

# HSTM-HISTORY OF SCIENCE, TECHNOLOGY, AND MEDICINE

## HSTM 1113 Science, Nature and Society: Historical Perspectives 3 Credit Hours

An introduction to the study of science, technology, and medicine in light of historical, philosophical, and cultural analysis. Focusing on the relationships between science, nature, and society, this class introduces some of the big questions about who we are, who we have been, and who we might become. (Irreg.) [IV-WC].

## HSTM 1313 Disasters 3 Credit Hours

How have technologies both increased and mitigated risks from natural disasters? How have human societies responded to human-made disasters and assessed the potential risks raised by new technologies? Taking a global perspective, we will examine responses to both natural and human disasters and consider the challenges to formulating fair and effective policies that minimize the risks posed by emerging technology. (Sp) [IV-WC].

## HSTM 2033 Introduction to Digital Humanities 3 Credit Hours

(Crosslisted with LIS, WGS and HIST 2033) This course introduces students to digital and/or computational methods in the humanities and addresses critical questions about the role of digital technology in society. This is a collaborative, hands-on, project-based course. (Sp) [IV-WC].

## HSTM 2133 Science and Popular Culture 3 Credit Hours

Draws on interdisciplinary perspectives to examine the interplay between science and popular culture from the Scientific Revolution to the present. Topics include representations of science, scientists, and nature in popular literature, television, films, and documentaries; the development of zoos and science museums; children and science, and science journalism. (Sp) [IV-WC].

## HSTM 2213 The Darwinian Revolution 3 Credit Hours

The "Darwinian Revolution" was a revolution in culture as well as biology. We consider the history of the social, political, and theological issues associated with the development of evolutionary thought from the early nineteenth century to the present. (Irreg.) [IV-WC].

## HSTM 2423 Social and Ethical Issues in Science, Technology, Environment and Medicine 3 Credit Hours

An introduction to a range of social and ethical issues in the history of science, technology, environment and medicine. Including the social, political and ethical implications of technology and scientific knowledge, and the role they play in shaping our environment and our selves. (Irreg.) [IV-WC].

## HSTM 2970 Special Topics/Seminar 1-3 Credit Hours

1 to 3 hours. Prerequisite: May be repeated; Maximum credit nine hours. Special Topics. 1 to 3 hours. Special topics course for content not currently offered in regularly scheduled courses. May include library and/or laboratory research, and field projects. (Irreg.)

## HSTM 3013 History of Science to the Age of Newton 3 Credit Hours

Prerequisite: junior standing, or completion of one History of Science lower-division course, or permission of instructor. A survey of Western people's efforts to understand the natural world, from earliest historical times to the seventeenth century. (F, Sp, Su) [IV-WC].

## HSTM 3023 History of Science Since the Seventeenth Century 3 Credit Hours

Prerequisite: junior standing, or completion of one History of Science lower-division course, or permission of instructor. A survey of the historical and intellectual development of modern science. (F, Sp, Su) [IV-WC].

## HSTM 3223 Gender Issues in Science, Technology and Medicine 3 Credit Hours

Prerequisite: junior standing, or completion of one History of Science lower-division course, or permission of instructor. Historical analysis of gender issues in science, technology and medicine, and in comparison with current practices. Topics will include questions in scientific method, particularly the concept of "objectivity," bio-social theories of gender; gender issues in scientific inquiry, in the development of and engagement with technologies, and in medical thought and practice; media images; and feminist science fiction. (Irreg.) [IV-WC].

## HSTM 3243 Women and Medicine 3 Credit Hours

Prerequisite: junior standing, or completion of one History of Science lower-division course, or permission of instructor. Surveys the relationship between women and medicine in the modern period (roughly between 1750 and the present). Examines the interrelated histories of women as medical practitioners, patients and objects of medical knowledge. Also includes discussion on how women experienced illness in the past and the expectations and norms that shaped their illness experiences. Finally, a look at medical knowledge about (Sp) [IV-WC].

## HSTM 3253 Race and Science 3 Credit Hours

Prerequisite: junior standing or completion of one History of Science course or permission of instructor. Examines the rise and fall of scientific conceptions of race from 1800 to the present, paying particular attention to its connections to 19th Century evolutionary theory, eugenics, the modern evolutionary synthesis, and recent genetics and genomics. Also looks at the role of cultural values associated with race in science more broadly. Course materials include films and novels as well as (F, Sp) [IV-WC].

## HSTM 3263 History of Public Health 3 Credit Hours

(Crosslisted with HIST 3263) Prerequisite: Junior Standing or a lower division HSTM course or HIST 1733 or HIST 2723 or Permission of Instructor. Taking an historical perspective students explore and analyze the social, economic, political and scientific events and processes that have shaped modern public health. (F) [IV-WC].

## HSTM 3273 Of Acupuncture, Medicine Men & Ayurveda: Indigenous & Non-Western Medicine in Perspective 3 Credit Hours

(Crosslisted with HIST 3273) Prerequisite: Junior Standing or a lower division HSTM course or HIST 1733 or HIST 2723 or Permission of Instructor. Introduces histories of practices and systems of medicine and healing that are variously deemed 'indigenous,' 'traditional,' 'non-western,' 'alternative' and 'complementary' in historical context. Students critique the historical and cultural meaning of these terms, as well as their attendant conceptions of health, disease and the body. (F) [IV-WDC].

## HSTM 3283 Introduction to Disability Studies 3 Credit Hours

Prerequisite: junior standing or permission of instructor or completion of one lower-division History of Science course. Students engage text, audio and video sources to examine the social and cultural experience of disability in different times and cultures to critically assess how culture (mis)represents disability and corporeal difference. (F) [IV-WC].

**HSTM 3293 Environment and Health 3 Credit Hours**

Prerequisite: Junior standing or permission of instructor. This course explores the complex and changing relationship between the environment and health over the past 500 years, blending environmental history, the history of ecological science, and the history of environmental movements. Because the human-made environmental changes of the twentieth century could spell our own extinction, understanding the connections between environment and health is ever more urgent. (Sp) [IV-WC].

**HSTM 3313 Science and Technology in Asian History 3 Credit Hours**

Prerequisite: junior standing, or completion of one History of Science lower-division course, or permission of instructor. Examines science and technology in east, south, and southeast Asia from 1000 A.D. to the present. We examine the influence and interaction of knowledge traditions (especially Chinese, south Asian and Islamic), how they circulate around and beyond Asia, and interactions with European knowledge traditions, culminating in examinations of political and ethical dimensions of science and technology in contemporary Asia. (Irreg.) [IV-WDC].

**HSTM 3333 Technology and Society in World History 3 Credit Hours**

Prerequisite: junior standing, or completion of one History of Science lower-division course, or permission of instructor. A survey of the history of technology since 1500. Emphasizes historical contexts and cultural meanings, not technical details, as it explores the key steps in the construction of our modern technological world. Materials include literature and film as well as non-fiction. (Sp) [IV-WC].

**HSTM 3343 Revolution in Power: the Evolution of Energy Systems from Fossil Fuels to Renewables 3 Credit Hours**

(Crosslisted with P E 3343) Prerequisite: Junior standing, or completion of one History of Science lower-division course, or permission of instructor. This course provides an interdisciplinary perspective on energy systems in both their technical and human contexts, from fossil fuels to renewables, with particular focus on their social, culture, and environmental implications for Western society and the world. The history and evolution of the associated technologies will be discussed, with attention to non-western and indigenous perspectives on these global technological systems. (F) [IV-WC].

**HSTM 3353 Science and Empire 3 Credit Hours**

Prerequisite: junior standing or one previous HSCI course or permission of instructor. Examines the contested history of science and empire from both western and non-western perspectives, learning about colonial and post-colonial encounters in science, both imagined and lived. Materials include travelers' tales, explorers' accounts, fiction, and films as well as nonfiction. (Sp) [IV-WC].

**HSTM 3413 Biomedical Ethics 3 Credit Hours**

Prerequisite: Junior standing, or completion of one History of Science lower-division course, or permission of instructor. Introduces key concepts in biomedical ethics. Topics may include: the doctor/patient relationship; medical research on humans and animals; reproductive rights and technologies; medical decisions at the end of life; and the allocation of scarce resources. (Irreg.) [IV-WC].

**HSTM 3423 Modern Medicine - A Historical Introduction 3 Credit Hours**

Prerequisite: junior standing, or completion of one History of Science lower-division course, or permission of instructor. Examines the history of modern medicine in Europe and America. Aims to connect medical ideas and practices to the broader social and cultural contexts in which they were developed. (Irreg.) [IV-WC].

**HSTM 3440 Mentored Research Experience 3 Credit Hours**

0 to 3 hours. Prerequisite: ENGL 1113 or equivalent, and permission of instructor; May be repeated; maximum credit 12 hours. For the inquisitive student to apply the scholarly processes of the discipline to a research or creative project under the mentorship of a faculty member. Student and instructor should complete an Undergraduate Research & Creative Projects (URCP) Mentoring Agreement and file it with the URCP office. Not for honors credit. (F, Sp, Su)

**HSTM 3443 Science in a Religious World 3 Credit Hours**

Prerequisite: junior standing, or completion of one History of Science lower-division course, or permission of instructor. An overview of major events in the intersection of science and religion from the Middle Ages to the present. A detailed look at the historical record and exploration of the background of the people involved, the social and political context, and the reasons why certain issues mattered so much. (Sp) [IV-WC].

**HSTM 3453 Science and Civilization in Islam 3 Credit Hours**

Prerequisite: junior standing or permission. History of scientific traditions and ideas in Islamic civilization, from the origins of Islam to the early modern period. Emphasis is on the derivation, development and transmission of Islamic science, as well as on the assimilation and influence of science within Islamic culture. (Sp) [IV-WDC].

**HSTM 3463 Cold War Science 3 Credit Hours**

Prerequisite: junior standing or permission. Science and technology during the Cold War, including strategic weapons and SDI, medical experiments, the space race, science in popular culture, and science and foreign policy. (Irreg.) [IV-WC].

**HSTM 3473 History of Ecology and Environmentalism 3 Credit Hours**

Prerequisite: junior standing, or completion of one History of Science lower-division course, or permission of instructor. Explores the historical development of ecology as a science and as a political stance, from the eighteenth through the twentieth century. Topics may include: climate change, population control, deforestation, globalization, resource management, and environmental ethics. (Irreg.) [IV-WC].

**HSTM 3483 Technology, Politics, and International Development 3 Credit Hours**

Prerequisite: Junior standing, or completion of one History of Science lower-division course, or permission of instructor. Explores the interactions between politics and technology that have informed efforts to produce "developed" industrial societies around the world. Examines the emergence of development thinking and practice in Japan and the colonized world, international development and the technopolitics of decolonization, and contemporary issues in technology and development. (Irreg.) [IV-WDC].

**HSTM 3493 The History of Media 3 Credit Hours**

Prerequisite: junior standing, or completion of one History of Science lower-division course, or permission of instructor. An introduction to the history of informational technologies and communications media from the printing press to the internet. Topics will include the print revolution, the advent of electronic communications, the growth of broadcast media, the development of the digital computer, and the internet boom. Course materials include novels and films as well as non-fiction. (Irreg.) [IV-WC].

- HSTM 3523 History After the Internet: Exploring Digital History** **3 Credit Hours**  
(Crosslisted with HIST 3523) Prerequisite: Junior Standing. Examines major themes, issues, and developments affecting the research, writing, analysis, preservation, and presentation of history in the digital age. Includes hands-on engagement with, and critical assessment of, the use of digital tools for conducting historical inquiry, and exploration of the circulation of historical knowledge in such venues as social media, blogs, podcasts, digital archives, online collections, and historically-themed gaming. (Sp) [IV-WC].
- HSTM 3533 Science and Global Politics in the Modern Era: Cross-Cultural Perspectives** **3 Credit Hours**  
Prerequisite: Junior standing. Focuses on interactions between professional scientists, corporate entities, advocacy groups, NGOs, the public, and the state, with case studies drawn from different national contexts in order to make cross-cultural comparisons. Students will develop an international perspective on this topic by focusing on both western and non-western national contexts. Topics may include such issues as public health; biotechnology; bioprospecting; organ trafficking; (Irreg.) [IV-WC].
- HSTM 3543 Balloons, Barometers, and Ice Cores: History of Weather and Climate Science** **3 Credit Hours**  
(Crosslisted with METR 3543) Prerequisite: Junior standing or completion of one other course in HSTM or permission of instructor. This course explores the history of meteorology and climate sciences from 1500 to the present. We investigate the role of science in humanity's relationship with weather and climate, the social and political contexts of weather sciences as they have changed over time, and contributions of these sciences to sustainability and survival on a rapidly warming planet. No science background required. (F) [IV-WC].
- HSTM 3813 Science in the Ancient World** **3 Credit Hours**  
Prerequisite: junior standing, or completion of one History of Science lower-division course, or permission. An examination of science in antiquity. Topics include the origins of ancient science, the transmission and interaction of various scientific traditions, the relation between science and philosophy, the development of a concept of science, and the place of science within the cultures of the period. (Irreg.) [IV-WC].
- HSTM 3823 Science in Medieval Culture** **3 Credit Hours**  
Prerequisite: junior standing, or completion of one History of Science lower-division course, or permission. A survey of the historical development of medieval scientific, mathematical, medical, and philosophical thought. (Irreg.) [IV-WC].
- HSTM 3833 The Scientific Revolution** **3 Credit Hours**  
Prerequisite: junior standing, or completion of one History of Science lower-division course, or permission of instructor. Explores the history of the "scientific revolution" of the sixteenth and seventeenth centuries. Study includes understanding debates not just about what happened in the past but about how we today define science and how we understand the place of science in the modern world. (Irreg.) [IV-WC].
- HSTM 3960 Honors Reading** **1-3 Credit Hours**  
1 to 3 hours. Prerequisite: admission to Honors Program; May be repeated; maximum credit six hours. Will consist of topics designated by the instructor. The topics will cover materials not usually presented in regular coursework. (F, Sp, Su)
- HSTM 3970 Honors Seminar** **1-3 Credit Hours**  
1 to 3 hours. Prerequisite: admission to Honors Program; May be repeated; maximum credit six hours. The projects covered will vary. The content will deal with concepts not usually presented in regular coursework. (Irreg.)
- HSTM 3980 Honors Research** **1-3 Credit Hours**  
1 to 3 hours. Prerequisite: admission to Honors Program; May be repeated; maximum credit six hours. Will provide an opportunity for the gifted Honors candidate to work at a special project. (Irreg.)
- HSTM 3990 Independent Study** **1-3 Credit Hours**  
1 to 3 hours. Prerequisite: permission of instructor and junior standing. May be repeated once with change of content; Maximum credit 6 hours. Independent study may be arranged to study a subject not available through regular course offerings. (F, Sp, Su)
- HSTM 3993 Junior Seminar** **3 Credit Hours**  
Prerequisite: 9 hours of history of science classes and permission of instructor; if repeating course, permission of undergraduate academic adviser; May be repeated with change of content; maximum credit 6 hours. Offers students the chance to work on an extended research topic in the history of science, technology, environment and medicine. The themed seminar format will allow for small group discussion and close supervision of student projects. Students will be introduced to the methods and tools of advanced research. Seminar themes will vary. (Sp)
- HSTM 4053 History of Magic** **3 Credit Hours**  
(Crosslisted with RELS 4053) Prerequisite: Junior standing or permission of instructor. This course is an investigation of the category of magic, magical practices, and the place of magic in society from antiquity to the modern world. (Irreg.) [IV-WC].
- HSTM 4073 Cultural Heritage Data and Social Engagement** **3 Credit Hours**  
(Slashlisted with HSTM 5073; Crosslisted with WGS, HIST and LIS 4073) Prerequisite: Junior standing. This course uses methods from digital humanities, media studies, and data science to explore cultural heritage – the histories, literature, art, and artifacts of our world's cultures. It particularly focuses on cultural heritage in digital public spaces: websites, social media, etc. No prior background in computer programming is necessary. No student may earn credit for both 4073 and 5073. (F)
- HSTM 4133 Science and Literature** **3 Credit Hours**  
(Slashlisted with HSTM 5133) Prerequisite: ENGL 1213 or EXPO 1213 or HSCI 1113, or another HSCI course, junior standing and permission of instructor; May be repeated with change of content; maximum credit 6 hours. Explore the relationship between science and literature in the Victorian period from historical and literary perspectives. Students read and contextualize select historical works of fiction and of science in order to better understand the historical relationship between science and society, and between contemporary scientific and literary cultures. No student may earn credit for both 4133 and 5133. (Irreg.) [IV-WC].
- HSTM 4430 History of Science, Technology, & Medicine Internship** **1-4 Credit Hours**  
1 to 4 hours. Prerequisite: Student must be HSCI major with Junior standing; have a minimum 2.5 GPA; and have permission of departmental internship liaison, supervising faculty, and internship granting agency. The HSCI Internship Program is to provide a planned experience in the community that is relevant to the student's major program of study. This can be work in a facility or with an organization, a library or archive, which is engaged in the provision of products or services that relate to the student's academic field of study. (Irreg.)
- HSTM 4960 Directed Readings** **1-4 Credit Hours**  
1 to 4 hours. Prerequisite: good standing in University; permission of instructor and dean; May be repeated, maximum credit four hours. Designed for upper-division students who need opportunity to study a specific problem in greater depth than formal course content permits. (Irreg.)

**HSTM 4970 Special Topics/Seminar 1-3 Credit Hours**

1 to 3 hours. Prerequisite: Senior standing or permission of instructor; May be repeated; maximum credit nine hours. Special topics or seminar course for content not currently offered in regularly scheduled courses. May include library and/or laboratory research and field projects. (Irreg.)

**HSTM 4990 Independent Study 1-3 Credit Hours**

1 to 3 hours. Prerequisite: three courses in general area to be studied; permission of instructor and department; May be repeated; maximum credit six hours. Contracted independent study for topic not currently offered in regularly scheduled courses. Independent study may include library and/or laboratory research and field projects. (F, Sp, Su)

**HSTM 4993 Capstone in History of Science, Technology, and Medicine 3 Credit Hours**

Prerequisite: junior standing and permission of instructor. This course fulfills the capstone requirement for a major in the history of science, technology and medicine. The goal of this seminar-format course is to provide students with the opportunity to further develop their skills in research, writing, and critical analysis with respect to the historical study of science. The course provides the opportunity for in-depth individualized research within the (F) [V].

**HSTM 5073 Cultural Heritage Data and Social Engagement 3 Credit Hours**

(Slashlisted with HSTM 4073; Crosslisted with WGS, HIST and LIS 5073) Prerequisite: Graduate standing. This course uses methods from digital humanities, media studies, and data science to explore cultural heritage – the histories, literature, art, and artifacts of our world's cultures. It particularly focuses on cultural heritage in digital public spaces: websites, social media, etc. No prior background in computer programming is necessary. No student may earn credit for both 4073 and 5073. (F)

**HSTM 5133 Science and Literature 3 Credit Hours**

(Slashlisted with HSTM 4133) Prerequisite: Graduate standing and permission of instructor; May be repeated with change of content; maximum credit 6 hours. Explores the relationship between science and literature in the Victorian period from historical and literary perspectives. Students read and contextualize select historical works of fiction and of science in order to better understand the historical relationship between science and society, and between contemporary scientific and literary cultures. No student may earn credit for both 4133 and 5133. (Irreg.)

**HSTM 5513 Advanced Studies in the History of Ancient and Medieval Science 3 Credit Hours**

Prerequisite: HSTM 3013 or equivalent, or permission of instructor. May be repeated with change of content; maximum credit 12 hours. Thematic historical analyses of ancient and/or medieval foundations of science, focusing on the development of particular disciplines or scientific institutions, the relationship between science and religion, or transmission of science. Includes examination of sources and critical assessment of scholarly interpretations. (Irreg.)

**HSTM 5523 Adv. Stds. In The History Of Renaissance & Early Modern Sci. 3 Credit Hours**

Prerequisite: 3013 Or 3023, Or Equivalent; Or Permission Of Instructor. Advanced Studies In The History Of Renaissance And Early Modern Science. May Be Repeated With Change Of Content; Maximum Credit 12 Hours. Thematic Historical Analyses Of Scientific Ideas And Practices In The Scientific Revolution And The Enlightenment, 16th-18th Centuries. Includes Examination Of Sources And Critical Assessment Of Scholarly Interpretations. (Irreg.)

**HSTM 5533 Advanced Studies In The History Of Modern Science 3 Credit Hours**

Prerequisite: 3023, Or Equivalent Or Permission Of Instructor. Advanced Studies In The History Of Modern Science. May Be Repeated With Change Of Content; Maximum Credit 12 Hours. Thematic Historical Analyses Of Modern Science And Culture Focus- Ing On The European And American Development And Professional- Iization Of Scientific Disciplines, Interdisciplinary Relationships Among The Sciences, And Intersections Between Scientific And Pub- Lic Culture. Includes Examination Of Sources And Critical Assess- (Irreg.)

**HSTM 5550 Topics In The History Of Science 1-3 Credit Hours**

1 to 3 hours. Prerequisite: Graduate Standing Or Permission Of Instructor. Topics In The History Of Science. 1 To 3 Hours. May Be Repeated With Change Of Content; Maximum Credit Twelve Hours. Topics Of Scholarly Interest In The History Of Science.

**HSTM 5613 Issues and Methods in the Digital Humanities 3 Credit Hours**

Prerequisite: Graduate standing or permission of instructor. Provides a graduate-level introduction to the central issues, methods, and tools in the emerging field of the digital humanities. Digital humanities is an interdisciplinary set of methods, concepts, values, and practices that enable scholars to create and apply new technologies to answer social, cultural, and historical questions. (Irreg.)

**HSTM 5623 Practicum/Internship in the Digital Humanities 3 Credit Hours**

Prerequisite: Graduate standing or permission of instructor. May be repeated; maximum credit 9 hours. A practical, project-based internship, focused on the design and development of a project in the digital humanities under the close supervision of a faculty member. (F, Sp)

**HSTM 5713 History of Medicine Seminar 3 Credit Hours**

Prerequisite: Graduate standing. This seminar is a graduate-level introduction to the history of medicine. We will begin with an examination of the origins and development of the history of medicine as an academic discipline, then delve into some of the big themes and questions that have shaped the field. (Irreg.)

**HSTM 5723 History of Technology Seminar 3 Credit Hours**

Prerequisite: Graduate standing. This course introduces graduate students to the study of technology in its historical contexts. Based in the history of technology, it also introduces students to tools and concepts from cognate fields, such as environmental history, urban studies, mobility studies, and more. (Irreg.)

**HSTM 5960 Directed Readings in the History of Science 1-4 Credit Hours**

1 to 4 hours. Prerequisite: graduate standing and permission of instructor. May be repeated with change of content; maximum credit six hours toward M.A. degree, 12 hours toward Ph.D. degree. Intensive readings in a selected area of the history of science, under the direction of a graduate faculty member. (F, Sp, Su)

**HSTM 5970 Seminar: Research, Criticism and Analysis 2-3 Credit Hours**

2 to 3 hours. Prerequisite: permission of instructor. May be repeated with change of content; maximum credit 15 hours. Fundamentals of investigation and exposition in the history of science. (F, Sp)

**HSTM 5980 Research for Master's Thesis 2-9 Credit Hours**

2 to 9 hours. Variable enrollment, two to nine hours; maximum credit applicable toward degree, four hours. (F, Sp, Su)

**HSTM 5990 Special Studies 3-5 Credit Hours**

3 to 5 hours. Prerequisite: permission of instructor; May be repeated with change of content; maximum credit nine hours. Specialized studies in the history of science. Individual research culminating in the preparation of a research paper. (F, Sp, Su)

**HSTM 6960 Directed Readings 1-3 Credit Hours**

1 to 3 hours. Prerequisite: graduate standing or permission of instructor. May be repeated; maximum credit six hours. Directed readings and/or literature review under the direction of a faculty member. (Irreg.)

**HSTM 6970 Seminar in the History of Science 2-3 Credit Hours**

2 to 3 hours. Prerequisite: permission of instructor; May be repeated with change of content; maximum credit 15 hours. Advanced study and historical criticism in specialized areas. (F, Sp)

**HSTM 6980 Research for Doctoral Dissertation 2-16 Credit Hours**

2 to 16 hours. Prerequisite: Graduate standing and permission of instructor; may be repeated. Directed research culminating in the completion of the doctoral dissertation. (F, Sp, Su)

**HSTM 6990 Independent Study 1-3 Credit Hours**

1 to 3 hours. Prerequisite: Graduate standing and permission of instructor. May be repeated; maximum credit nine hours. Contracted independent study for a topic not currently offered in regularly scheduled courses. Independent study may include library and/or laboratory research and field projects. (Irreg.)