctors	5
HISTORY 243G/343G	Tobacco and Health in World History	4-5
HISTORY 244C	The History of the Body in Science, Medicine, and Culture	4-5
HISTORY 264G	The Social History of Mental Illness in the United States	5

### Philosophical Perspectives on Science, Medicine, and Technology

This sequence is designed to introduce students to the philosophy of science. Students are advised to take HPS 60 Introduction to Philosophy of Science 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.

		Units
PHIL 153/253	Feminist Theories and Methods Across the Disciplines	2-5
PHIL 164/264	Central Topics in the Philosophy of Science: Theory and Evidence	4
PHIL 165/265	Philosophy of Physics	4
PHIL 166/266	Probability: Ten Great Ideas About Chance	4
PHIL 167D	Philosophy of Neuroscience	4
PHIL 326	Kant's Transcendental Deduction	4
PHIL 348	Evolution of Signalling	2-4
PHIL 361	Social Dimensions of Scientific Knowledge	4
PHIL 362	Grad Seminar on Philosophy of Science	4
PHIL 374F	Science, Religion, and Democracy	4

### Advanced Course Sequences

#### Contemporary Perspectives on Science, Medicine and Technology

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

		Units
HPS 199	Directed Reading	1-15
HPS 299	Graduate Individual Work	1-15
ANTHRO 180	Science, Technology, and Gender	3-5
HISTORY 243S/443A	Human Origins: History, Evidence, and Controversy	4-5

### Graduate Degrees

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its Ph.D. subplan in History and Philosophy of Science. Diplomas will be issued by the respective departments, but the HPS study will not be noted on the transcript nor on the diploma. Ph.D. students completing the requirements of the HPS program will receive a certificate issued by the Program.

Graduate students in the Program in History and Philosophy of Science that wish to pursue a Ph.D. in Philosophy must fulfill Departmental degree requirements (<http://exploreddegrees.stanford.edu/schoolofhumanitiesandsciences/philosophy/#doctoraltext-doctphilphdsubhisphisci>) and the following requirements:

1. HPS colloquium series attendance
2. One of the following graduate level Philosophy of Science courses: 263, 264, 264A, or 266
3. One elective seminar in the history of science
4. One elective seminar (in addition to the course satisfying requirement 2) in philosophy of science

Philosophy Ph.D. students declaring the HPS subplan via the Declaration or Change to a Field of Study form (<http://studentaffairs.stanford.edu/sites/default/files/registrar/files/grad-subplan-change.pdf>) will have it appear on the official transcript but is not printed on the diploma.

The Program in History and Philosophy of Science degree requirements for the Ph.D. in History of Science, Medicine and Technology, in addition to the general History Department Ph.D. degree requirements (<http://exploreddegrees.stanford.edu/schoolofhumanitiesandsciences/history/#doctoraltext-doctphilhist-requirements>), are:

1. HPS colloquium series attendance
2. the History Department core seminar in History of Science, Medicine and Technology
3. Four other courses in the history of science, technology and/or medicine
4. One course in the philosophy of science
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## Course Sequences

See the Bachelors tab for all History and Philosophy of Science courses offered in 2015-2016.

*Co-chairs:* Paula Findlen (History), Michael Friedman (Philosophy)

*Committee-in-Charge:* Paula Findlen (History), Michael Friedman (Philosophy), Helen Longino (Philosophy), Reviel Netz (Classics), Robert Proctor (History), Jessica Riskin (History), Thomas Ryckman (Philosophy)

*Program Committee:* Paula Findlen (History), Michael Friedman (Philosophy), Helen Longino (Philosophy), Tom Mullaney (History), Reviel Netz (Classics), Robert Proctor (History), Jessica Riskin (History), Thomas Ryckman (Philosophy), Londa Schiebinger (History)

*Professors:* Keith Baker (History), Paula Findlen (History), Michael Friedman (Philosophy), David Holloway (History, Institute for International Studies, Political Science), Helen Longino (Philosophy), Reviel Netz (Classics), Robert Proctor (History), Londa Schiebinger (History), Richard White (History), Caroline Winterer (History)

*Associate Professors:* Thomas Mullaney (History), Jessica Riskin (History), Fred Turner (Communication), Sarah Jain (Anthropology), Priya Satia (History)

*Professor (Teaching):* Thomas Ryckman (Philosophy)

*Professor (Research):* Rega Wood (Philosophy, emerita)

*Lecturer:* Margo Horn, Kristen Haring

*Other Affiliation:* Henry Lowood (Stanford University Libraries), Larry Lagerstrom (UAR)

*Visiting Scholar:* Adrienne Mayor (Classics)

## Overseas Studies Courses in History and Philosophy of Science

The Bing Overseas Studies Program (<http://bosp.stanford.edu>) manages Stanford study abroad programs for Stanford undergraduates. Students should consult their department or program's student services office for applicability of Overseas Studies courses to a major or minor program.

The Bing Overseas Studies course search site (<https://undergrad.stanford.edu/programs/bosp/explore/search-courses>) displays courses, locations, and quarters relevant to specific majors.

For course descriptions and additional offerings, see the listings in the Stanford Bulletin's ExploreCourses (<http://explorecourses.stanford.edu>) or Bing Overseas Studies (<http://bosp.stanford.edu>).

		<b>Units</b>
OSPFLOR 77	The Convergence of the Arts and Sciences Since the Renaissance	3