

School of Arts and Sciences

# HISTORY AND PHILOSOPHY OF SCIENCE

[www.pitt.edu/~hpsdept](http://www.pitt.edu/~hpsdept)

The study of the history and philosophy of science affords a broad appreciation of science, its nature and fundamentals, its origins and its place in modern politics, culture, and society. In the history of science, traditional historical methods are used to develop an understanding of how the sciences originated, how they were practiced, how they developed, and how they related to their intellectual and social contexts. In philosophy of science, the sciences themselves are brought under philosophical scrutiny. We investigate the nature of science in general, what distinguishes scientific activity, how theories explain; how they are confirmed, whether they should be read literally, and the moral dilemmas raised by the sciences. We also investigate the fundamental content of individual sciences and how it bears on the ancient philosophical questions: what is the nature of space, time, and matter; what is life; and what is thought? History and philosophy of science is distinctive in integrating these two areas of study, with investigations in each area often closely interwoven.

The Department of History and Philosophy of Science (HPS) at Pitt is a world leader in its field. Historians and philosophers of science worldwide come to Pitt for study and research. The undergraduate courses reflect the conviction that science and technology pervade every aspect of our lives, and have played a central role in the cultural, religious, and philosophical development of our society.

A major in HPS is an excellent choice for students who wish to combine course work in the sciences with work in more humanistically inclined disciplines. Because HPS majors are expected to complete 15 hours of science credits, a double major in HPS and one of the sciences is especially attractive.

## Required Courses for Majors

The requirement for a major in HPS is a minimum of 37 credit hours, to include (all courses are three credits unless noted otherwise):

1. **Four elective courses in HPS; one must be at the 1000 level. Some examples of these are:**

### **HPS 0517 Thinking about the Environment**

This course is aimed at promoting clear and rigorous thinking about environmental issues such as nuclear power, global warming, acid rain, and the use of chemical pesticides. You will develop the skills needed to find the best information on an environmental issue and to make informed judgments about what conclusions and what actions are warranted.

### **HPS 0515 Magic, Medicine, and Science**

Magic is a phenomenon common to all societies. In this course, you will study how it has contributed to religion, medicine, the healing arts, and the emergence of modern scientific thought.

### **HPS 0628 Paradox**

The purpose of this course is to use the natural appeal of paradoxes to introduce students to the methods of philosophical analysis, and give them a taste of the basic content found in the various branches of philosophy of science.

### **HPS 1625 Philosophy of Medicine**

This course is an introduction to philosophical and yet practical issues in medical science.

### **HPS 1410 Change, Progress, and Ideology**

You will focus on the nature of societies and on the causes that shape and change relations of authority and social power during this course.



2. **Logic requirement, which may be fulfilled by taking one of the following courses:**

**HPS 0611 Principles of Scientific Reasoning**

This course will provide you with the skills to understand and assess the scientific claims that confront you in daily life. Special attention will be paid to reasoning based on samples, evaluating hypotheses, and casual claims.

**PHIL 0500 Introduction to Logic**

You will be provided with an introduction to the concepts and methods of modern deductive logic. Propositional logic is emphasized.

3. **HPS 1653 Introduction to Philosophy of Science**

This course provides a broad, introductory survey of current issues in philosophy of science and addresses philosophical problems such as confirmation as well as problems peculiar to individual sciences.

*Logic requirement should be completed before taking HPS 1653.*

4. **HPS 1702 Junior/Senior Seminar for HPS Undergraduate Majors**

This seminar is designed to teach majors the techniques and methods of research in the history and philosophy of science at an advanced level. Each year, the seminar will focus on topics chosen in the instructor's area of expertise.

*Prerequisites:* 1. A logic course—HPS 0611 or Philosophy 0500

2. HPS 1653 Introduction to Philosophy of Science

3. A history of science course, e.g., HPS 0427 *Myth and Science*; HPS 0545 *Space-Time-Matter*; HPS 0515 *Magic, Medicine, and Science*; or any other suitable course approved by the director of undergraduate studies.

5. **HPS 1703 Writing Workshop for Undergraduate Majors (1 cr.)**

This workshop is designed to introduce HPS majors to the methods and standards of good scholarly writing in the history and philosophy of science.

6. **Fifteen credit hours in the natural or social sciences. Majors must pursue at least one science at an advanced level.**

**Declaring an HPS Major**

Before you can declare an HPS major, you must complete two HPS courses with a B- or better, pass HPS 0611 or PHIL 0500 with a B- or better, or receive permission of the major advisor.

**Double Majors**

HPS is easily combined with a major in any science as a double major. This provides you with a deeper historical and conceptual understanding of the science you are studying.

**Related Areas**

Any of the natural or social sciences is acceptable for a related area.

**Foreign Language**

Students intending to go on to do graduate work in HPS are encouraged to study French, German, Latin or Greek.

**Certificate in the Conceptual Foundations of Medicine**

The Department of History and Philosophy of Science offers a certificate program designed especially for students who wish to develop a multidisciplinary understanding of modern medicine. It provides you with an opportunity to examine medicine from a historical and philosophical perspective. It is especially recommended for pre-medical students and others interested in health-related professions. The requirements of the certificate are as follows:

1. The following two introductory courses in conceptual foundations of medicine:

**HPS 0612 Mind and Medicine**

You will explore the nature of medicine, including the nature of diagnostic reasoning, the concept of health, the scientific status of medicine, and the concept of disease.

**HPS 0613 Morality and Medicine**

This course is an introduction to the ethical and social problems of healthcare delivery. Some topics covered include abortion, infanticide, rights to health care, and euthanasia. You will become familiar with classical moral thought of such philosophers as Aristotle, Aquinas, Kant, and Mill.

2. Two additional upper-level courses in two different departments dealing with social and conceptual issues in biomedical sciences.
3. A two-term college-level course in biology.
4. At least a C grade in the required courses and at least a C+ average overall.

**For more information about the history and philosophy of science program, please contact:**  
University of Pittsburgh  
Department of History and Philosophy of Science  
1017 Cathedral of Learning  
Pittsburgh, PA 15260  
412-624-5896  
E-mail: [hpsdept@pitt.edu](mailto:hpsdept@pitt.edu)  
[www.pitt.edu/~hpsdept](http://www.pitt.edu/~hpsdept)

**For information on other majors, please contact:**  
University of Pittsburgh  
Office of Admissions and Financial Aid  
Alumni Hall, 4227 Fifth Avenue  
Pittsburgh, PA 15260  
412-624-PITT  
E-mail: [oafa@pitt.edu](mailto:oafa@pitt.edu)  
[www.oafa.pitt.edu](http://www.oafa.pitt.edu)

## Special Programs and Opportunities

### Center for Philosophy of Science

The center is a research center that attracts visiting fellows from all over the world. It sponsors a twice-weekly lunchtime lecture series, a renowned monthly invited lecture series, and international conferences. These activities are aimed at promoting scholarship and research, encouraging scholarly exchanges, and fostering publications in the philosophy of science, as well as in philosophically informed history of science and related fields. The center is aimed primarily at graduate studies, but some of the center's activities also enrich the undergraduate programs of the University, especially the undergraduate honors program.

### Study Abroad

Studying abroad is an exciting way to add an international perspective to your undergraduate education and strengthen your credentials as a graduate. Since only 4 percent of American students have studied abroad, this experience distinguishes you when you enter the job market or pursue graduate study. The experience allows you to broaden your personal experience and gain an appreciation of other cultures, while earning credits toward your degree. Scholarships are available, and financial aid is applicable.

Some examples of study abroad programs available at Pitt are:

#### **Pitt in London, England**

This study abroad opportunity is offered both fall and spring semesters. The program combines courses taught by a Pitt faculty member and British faculty from various institutions of higher education in London. Subjects include history, literature, film, politics, and theater. Students also may complete an internship with an organization in London for valuable work experience in fields such as museum management, politics, education, and communications. You can choose to live in a student residence or with a family in Wimbledon. Field trips to historical and cultural sites such as Stratford-on-Avon and Stonehenge are included in the program.

#### **Pitt in India**

This program is a 10-week summer program at the University of Hyderabad, an ethnically and religiously diverse city in central India with a history dating back to the 14th century. Both local faculty and Pitt faculty teach students about the history, culture, geography, and social and religious issues of the area through classroom work and field trips. Students also choose between a reading and research program on the topic of their choice or a course specializing in one cultural area such as the Hindi language, religion, dance, cinema, or literature. Students can live on campus or with an Indian family.

#### **Pitt Exchange with the University of Newcastle**

Go down under with Pitt to Newcastle, Australia, a breathtaking city located on the Australian coastline and only two hours from Sydney. Newcastle has been voted as the best Australian city because of its low cost of living and combination of old and new in lifestyle and architecture. You can attend Newcastle for one semester or an academic year. The University offers a broad range of professional, vocational, and general education opportunities, and you are required to enroll in a full course schedule. Pitt students have the option of applying for a dormitory room, finding an apartment/house that the university leases, or arranging independent housing.

