

# History, Philosophy, and Social Studies of Science and Medicine (HIPS)

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## Program of Study

The BA program in the History, Philosophy, and Social Studies of Science and Medicine (HIPS) is designed for College students interested in studying science in terms of its historical development, conceptual structure, and social role. Students in the program must do sufficient work in one or more sciences to acquire a sound foundation for studying the nature of science. After securing this basis, they are expected to gain an understanding of how science arose, as well as how the content of scientific thought has changed and is changing, because of both its own internal dynamic and its interaction with the larger society in which it is embedded.

The HIPS program is designed to make possible the study of a wide range of social, historical, and conceptual issues relating to science. Students completing the program follow a number of different careers. Some pursue graduate study in the history and philosophy of science or in some field of science. Others find the program valuable preparation for the study of medicine, law, public policy, or science journalism. More generally, the goal of the program is to provide students with a sound basis on which to interpret and evaluate science and science policy. Some students choose to construct a degree program combining the requirements for the HIPS major with those for a major in the physical or biological sciences. Others, having met the HIPS program requirements, use electives to broaden their liberal arts education.

Students in other fields of study may also complete a minor in HIPS. Information follows the description of the major.

## HIPS Sponsor

The Morris Fishbein Center for the History of Science and Medicine sponsors the HIPS program. Further information can be obtained in the center's office (SS 207) and at [fishbein.uchicago.edu](http://fishbein.uchicago.edu).

## Program Requirements

**Elements of the Curriculum.** The curriculum of the program contains five principal elements:

### **1. The Foundation.** All students must:

- a. complete an approved sequence that fulfills the biological sciences general education requirement;

b. complete the general education requirement in the physical sciences with a physics sequence (PHYS 12100-12200 General Physics I-II or equivalent) or a chemistry sequence (CHEM 11100-11200 Comprehensive General Chemistry I-II, CHEM 10100 Introductory General Chemistry I and CHEM 10200 Introductory General Chemistry II, or equivalent), or have earned a score of 5 on the AP Chemistry or Physics test or a score of 4 or 5 on the AP Physics C Mechanics and E&M test;

c. complete a calculus sequence (MATH 13100-13200 Elementary Functions and Calculus I-II or higher), or have earned a score of 5 on the AP Calculus BC test;

d. complete a three-quarter sequence surveying the growth of science in Western civilization, with three courses from either the HIPS 17300-17400 (or 17403)-17504 (or 17502) sequence or the HIPS 17300-17402-17503 sequence. HIPS 17400 and HIPS 17403 may not be taken in the same sequence.

**2. Advanced Science.** In addition to the science courses typically taken as part of the general education requirements, students are expected to take three courses in science, social sciences, or mathematics beyond the introductory level. They select these advanced courses according to their special aims, their area of concentration, and the subject of their bachelor's thesis.

**3. Areas of Concentration.** All students in the program determine an area of concentration in the anthropology, ethics, history, philosophy, or sociology of science and medicine. In consultation with the program director and their program adviser, students select five courses to constitute this concentration area. For example, some students may be particularly interested in the intellectual and social interactions between changing scientific knowledge and institutions, on the one hand, and evolving social institutions, on the other; a second group may be concerned with either epistemological issues related to the growth of science or moral and political problems attending the employment of technology; and a third group may wish to emphasize the study of science as a social or cultural activity.

**4. Tutorials.** Students are required to take two tutorial courses; this is typically done early in their program. With a specific focus that changes each year, these tutorials are small classes (from three to ten students) that emphasize discussion and writing. An updated list of courses is available in the HIPS office (SS 207) or at [registrar.uchicago.edu/classes](http://registrar.uchicago.edu/classes).

**5. Bachelor's Thesis and Junior Seminar.** Third-year students enroll in a designated one-quarter seminar (HIPS 29800 Junior Seminar: My Favorite Readings in the History and Philosophy of Science) that deals with general aspects of history, philosophy, and social studies of science and medicine. In Spring Quarter of their third year, students must discuss their proposal for their bachelor's thesis with the program director. In consultation with the program director, students then sign up for a reading and research course (HIPS 29700 Readings and Research in History, Philosophy, and Social Studies of Science and Medicine) with an appropriate faculty member. In their fourth year, this research course

should lead to a bachelor's thesis (HIPS 29900 Bachelor's Thesis) that integrates each student's academic studies, bringing them to bear on a significant question related to some historical, conceptual, ethical, or social aspect of science. Fourth-year students also enroll in a two-quarter HIPS 29810 Bachelor's Thesis Workshop, which is comprised of meetings that focus on organizing, researching, writing, and revising the thesis.

## Summary of Requirements

### GENERAL EDUCATION

Three courses from one of the following sequences:	300
HIPS 17300 Science, Culture, and Society in Western Civilization I	
HIPS 17400 Science, Culture, and Society in Western Civilization II	
or HIPS 17403 Science, Culture, and Society in Western Civilization II	
HIPS 17504 Science, Culture, and Society in Western Civilization III	
or HIPS 17502 Science, Culture, and Society in Western Civilization IV	
or	
HIPS 17300 Science, Culture, and Society in Western Civilization I	
HIPS 17402 Science, Culture, and Society in Western Civilization II	
HIPS 17503 Science, Culture, and Society in Western Civilization III	
An approved sequence that fulfills the biological sciences general education requirement	200
One of the following sequences:	200
CHEM 10100 Introductory General Chemistry I	
& CHEM 10200 and Introductory General Chemistry II (or equivalent) *	
CHEM 11100-11200 Comprehensive General Chemistry I-II (or equivalent) *	
PHYS 12100-12200 General Physics I-II (or higher) *	
MATH 13100-13200 Elementary Functions and Calculus I-II (or higher) *	200
Total Units	900

### MAJOR

Three courses in science, social sciences, or mathematics beyond the introductory level	300
Five courses in an area of concentration	500
Two tutorials	200
HIPS 29700 Readings and Research in History, Philosophy, and Social Studies of Science and Medicine	100
HIPS 29800 Junior Seminar: My Favorite Readings in the History and Philosophy of Science	100
HIPS 29900 Bachelor's Thesis	100

HIPS 29810	Bachelor's Thesis Workshop	100
Total Units		1400

\* Credit may be granted by examination.

### Examples of Concentrations

The following are meant to illustrate areas of concentration. They are not prescriptive, only suggestive. For the particular courses that might constitute their area of concentration, students should consult with the director of the program, examine this course catalog, and visit [registrar.uchicago.edu/classes](http://registrar.uchicago.edu/classes).

#### History and Philosophy of Biological Science

HIPS 23600	History and Theory of Human Evolution	100
BIOS 29321	The Problem of Evil: Disease?	100
HIPS 23900	Biological and Cultural Evolution	100
HIPS 25801	Evolutionary Theory and Its Role in the Human Sciences	100
HIPS 28202	Topics in Philosophy of Science: Mechanism and Causation	100
Total Units		500

#### Philosophy of Science

HIPS 20300	Scientific/Technological Change	100
HIPS 22000	Introduction to the Philosophy of Science	100
HIPS 22708	Planetary Britain, 1600–1900	100
HIPS 24900	Natural Philosophy 1200–1800	100
HIPS 25400	Philosophy of Mind and Science Fiction	100
Total Units		500

#### History of Medicine and Medical Ethics

HIPS 21600	Advanced Medical Ethics: Health Care	100
HIPS 21911	Medical Ethics: Who Decides and on What Basis?	100
HIPS 25900	Darwinian Medicine	100
HIPS 26901	History and Philosophy of Psychology	100
HIPS 27300	Medicine and Culture	100
Total Units		500

### Admission

To be eligible for admission, students should have completed at least two of the four foundation course sequences listed in the preceding section and should have maintained a 3.2 GPA or higher in previous course work. Students should apply for admission no

later than Autumn Quarter of their third year to the director of the program. The director advises students about the requirements, arranges a preliminary plan of study, and discusses scheduling conflicts and special cases. Thereafter, a student chooses, in consultation with the director, a BA adviser from the staff.

### Honors

Students who meet the following criteria are considered for graduation with honors: (1) overall GPA of 3.3 or higher, (2) completion of a bachelor's thesis of A quality, and (3) a majority vote by the faculty in favor of honors.

### Grading

Students majoring in HIPS must receive quality grades in all courses meeting the requirements of the degree program, except HIPS 29810 Bachelor's Thesis Workshop must be taken for *P/F* grading. Nonmajors may take courses for *P/F* grading with consent of instructor.

### Advisers

Drawn from many parts of the University, those listed in the Faculty Section of the HIPS program have direct responsibility for admitting students, formulating curriculum, and advising students.

### Minor Program in History, Philosophy, and Social Studies of Science and Medicine

Students in other fields of study may complete a minor in HIPS, in particular, the minor program in HIPS offers students who are majoring in science the opportunity to gain an understanding of the conceptual, historical, and social contexts in which their disciplines are situated.

The minor requires a total of six courses. Courses in the minor (1) may not be double counted with the student's major(s) or with other minors and (2) may not be counted toward general education requirements. Courses in the minor must be taken for quality grades, and more than half of the requirements for the minor must be met by registering for courses bearing University of Chicago course numbers.

Students should take at least two courses from either the sequence HIPS 17300-HIPS 17400-HIPS 17504-HIPS 17502 Science, Culture, and Society in Western Civilization I-II-III-IV (HIPS 17403 may be taken in place of HIPS 17400, but may not be taken in the same sequence) or from the sequence HIPS 17300-HIPS 17402-HIPS 17503 Science, Culture, and Society in Western Civilization II-II-III-IV to meet the general education requirement in civilization studies. Additional courses in these sequences that are not used to meet the general education requirement can count toward courses required for the minor.

Students must complete one tutorial course.

The remaining five courses for the minor program should constitute an area of concentration in the anthropology, ethics, history, philosophy, or sociology of science and medicine. Students select the courses that constitute this concentration in consultation with the program director and their program adviser.

Students who elect the minor program in HIPS should meet with the program director before the end of Spring Quarter of their third year to declare their intention to complete the program. The director's approval for the minor program should be submitted to the student's College adviser by the deadline above on a form obtained from the adviser.

The following groups of courses would satisfy the requirements for a minor in HIPS. They are only meant to illustrate possible plans of study; they are not prescriptive.

### Group 1

Tutorial:		100
HIPS 29405	Tutorial: Evolution and Pragmatism	
Concentration in History and Philosophy of Biology:		500
HIPS 22700	Philosophical Problems in the Biological Sciences	
HIPS 23600	History and Theory of Human Evolution	
HIPS 23900	Biological and Cultural Evolution	
HIPS 25801	Evolutionary Theory and Its Role in the Human Sciences	
HIPS 28202	Topics in Philosophy of Science: Mechanism and Causation	
Total Units		600

### Group 2

Tutorial:		100
HIPS 29606	Tutorial: Medicine, Disease, and Death in American History	
Concentration in History of Medicine and Medical Ethics:		500
HIPS 17501	Science, Culture, and Society in Western Civilization III (if not taken to meet general education requirements)	
HIPS 21400	Intro to Medical Ethics	
HIPS 21600	Advanced Medical Ethics: Health Care	
HIPS 24800	Gender and History and Science Technology and Medicine	

HIPS 27300

Medicine and Culture

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Total Units

600







## Font Notice

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Times was used instead of Trajan.

Times was used instead of Palatino.

The editor may contact Leepfrog for a draft with the correct fonts in place.