

# HISTORY OF SCIENCE AND TECHNOLOGY

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The Department of the History of Science and Technology offers an undergraduate program leading to the degree of Bachelor of Arts with a major in science, medicine, and technology, and a graduate program leading to the degree of Doctor of Philosophy.

## Undergraduate Programs

The department offers a variety of courses that deal with the history of the conceptual and technical development of the sciences, as well as the cultural and social impact of science and technology on civilization. These courses are open to all undergraduates in the Schools of Arts and Sciences and Engineering. A few of the courses require some background in an appropriate science, but most are accessible to those with no specialized knowledge who want to understand the part science has played in shaping modern culture. Students who have concerns about their technical competence for a given course should consult the professor involved.

## Programs

- History of Science and Technology, PhD (<http://e-catalog.jhu.edu/arts-sciences/full-time-residential-programs/degree-programs/history-science-technology/history-science-technology-phd/>)
- History of Science, Medicine and Technology, Minor (<http://e-catalog.jhu.edu/arts-sciences/full-time-residential-programs/degree-programs/history-science-technology/history-science-medicine-technology-minor/>)
- History of Science, Medicine, and Technology, Bachelor of Arts (<http://e-catalog.jhu.edu/arts-sciences/full-time-residential-programs/degree-programs/history-science-technology/history-science-medicine-technology-bachelor-arts/>)

## Courses

### AS.140.105. History of Medicine. 3 Credits.

Course provides an overview of the medical traditions of six ancient cultures; the development of Greek and Islamic traditions in Europe; and the reform and displacement of the Classical traditions during the Scientific Revolution.

Area: Humanities, Social and Behavioral Sciences

### AS.140.106. History of Modern Medicine. 3 Credits.

The history of Western medicine from the Enlightenment to the present, with emphasis on ideas, science, practices, practitioners, and institutions, and the relationship of these to the broad social context.

Area: Humanities, Social and Behavioral Sciences

### AS.140.108. Freshman Seminar: Culture, Communication & Technology. 3 Credits.

This seminar traces the evolution and impact of oral transmission, writing, print, photography, film, and electric and electronic media of communication from antiquity to the present. Readings, films, discussion.

Area: Humanities, Social and Behavioral Sciences

### AS.140.129. Freshman Seminar: Johns Hopkins Medicine. 3 Credits.

Johns Hopkins medicine has set the standards since the late 19th c. Learn how Hopkins reinvented medical education, public health, and hospital care and meet the people behind the famous names.

Area: Humanities, Social and Behavioral Sciences

Writing Intensive

### AS.140.137. Freshman Seminar: Campus Life, Now and Then. 3 Credits.

What was it that the Hopkins undergraduates of old did all day? Before the AMRs appeared on campus, where did they live? Who played lacrosse or football? Where did they study without the D-Level? What passed for campus social life in those days before women joined the student body? Were fraternity antics all just good clean fun? Any campus pranks achieve truly epic status? Join us for a look at Hopkins history through the eyes of your predecessors. Explore the university archives and work together on an on-line exhibit for Alumni Weekend on campus life through the ages at Johns Hopkins.

Area: Humanities, Social and Behavioral Sciences

Writing Intensive

### AS.140.146. History of Public Health in East Asia. 3 Credits.

This course examines the history of disease, epidemics, and public health responses in East Asia from the 17th-20th centuries. This public health history emphasizes the interactions, connections, and comparisons among China, Japan, Korea, and Taiwan.

Area: Humanities, Social and Behavioral Sciences

Writing Intensive

### AS.140.154. Freshman Seminar: Picture This: A Photographic History of Johns Hopkins University. 3 Credits.

Every picture tells a story, if you know how to read it. This freshman seminar will explore the history of Hopkins through images, creating interactive timelines of important themes in the university's history.

Area: Humanities, Social and Behavioral Sciences

Writing Intensive

### AS.140.156. Harm City? Public Health in Baltimore, 1797 to the present. 3 Credits.

Explores the history of public health in urban America using Baltimore as example. Examines topics such as include infectious diseases, mental health, sanitation, rodent control, primary care, substance abuse, and STDs using frameworks of racism, classism, poverty and inequality.

Area: Humanities, Social and Behavioral Sciences

### AS.140.176. Public Health in East Asia Through Films & Documentaries. 1 Credit.

This course uses contemporary films and documentaries to address issues in public health in East Asia, past & present. Topics covered include medicine in turn-of-the-twentieth century Japan and China, revolutionary medicine, STDS, mental illness, HIV/AIDs in China, industrial pollution, the politics of universal health care insurance, and pandemics in East Asia.

Area: Humanities, Social and Behavioral Sciences

**AS.140.177. Freshmen Seminar: Techno-ethics. 3 Credits.**

We are all familiar with bio-ethics: dealing with living subjects is an enterprise prone to ethically questionable practices, and we have learned the hard way to raise the ethical questions regarding biomedical projects. But what about technology? Can technology be unethical? Sure, one can design technologies of pain and destruction, or simply ignore regulations and make unsafe products—those technologies would be unquestionably unethical. But what if somebody comes up with new technology with the best intentions in mind? Could those technologies be ethically unsound? In addition to learning the skills required in college, academia, and professional world, the freshman seminar on Techno-ethics will explore the ethical issues involved in technological designs. Students will learn how to identify groups of people who could be harmed by technologies, how to detect factors that may result in unethical use of technologies, and how to pay attention to social dynamics that could turn even useful technologies into a nightmare.

Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.198. Technology and Environment in Japanese Films and Anime. 1 Credit.**

In the course of the semester we will watch Japanese films and animation that touch upon topics of technology and environment. The list of screenings includes several blockbusters, classics in film studies, and documentaries. The course is a companion course to 140.398 "Godzilla and Fukushima," but is also open to anyone interested. Students who do not take 140.398 will be required to write a short review paper by the end of the semester.

Area: Humanities, Social and Behavioral Sciences

**AS.140.227. Race, Racism and Medicine. 3 Credits.**

How can we think about the interconnections between racism, theories of race and the practice of medicine? Living at a moment when racial disparities in health outcomes in the United States are still very stark, this course will provide a historically grounded approach to thinking about the roles that race and racism have played in healthcare, the production of health disparities as well as the role of medicine in the development of racist thought. While much of this course will focus geographically within the United States, this class will also explore global histories of medicine, encountering questions of race and medicine in Africa, the South Pacific and Asia. In addition to the analysis of primary source documents and historical texts, students will also be introduced to theoretical approaches to the study of race and racism from W.E.B. Dubois, Sylvia Wynter, Frantz Fanon and others.

Dubois, Sylvia Wynter, Frantz Fanon and others.  
Writing Intensive

**AS.140.231. Health & Society in Latin America & the Caribbean. 3 Credits.**

Healthcare is complex in Latin America and the Caribbean, where many people supplement biomedicine with plant and diet-based remedies, as well as religious and shamanic services. This course will cover the history of health and society in Latin America and the Caribbean from 1750 to the present, covering such topics as: medicine and the Spanish inquisition; disease control and tropical medicine; the medical knowledge of enslaved and indigenous peoples; reproduction and nation-state formation; and healthcare during the Cold War and its aftermath. Throughout, we will also consider the ways in which ideas about race, gender, indigeneity, class, and disability have affected people's access to healthcare. By the end of the course we will understand why leading scholars have referred to Latin America and the Caribbean as a "laboratory" for the production of medical knowledge. We will discover how that knowledge has been influenced by common people as well as professionals, and how it has influenced medical practice around the world. This is a discussion-based seminar course. It does not assume any previous knowledge of the history of medicine or Latin American and Caribbean history.

Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.301. History of Science: Antiquity To Renaissance. 3 Credits.**

The first part of a three-part survey of the history of science. This course deals with the origins, practice, ideas, and cultural role of scientific thought in Graeco-Roman, Arabic/Islamic, and Medieval Latin/Christian societies. Interactions across cultures and among science, art, technology, and theology are highlighted.

Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.302. Rise Of Modern Science. 3 Credits.**

Survey of major scientific developments from the eighteenth-century Age of Enlightenment to the Cold War era of Big Science.

Area: Humanities, Social and Behavioral Sciences

**AS.140.305. From the Compass to Androids: History of Science, Technology, and Medicine in Asia. 3 Credits.**

The course explores the history and cultural context of science, medicine, and technology in East Asia, from the ancient Chinese science to the latest scientific and technological developments in Japan.

Area: Humanities, Social and Behavioral Sciences

**AS.140.306. Science And Religion. 3 Credits.**

Science and religion are crucial influences on Western culture. This course examines their interrelations during the past 2000 years, including the Athens-Jerusalem debate, medieval theology, the Galileo affair, evolution, and current issues.

Area: Humanities, Social and Behavioral Sciences

**AS.140.311. Ecology, Health, and the Environment. 3 Credits.**

Explores diverse problems linking ecological, environmental and public health themes, with focus on Chesapeake region. Students' research projects can be outside Chesapeake region.

Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.314. Experimental Bodies: Histories of Human Subjects Research in the 19th and 20th Centuries. 3 Credits.**

This course traces the history of human subjects research as a medical and scientific practice. It will focus on the human subjects themselves, and how their experiences intersect with the histories of race, class, gender, sexuality, and disability.

Area: Humanities, Social and Behavioral Sciences

**AS.140.320. Modernity on Display: Technology and Ideology at World's Fairs. 3 Credits.**

Seminar focuses on ideological at World's Fairs over technological modernity with special emphasis upon World War II and the Cold War.  
Area: Humanities, Social and Behavioral Sciences

**AS.140.321. Scientific Revolution. 3 Credits.**

How did the Western understanding of nature change between 1500 and 1720? We'll study the period through the works of astronomers and astrologers, naturalists and magi, natural philosophers and experimentalists, doctors and alchemists & many others.  
Area: Humanities, Social and Behavioral Sciences

**AS.140.322. Follow the money: Science, technology, and the 'knowledge economy,' c.1800-present. 3 Credits.**

This course examines the historical emergence of knowledge-driven economies, paying special attention to the funding, development, and use of science and technology for commercial purposes.  
Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.324. Commercializing Science: Academic Entrepreneurs from Kelvin to Venter. 3 Credits.**

From the nineteenth-century physicist William Thomson (Lord Kelvin) to contemporary geneticists such as Walter Gilbert and Craig Venter, academic scientists and engineers across a broad range of disciplines have created their own companies. This course examines the motives behind these entrepreneurial ventures, the strategies employed, and the factors influencing their success.  
Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.327. Science and Utopia. 3 Credits.**

Seminar examines the changing role of science in planning the ideal community from the 17th century to the present. Readings include works by Campanella, Bellamy, H.G. Wells, Orwell, B.F. Skinner and Walt Disney.  
Area: Humanities, Social and Behavioral Sciences

**AS.140.328. Science and Technology in Slave Regimes. 3 Credits.**

What does science and technology look like in slave regimes? This seminar explores this question from a trans-national perspective by comparing cases in the Antebellum US, Cuba, Brazil and other countries.  
Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.339. Science & Technology in the Development of Modern Latin America. 3 Credits.**

This seminar will survey the development of science and technology in modern Latin America, and explore their dynamics in the context of cultural, political, and economic forces.  
Area: Humanities, Social and Behavioral Sciences

**AS.140.341. Humanoid Robots in Global History. 3 Credits.**

Humanoid machines reflect their creators' ideals of humanity. Comparing examples from societies across the globe we will investigate what factors shaped these ideals, and how they manifested in technological design.  
Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.342. "We Came in Peace for All Mankind": America's Space Program in Historical Context. 3 Credits.**

For sixty years space exploration has been a fundamental part of American identity and culture, its imagery and rhetoric invoked everywhere from the Halls of Congress to movie theaters and shopping malls. When, how, and why did spaceflight become central to our nation's sense of self? We will answer this question through a survey of the history of space exploration and, by proxy, of the United States. America's celestial achievements are in every way a reflection of its terrestrial concerns: domestic politics, international relations, capitalism, civil rights, science, and contemporary culture.  
Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.346. History of Chinese Medicine. 3 Credits.**

Students will study the most recent anthropological, philosophical, and historical scholarship on medicine in traditional and modern Chinese society. They will approach the topic from several angles including medical pluralism, the range of healers, domestic and literate medicine, gender, emergence of new disciplines, public health and the history of disease. The course relies on secondary sources and primary sources in English translation. Cross-listed with East Asian Studies.  
Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.347. History Of Genetics. 3 Credits.**

Intellectual and social history of the gene concept, including Mendelism, eugenics, medical genetics, DNA, genomics, and personalized medicine.  
Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.351. Seminar in the History of Life Sciences. 3 Credits.**

Students do research projects with faculty supervision, on topics of their choice in the history of biological or biomedical sciences. Projects are presented to class at end of semester.  
Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.356. Man vs. Machine: Resistance to New Technology since the Industrial Revolution. 3 Credits.**

This course analyzes different episodes of "luddism" in the history of science and technology, from the destruction of textile machinery in the early 1800s up to recent controversies about biotechnology and ICT.  
Area: Humanities, Social and Behavioral Sciences

**AS.140.364. The City Course: Disciplinary Perspectives on Urban Life and Form. 3 Credits.**

This course aims, first, at enlarging our understanding of cities by looking at them from a variety of disciplinary perspectives and, secondly, at examining the distinctive ways of thinking associated with disciplines from engineering, the sciences and medicine to anthropology, sociology, economics, archaeology, history and literature. Baltimore and cities from around the world will provide resource material. Lectures, discussions, term projects.  
Area: Humanities, Social and Behavioral Sciences

**AS.140.366. The American Illness Experience. 3 Credits.**

What does it mean to be ill in America? How has the experience of illness in America changed across time and space, from the early 19th century to the present day, from the home, to the hospital, from the community clinic to the rural frontier? How might illness experience be different for Americans across the race, gender, and sexual orientation spectrums? How do medical providers and other caregivers relate to illness, sickness, suffering, and death? In this class we will approach these, and other questions regarding illness through a variety of methodological lenses, including literature, anthropology, sociology, and history. This course will encourage students to think critically about how trends in the history of medicine such as the rise and fall of American public hospital medicine, the regulation and standardization of medical education, improved and expanded medical technologies, and changing attitudes towards childbirth, death, and dying have impacted patient and provider experiences. Throughout the course, students will also take three field trips—to the Ronald McDonald House of Maryland, Johns Hopkins Hospital, and Gilchrist Hospice—and learn from special guests who have experienced particular illnesses as patients or providers. At least one prior course in History of Medicine is recommended but not required. Area: Humanities, Social and Behavioral Sciences

**AS.140.368. Technological Transformations. 3 Credits.**

Course explores the historical development of revolutionary technologies and their transformations of the individual and society. Focus on computing, biotech, consumer goods, warfare, manufacturing, agriculture, imaging, energy, transportation, and sustainability. Area: Humanities, Social and Behavioral Sciences

**AS.140.380. Ladies in the Laboratory: Science and Gender in U.S. History. 3 Credits.**

Why has science historically been so dominated by men? Why is this still true for many STEM fields today? We will explore the answers to these questions in this course, as well as look at a broader history of women and gender in science in the United States. Because education continues to be crucial in pushing people into or out of scientific careers, this course will also feature a large focus on K-12, college, and graduate science education. Area: Humanities, Social and Behavioral Sciences Writing Intensive

**AS.140.381. History of Reproduction. 3 Credits.**

This course investigates the history of reproduction in American medicine, science, politics, and culture. It explores changing ideas about reproductive bodies, sexuality, and the family as well as practices of contraception, conception, and childbirth. Area: Humanities, Social and Behavioral Sciences Writing Intensive

**AS.140.388. History of the Earth and Environment. 3 Credits.**

The earth we know today is very different from that which scientists debated little more than 100 years ago. While scientists today hold the earth to be roughly 4.5 billion years old, at the turn of the 20th century there was little agreement about the earth's age, and geologists' estimates did not exceed 100 million years. And while today scientists agree that the continents sit atop lithospheric plates that move and interact, giving rise to volcanoes, earthquakes, mountain ranges, and deep ocean trenches, the earth of the 19th-century was one that was slowly cooling and shrinking. In addition to getting older and less static, the earth of the 20th century also yielded up some of its uniqueness, as it ceased to be the only planet under the purview of those fields that would collectively become known as the earth and planetary sciences. A Cold War program in planetary exploration of the Moon, Mars and Venus extended inquiry into the other rocky bodies of the solar system and placed what was known about the earth into a broader context. Finally, an environmental movement and the discovery of anthropogenic climate change showed the earth to be more vulnerable and susceptible to human activities than previously imagined. These changes not only affected our intellectual understanding of the earth, they also came along with changes in the way we as a society conceptualize the nature of global problems, their causes and their impacts. In this course we will examine our changing view of the earth and the world in the 20th century with a focus on the interrelatedness of science, society, and culture. Area: Humanities, Social and Behavioral Sciences Writing Intensive

**AS.140.390. Science and Technology in Latin America. 3 Credits.**

The course surveys the development of western science and technology in Hispanic America (1492 to the present). We begin studying the hybridization of scientific practices between European and Native American cultures during the early colonial era and end with the transfer of technologies and industrialization of the 20th century. We emphasize the role on science and technology in state formation, the acculturation of foreign ideas in colonial and postcolonial societies, and the role of intellectual elites in modernization programs. Area: Humanities, Social and Behavioral Sciences

**AS.140.391. Individualized Medicine from Antiquity to the Genome Age. 3 Credits.**

A seminar for advanced undergraduates. We explore the notion of the individual in medicine over twenty-five centuries, from the Hippocratics to the invention of the case study during the Renaissance to the current JHU medical curriculum. The history of medicine survey, AS.140.105 or AS.140.106, is recommended though not required. Graduate students are welcomed but should expect to do additional work and readings. Area: Humanities, Social and Behavioral Sciences Writing Intensive

**AS.140.393. Technology and the Making of the Modern World. 3 Credits.**

This course critically examines the role of technology in some of the main developments that have shaped the modern world, ranging from industrialization and globalization processes to the rise of new political ideologies and gender patterns. This course is co-taught by an instructor from the Smithsonian Institution and will include a public history research project. Area: Humanities, Social and Behavioral Sciences

**AS.140.394. Heredity, Eugenics, and Society. 3 Credits.**

In this course, we will examine the ways in which concepts of the gene, heredity, and innateness have both shaped and been shaped by society over the last two-plus centuries. Topics under discussion may include: eugenics, biological determinism, scientific racism, human breeding programs, genetics and gender, genetics and intelligence, genetic engineering including CRISPR, assisted reproductive technologies, sociogenomics, and polygenic risk scores. Term paper. AS.140.106 recommended.

Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.395. Prosthetics and Technologies of Disability. 3 Credits.**

The purpose of prosthetics seems to be fairly straightforward—to restore function that was lost due to the loss of a body part. According to this logic, the quality of prosthetics is measured in its ability to replicate lost human function and restore individuals with disabilities to normalcy. And indeed, numerous disability technologies enrich the experience of individuals in need of them. At the same time, these very technologies are often perceived as a marker of something abnormal, or, by the nature of their design prove to be an obstacle for mobility and access. Therefore, as much as prosthetics and other technologies of disabilities improve the quality of life, they also led to stigmatization, marginalization, and exclusion. By looking at prosthetics and disability in a variety of historical contexts, we will learn what kind of ideas of ‘normalcy’ they reflect, and how they shape the experience of individuals who use them.

Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.398. Godzilla and Fukushima: Japanese Environment in History and Films. 3 Credits.**

Japan is often described as “nature-loving,” and is considered to be one of world leaders in environmental protection policies. Yet current environmental successes come on the heels of numerous environmental disasters that plagued Japan in the past centuries. Juxtaposing Japanese environmental history and its reflection in popular media, the course will explore the intersection between technology, environment, and culture. Students are encouraged to enroll in AS.140.198, “Technology and Environment in Japanese Films and Anime” (1 credit) to attend movie screenings accompanying the course.

Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.401. The Knowledge City: from Silicon Valley to Bloomberg’s New York. 3 Credits.**

This seminar will explore the increasingly productive relationship between research universities and urban and regional development in the period after World War II to the present. Working with the faculty, participants will be expected to develop a research paper. Discussion, presentations, lectures.

Area: Humanities, Social and Behavioral Sciences

**AS.140.411. Senior Research Seminar. 2 Credits.**

Area: Humanities, Social and Behavioral Sciences

**AS.140.412. Research Seminar. 2 Credits.**

Departmental Majors Writing a Senior Thesis Only  
Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.415. Thinking Through Things and Thinking Things Through. 3 Credits.**

Combining hands-on experience of using historical instruments with primary sources analysis, the students will reconstruct the ways in which artifacts channeled human perception of their environment.

Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.417. Earth Stewardship: A History of Environmentalism in the Atomic Age. 3 Credits.**

Explores the history of environmentalism and the roots of modern concepts of sustainability, resilience, and Earth Stewardship. Focuses especially on problems emerging after 1945. Students will do research projects, with options for doing traditional expository writing or a creative arts project.

Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.423. Science and Science Fiction in Global Perspective. 3 Credits.**

What can we learn from science fiction about the history of science and technology? What ideas about science do Sci-Fi novels manifest? Is the relationship between science and science fiction always the same, across different time periods and geographical areas? This course will explore these questions by taking a comparative perspective. Each meeting we will read a Sci-Fi novel from Europe, America, South and East Asia, and discuss it in conjunction with historical writing about relevant scientific developments. Reading Sci-Fi novels from 17th-century Germany, 19th-century England and India, and 20th-century Japan, China, Korea and the US, the students will explore how actual scientific developments were reflected in fiction, and what fictional depictions say about the aspirations and anxieties provoked by new technologies.

Writing Intensive

**AS.140.435. Ways of Knowing: New Histories of Science, Medicine, and Technology. 3 Credits.**

What does it mean for science to have a history? Comparing newer approaches with classic works, we will explore different strategies for placing science, medicine, and technology in social context.

Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.441. Metaphor in Science and Medicine. 3 Credits.**

Science and medicine are permeated by metaphors. Generated by every domain of human experience, these metaphors embed scientific and medical thought in historically specific times, places, experiences, issues, attitudes and cultures. We will explore the dynamics of metaphorical thinking and examine such specific examples as “The Great Chain of Being,” Darwin’s “struggle for existence” and “natural selection,” the “reflex” from Descartes to Pavlov to cybernetics, body and mind as clock, factory and computer; illness as imbalance and invasion, and the metaphorical associations of tuberculosis and cancer.

Area: Humanities, Social and Behavioral Sciences  
Writing Intensive

**AS.140.461. Scripta Manent: Manuscript Cultures East and West. 3 Credits.**

This seminar looks at manuscripts both as physical objects and as cultural products, through an analysis of their ways of production, material features, and uses in different cultures and contexts. Meetings will be devoted to the codicology, paleography, and philology of manuscripts with a particular focus on the Greek, Latin, Arabic, Hebrew and Judaeo-Arabic traditions. Indian, Chinese and Japanese contexts will complement the focus of the seminar and provide elements of comparison and wider framing. The seminar will also address recently developed digital tools for the study of manuscripts and provide students with a set of skills and tools for approaching and using manuscript material effectively. The seminar will include hands-on sessions, with viewing of original manuscripts from the rich collections of the Sheridan Libraries and the Walters Art Museum.

Area: Humanities, Social and Behavioral Sciences

**AS.140.501. Independent Study. 3 Credits.**

**Prerequisite(s):** You must request Independent Academic Work using the Independent Academic Work form found in Student Self-Service: Registration &gt; Online Forms.

**AS.140.502. Independent Study. 0 - 3 Credits.**

**Prerequisite(s):** You must request Independent Academic Work using the Independent Academic Work form found in Student Self-Service: Registration &gt; Online Forms.

**AS.140.601. Research Methods/Hist Sci.**

The goal of the seminar is to learn a variety of approaches to the historical investigation of science, medicine, and technology. Students will learn to identify, investigate, and analyze different primary sources, and compare the use of different methods and analytic frameworks for their interpretation. At the same time, students will practice general organization, note-taking, and writing techniques essential for successful completion of a research project.

**AS.140.609. Technology and Labor.**

In recent years historians, anthropologists, and sociologists of technology show increasing interest in questions of human labor. Adding to the literature that explores emergence, production, and use of technology, the new direction seeks to uncover and to analyze human labor that is necessitated by emerging technologies, and that is often concealed by them. The course will cover several classic works but will mainly focus on recent exciting scholarship that explores the relationship between technology and labor.

**AS.140.641. Departmental Colloquium.**

Reports by staff members, students, and invited speakers.

**AS.140.642. Colloquium.**

Reports by faculty, students, and invited speakers.

**AS.140.661. Scripta Manent: Manuscript Cultures East and West.**

This seminar looks at manuscripts both as physical objects and as cultural products, through an analysis of their ways of production, material features, and uses in different cultures and contexts. Meetings will be devoted to the codicology, paleography, and philology of manuscripts with a particular focus on the Greek, Latin, Arabic, Hebrew and Judaeo-Arabic traditions. Indian, Chinese and Japanese contexts will complement the focus of the seminar and provide elements of comparison and wider framing. The seminar will also address recently developed digital tools for the study of manuscripts and provide students with a set of skills and tools for approaching and using manuscript material effectively. The seminar will include hands-on sessions, with viewing of original manuscripts from the rich collections of the Sheridan Libraries and the Walters Art Museum.

**AS.140.663. Crossing Boundaries: Studies in Comparative History.**

Course takes a comparative look at how scientific ideas, practices, methods, technologies are translated across disciplinary, institutional, and national borders.

**AS.140.665. History of Science and Technology in Asia.**

Graduate level discussion of major historiography of science and technology in East Asia.

**AS.140.668. Technology in Context.**

The course will explore topics in the history of technology focusing on a variety of methodologies pertinent to the subject.

**AS.140.669. Special Topics in the History of the Physical Sciences.**

This seminar will focus upon the history of the physical sciences. Readings, discussion, papers.

**AS.140.670. Special Topics in the History of Physics in Higher Education.**

This seminar will focus upon the history of the establishment of physics in US higher education 1870-1940. Readings, discussion, papers

**AS.140.671. The Cold War in Global Perspective.**

This seminar will examine the processes of modernization in colonial and imperial situations from the early modern period through the late twentieth century. It will examine the processes both from the point of view of the metropole and of the local population in the British, Spanish, Portuguese, Japanese, Russian, German, American, Dutch and Belgian colonial and imperial situations, and the Ottoman Empire / Turkey.

**AS.140.673. The Modern Synthesis in Historical Perspective.**

Research seminar in history of evolutionary biology

**AS.140.674. Science and Medicine in Early Modern Atlantic World Culture.**

How were changes in scientific and medical ideas reflected in cultural products of the early modern Atlantic world? We will study these ideas as they appeared in literary genres such as poetry, utopias, natural histories and travel narratives. Likewise, we will examine the visual culture of the Atlantic space for clues about changing conceptions about the natural world. Our expedition will encompass Anglophone, French and Hispanic regions, and will pay careful attention to hybrid cultural products that reflect the interaction between indigenous cultures and the (changing) European understanding of the natural world.

**AS.140.675. Ford and Fordism: Science, Technology, and Culture in Industrial Society.**

Seminar will examine the development of an industrial culture in the early 20th century. Topics will include the role of science in the second Industrial Revolution, culture and industrial spirit, the impact of technology and science on the arts and representations of science and technology in museums and popular culture.

**AS.140.676. Environmental Engineering in Historical Perspective.**

Restricted to graduate students in History of Science and Technology who are completing fields.

**AS.140.678. Catching Up: Responses to Technical Change in the 19th and 20th Centuries.**

This research seminar focuses on varieties of paths to modernity by nations in the 19th and 20th centuries as driven by technological change. The approach will be comparative and its reach global. The emphasis will be on preparing a research paper by semester's end.

**AS.140.679. Humanoid Robots in Global History.**

Graduate section of AS.140.341.

**AS.140.705. History of Science: Antiquity To Renaissance.**

The first part of a three-part survey of the history of science. This course deals with the concepts, practice, and the cultural roles of scientific thought from classical antiquity to the time of Copernicus. Topics include the pre-Socratics, the systems of Plato and Aristotle and their continuing influence, Islamic science, Latin medieval scholasticism and the universities, and Renaissance hermeticism/natural magic. Interactions across science, art, technology, and theology are highlighted. Lecture meets with AS.140.301

**AS.140.708. Rise of Modern Science.**

Survey of history of science, 18th-20th c. Students are encouraged to attend lectures for 140.302, but seminar may be taken without attending those lectures.

**AS.140.710. Scientific Revolution.**

Reading intensive seminar that studies the events and ideas that transformed western science from Medieval natural philosophy to the experimental sciences (1500-1720s). Lecture meets with AS.140.321.

**AS.140.801. Directed Readings & Dissertation.****AS.140.802. Directed Readings & Diss.****AS.140.803. Independent Study-Summer.****AS.140.811. Directed Readings & Dissertation.****AS.140.812. Directed Readings & Diss.****AS.140.831. Directed Readings & Dissertation.****AS.140.832. Directed Readings & Diss.****AS.140.835. Directed Readings & Dissertation.****AS.140.836. Directed Readings & Diss.****AS.140.841. Directed Readings & Dissertation.****AS.140.842. Directed Readings & Diss.****AS.140.843. Directed Reading & Dissertation.****AS.140.844. Directed Reading & Dissertation.****AS.140.845. Directed Readings and Dissertation.****AS.140.846. Directed Readings & Dissertation.****AS.140.853. Directed Readings & Dissertation.****AS.140.854. Directed Readings & Diss.****AS.140.863. Directed Reading and Dissertation.****AS.140.864. Directed Readings and Dissertation.****AS.140.873. Directed Readings & Dissertation.****AS.140.874. Directed Readings & Diss.****AS.140.875. Directed Readings & Dissertation.****AS.140.876. Directed Reading & Dissertation.****AS.140.877. Directed Reading & Dissertation.****AS.140.878. Directed Readings and Dissertation.****AS.140.893. Directed Readings & Dissertation.****AS.140.894. Directed Readings & Diss.****AS.140.895. Directed Readings & Dissertation.****AS.140.896. Directed Readings & Diss.**

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