HISTORY OF SCIENCE, MEDICINE, AND PUBLIC HEALTH

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History of Science, Medicine, and Public Health is an interdisciplinary program that focuses on how different forms of knowledge and technology have been created in various times, places, and cultures, and how they have shaped the modern world. The major explores a wide range of questions. For example, is science universal, or does each culture have its own approach to trustworthy knowledge? What is the relationship between medical expertise, social structure, and everyday life? What is the nature of technology and its relationship to political, economic, and military power? Why do even the best public health campaigns have unintended consequences?

Course topics include the Scientific Revolution, medicine and media in modern America, health activism and public health, global health and epidemics, biotechnology, predictions of planetary catastrophe, scientific collections and material culture, and the historical development of the physical, environmental, biological, and human sciences.

A major in History of Science, Medicine, and Public Health offers excellent preparation for a wide range of careers. Premedical students and others interested in health-related fields can combine preprofessional training with a broad humanistic education. The major also provides a solid foundation for any career at the intersection of the sciences, technology, and public life, including law, business, journalism, museum work, public policy, and government.

REQUIREMENTS OF THE MAJOR

The major in History of Science, Medicine, and Public Health requires twelve term courses, including the two-term senior requirement. Students select a pathway of seven courses that guides them through an area of specialization. The seven pathway courses must include two courses in History of Science, Medicine, and Public Health; one seminar numbered 100 or above in History of Science, Medicine, and Public Health or in History; one science course; and three electives chosen from relevant courses in any department.

Pathways The five standard pathways in the major are Medicine and Public Health; Global Health; Science, Technology, and Society; Gender, Reproduction, and the Body; and Media, Knowledge, and Visual Cultures. Students may also design customized pathways in consultation with the director of undergraduate studies (DUS). No later than the beginning of the junior year, students in the major must select a standard pathway or indicate that they wish to design their own.

Electives Beyond the seven pathway courses, students must complete three additional electives in History of Science, Medicine, and Public Health. One of the electives must be a seminar, and one must be chosen from a pathway other than the one selected for the major. All courses for the major are chosen in collaboration with the student’s adviser.

Credit/D/Fail A maximum of one History of Science, Medicine, and Public Health course taken Credit/D/Fail before the fifth term of enrollment may be counted toward the requirements of the major.

Roadmap See visual roadmap of the requirements.

SENIOR REQUIREMENT

By the end of reading period in the spring term of the junior year, students choose whether they will work toward a yearlong or a one-term senior project. Yearlong senior projects are completed in HSHM 490, 491; one-term projects are completed in HSHM 492. Students who choose a one-term project must take an additional HSHM-listed course to complete the major. Only students who complete a yearlong senior project are eligible for Distinction in the Major.

For both the one-term and yearlong senior projects, students select a project adviser, propose a tentative topic and title, and submit a proposal to the senior project director. The final product of the senior requirement may be a written essay or an alternative project such as a film, exhibition, catalog, atlas, or historical data reconstruction. In the case of an alternative project, the student must identify a second reader in addition to the adviser before the project is approved by the senior project director. Either the adviser or the second reader must be a member of the faculty in History of Science, Medicine, and Public Health. A written component to the senior project must illustrate sources and the intellectual significance of the project. For more details about requirements and deadlines, majors should consult the HSHM Senior Project Handbook; copies are available from the senior project director and on the program website.

REQUIREMENTS OF THE MAJOR

Prerequisites None

Number of courses 12 term courses (incl senior req)

Distribution of courses 7 courses in pathway, incl 2 HSHM courses, 1 sem in HSHM or Hist numbered 100 or above, 1 science course, and 3 electives; 3 addtl HSHM electives, incl 1 sem and 1 course outside major pathway

Senior requirement Yearlong project (HSNM 490, 491), or one-term project (HSNM 492) and 1 addtl HSHM elective

FACULTY ASSOCIATED WITH THE PROGRAM OF HISTORY OF SCIENCE, MEDICINE, AND PUBLIC HEALTH

Professors Deborah Coen, Naomi Rogers, John Warner
Courses

* HSHM 002a / CLCV 034a / HIST 037a, Medicine and Disease in the Ancient World  Jessica Lamont
Examination of ancient medicine considering modern fields of pathology, surgery, pharmacology, therapy, obstetrics, psychology, anatomy, medical science, ethics, and education, to gain a better understanding of the foundations of Western medicine and an appreciation for how medical terms, theories, and practices take on different meanings with changes in science and society. All readings in English. Enrollment limited to first-year students. Preregistration required; see under First-Year Seminar Program.  HU

* HSHM 009b / HIST 006b, Medicine and Society in American History  Rebecca Tannenbaum
Disease and healing in American history from colonial times to the present. The changing role of the physician, alternative healers and therapies, and the social impact of epidemics from smallpox to AIDS. Enrollment limited to first-year students. Preregistration required; see under First-Year Seminar Program.  WR, HU

HSHM 207a / AMST 236a / EVST 318a / HIST 199a, American Energy History  Paul Sabin
The history of energy in the United States from early hydropower and coal to present-day hydraulic fracturing, deepwater oil, wind, and solar. Topics include energy transitions and technological change; energy and democracy; environmental justice and public health; corporate power and monopoly control; electricity and popular culture; labor struggles; the global quest for oil; changing national energy policies; the climate crisis.  WR, HU

HSHM 209a / EVST 209a / HIST 465a, Making Climate Knowledge  Deborah Coen
This is a course about how humans have come to know what we know about our impacts on the earth's climate and our vulnerability to climate change. When did humans first know that their actions, in the aggregate, could transform the planet? Did scientists bear responsibility to warn of these consequences? In what ways has the modern science of climate both appropriated and undermined traditional and indigenous forms of climate knowledge? Students learn to work with the methods of history of science: we analyze science as a social and material process bound to the cultural and epistemological particularities of its historical context, and we examine the political dimensions of historical narratives about the emergence of the theory of global warming. Via hands-on experience with Yale's historical collections, students learn to analyze maps, artifacts, and instruments as historical sources. They also gain familiarity with the methods of environmental history, learning to attend to historical evidence of shifting relationships between humans and non-humans. Finally, students become more attuned to the evidence of climate change around them and more confident in their ability to make climate knowledge for themselves.  HU

HSHM 211b / EVST 211b / G&G 211b / HIST 416b, Global Catastrophe since 1750  William Rankin
A history of the geological, atmospheric, and environmental sciences, with a focus on predictions of global catastrophe. Topics range from headline catastrophes such as global warming, ozone depletion, and nuclear winter to historical debates about the age of the Earth, the nature of fossils, and the management of natural resources. Tensions between science and religion; the role of science in government; environmental economics; the politics of prediction, modeling, and incomplete evidence.  HU

HSHM 215a / HIST 140a, Public Health in America, 1793 to the Present  Naomi Rogers
A survey of public health in America from the yellow fever epidemic of 1793 to AIDS and breast cancer activism at the end of the past century. Focusing on medicine and the state, topics include quarantines, failures and successes of medical and social welfare, the experiences of healers and patients, and organized medicine and its critics.  HU

HSHM 237b / HSAR 282b / WGSS 282b, Renaissance Bodies: Art, Magic, Science  Marisa Bass
An introduction to issues surrounding the representation of the body in both art and science, spanning from the late Middle Ages to the seventeenth century, and with a particular focus on the Northern Renaissance. Topics include medicine, reproduction, witchcraft, the gender spectrum, torture, race, disability, desire, dreams, and theories of imagination and invention. Sections and assignments will make ample use of the Yale collections. Previous experience with art history welcome but not required.  HU

HSHM 241a / AFAM 170a / HIST 479a / WGSS 270a, Sickness and Health in African American History  Carolyn Roberts
A history of American medicine through the African American experience covering the period of slavery through #BlackLivesMatter. Oriented around the complex dynamics of medical abuse and medical resistance, key themes include medicine and slavery; gender and reproduction; medical experimentation and ethics; the rise of racial science; lynching and vigilante violence; segregation and public health; African-descended approaches to health and healing; the rise of the African American medical profession; and black health activism from slavery to #BlackLivesMatter.  HU
HSHM 321b / HIST 244b, Cultures of Western Medicine  John Warner
A survey of Western medicine and its global encounters, encompassing medical theory, practice, institutions, and healers from antiquity to the present. Changing concepts of health, disease, and the body in Europe and America explored in their social, cultural, economic, scientific, technological, and ethical contexts.  HU

* HSHM 406a / HIST 150Ja, Healthcare for the Urban Poor  Sakena Abedin
Exploration of the institutions, movements, and policies that have attempted to provide healthcare for the urban poor in America from the late nineteenth century to the present, with emphasis on the ideas (about health, cities, neighborhoods, poverty, race, gender, difference, etc) that shaped them. Topics include hospitals, health centers, public health programs, the medical civil rights movement, the women's health movement, and national healthcare policies such as Medicare and Medicaid.

* HSHM 407b / HIST 280Jb / HSAR 390b / HUMS 220b, Collecting Nature and Art in the Preindustrial World  Paola Bertucci
A history of museums before the emergence of the modern museum. Focus on: cabinets of curiosities and Wunderkammern, anatomical theaters and apothecaries' shops, alchemical workshops and theaters of machines, collections of monsters, rarities, and exotic specimens.  WR, HU

* HSHM 415a / HIST 179Ja, Historical Perspectives on Science and Religion  Ivano Dal Prete
The engagement between science and religion from a historical standpoint and a multicultural perspective. The Islamic, Jewish, Buddhist, and Christian traditions; the roots of modern creationism; salvation expectations and the rise of modern science and technology. General knowledge of western and world history is expected.  WR, HU

* HSHM 422a / HIST 467Ja, Cartography, Territory, and Identity  William Rankin
Exploration of how maps shape assumptions about territory, land, sovereignty, and identity. The relationship between scientific cartography and conquest, the geography of statecraft, religious cartographies, encounters between Western and non-Western cultures, and reactions to cartographic objectivity. Students make their own maps. No previous experience in cartography or graphic design required.  WR, HU

* HSHM 435b / HIST 419Jb / WGSS 419b, Gender and Science  Deborah Coen
Exploration of the dual potential of the sciences to reinforce received ideas about gender or to challenge existing sexual and racial hierarchies; the rise of the ideas and institutions of the modern sciences as they have reflected and shaped new notions of femininity and masculinity.

* HSHM 436a / HIST 195Ja, Health and Incarceration in U.S. History  Miriam Rich
This course examines the U.S. history of incarceration through the lens of health and medicine, covering the late eighteenth century to the present. Across this period, incarcerated populations have been subject to extensive health risks and harms; since 1976, they also comprise the only group in the U.S. with a recognized constitutional right to health care. In this seminar, we explore how medical practices and institutions have been involved in establishing, structuring, and challenging historical systems of incarceration. In the modern United States, incarceration has played a major role in the formation of racial disparities, the regulation and surveillance of marginalized communities, and the delineation of the state's relationship to its subjects. Within this history, health and medicine have been central to debates over the harms of the prison system, the extent of institutional authority over vulnerable bodies, and the state's obligations to provide care.  WR, HU

The Mediterranean is the liquid surface that facilitated constant exchanges of knowledge, people, and goods between Europe, Africa, and Asia and, at the same time, the sea that constituted a barrier between religions and cultures. This seminar explores the Mediterranean in the Early Modern period. We approach the Middle Sea from two main perspectives. First, through scientific knowledge about the sea itself and its inhabitants, such as cartography, medicine, and theories about human diversity. Secondly, we study the experiences of men and women moving across shores because they chose to do so or were forced to: merchants, converts, pirates, and slaves. The contradictory essence of the Mediterranean in this period (16th-18th centuries) emerges from the interplay of constraints—geographic and political boundaries, epidemics and poverty—and possibilities, such as commercial and maritime practices, or malleable religious and social identities.  WR, HU

* HSHM 453b / E&EB 336b / HUMS 336b, Culture and Human Evolution  Gary Tomlinson
Examination of the origins of human modernity in the light of evolutionary and archaeological evidence. Understanding, through a merger of evolutionary reasoning with humanistic theory, the impact of human culture on natural selection across the last 250,000 years.  HU, SC

* HSHM 454a / HIST 445Ja, Natural History in History  Paola Bertucci
The changing meaning and practice of natural history, from antiquity to the present. Topics include: technologies and epistemologies of representation, the commodification of natural specimens and bioprospecting, politics of collecting and display, colonial science and indigenous knowledge, and the emergence of ethnography and anthropology. Students work on primary sources in Yale collections.  HU

* HSHM 455a / HIST 176Ja / WGSS 457a, Reproductive Health, Gender & Power in the U.S.  Ziv Eisenberg
This seminar examines women's and men's reproductive health in the United States from the 19th century to the present. How have gender norms and social power structures shaped medical knowledge, scientific investigation, political regulation, and private reproductive experiences? What do the lessons of the history of reproductive health tell us about contemporary policy, legal and
economic debates? Topics include abortion, activism, childbirth, contraceptives, eugenics, feminism, fertility, medicalization, pregnancy, reproductive science and technology, sexual health, social justice, and sterilization.  WR, HU

* HSHM 468b / HIST 260jb, *Sex, Life, and Generation*  Ivano Dal Prete
Theories and practices of life, sex, and generation in Western civilization. Politics and policies of conception and birth; social control of abortion and infanticide in premodern societies; theories of life and gender; the changing status of the embryo; the lure of artificial life.  WR, HU

* HSHM 471a or b, *Directed Reading*  Staff
Readings directed by members of the faculty on topics in the history of science, medicine, or public health not covered by regular course offerings. Subjects depend on the interests of students and faculty. Weekly conferences; required papers.

* HSHM 473b / HIST 403jb, *Vaccination in Historical Perspective*  Jason Schwartz
For over two centuries, vaccination has been a prominent, effective, and at times controversial component of public health activities in the United States and around the world. Despite the novelty of many aspects of contemporary vaccines and vaccination programs, they reflect a rich and often contested history that combines questions of science, medicine, public health, global health, economics, law, and ethics, among other topics. This course examines the history of vaccines and vaccination programs, with a particular focus on the 20th and 21st centuries and on the historical roots of contemporary issues in U.S. and global vaccination policy. Students gain a thorough, historically grounded understanding of the scope and design of vaccination efforts, past and present, and the interconnected social, cultural, and political issues that vaccination has raised throughout its history and continues to raise today.  HU

* HSHM 475b / HIST 128jb, *Race and Disease in American Medicine*  Sakena Abedin
An exploration of the history of race and disease in American medicine from the late 19th century to the present, focusing on clinical practice and clinical research. We discuss cancer, psychiatric disease, sickle cell disease, and infectious diseases including tuberculosis and HIV. We examine the role of race in the construction of disease and the role of disease in generating and supporting racial hierarchies, with special attention to the role of visibility and the visual in these processes. We also consider the history of race and clinical research, and the implications of racialized disease construction for the production of medical knowledge.  WR, HU

* HSHM 477b / HIST 428jb / HUMS 463b / RLST 117 / RLST 437b, *Critical Theories of Science and Religion*  Joanna Radin and Noreen Khawaja
This course is an introduction to new thinking about the relationship of science and religion in global modernities. Drawing from work in feminist and indigenous studies, critical race theory, postcolonial studies, and multispecies thought, we explore systematic questions at the intersection of metaphysics, history of science, and politics. How can attending to the role of practice alter our understanding of how knowledge is produced across scientific and religious worlds? What is a world, and who gets to define it? How might a new contract between science and religion reveal fresh possibilities for an ethical response to late capitalism: addressing historic exclusions, structural inequalities, and human-nonhuman relations? Readings may include: Bruno Latour, Donna Haraway, Kim TallBear, Anna Tsing, Isabell Stengers, Cathy Gere, Mary-Jane Rubenstein, Karen Barad, Robert Bellah, Gabriel Marcel, Elizabeth Povinelli, Nada Abu El-Haj, Aicha Beliso-De Jesus, Marilyn Strathern, Catherine Keller, Abou Farman, Webb Keane.  HU

* HSHM 479b / EVST 368b / HIST 491jb / RLST 368b, *The History of the Earth from Noah to Darwin*  Ivano Dal Prete
Young earth creationism and flood geology have long been among the most divisive features of American culture and politics. Yet a basic postulate is shared across the spectrum: for better or worse, the old age of the Earth is regarded as the recent product of a secular science, consistently rejected by traditional Christianity. This seminar challenges this long-established narrative, by uncovering the surprising boldness, complexity, and societal diffusion of pre-modern debates on the history of the Earth, and of humankind itself. Students have opportunity to explore the nature, assumptions, and methods of Earth sciences before the advent of modern geology, to question ingrained assumptions about their relation to religion and society, and to place outstanding issues into historical perspective. How have the great monotheistic religions dealt with the possibility of an ancient Earth? Was a young creation always important in traditional Christianity? If not, what led to the emergence of young Earth creationism as a force to be reckoned with? What are the intellectual roots of American pietism, which claims that the black and white races were created at different times and do not descend from the same ancestor? These and other questions are addressed not only through scholarly literature in the field, but also with the analysis of literary, visual, and material sources available on campus.  WR, HU

* HSHM 481a / AFAM 213a / AFST 481a / HIST 383ja, *Medicine and Race in the Slave Trade*  Carolyn Roberts
Examination of the interconnected histories of medicine and race in the slave trade. Topics include the medical geography of the slave trade from slave prisons in West Africa to slave ships; slave trade drugs and forced drug consumption; mental and physical illnesses and their treatments; gender and the body; British and West African medicine and medical knowledge in the slave trade; eighteenth-century theories of racial difference and disease; medical violence and medical ethics.  WR, HU

* HSHM 490a or b and HSHM 491a or b, *Yearlong Senior Project*  Carolyn Roberts
Preparation of a yearlong senior project under the supervision of a member of the faculty. There will be a mandatory meeting at the beginning of the term for students who have chosen the yearlong senior project; students will be notified of the time and location by e-mail before classes begin. Majors planning to begin their projects who do not receive this notice should contact the senior project director. Students expecting to graduate in May enroll in HSHM 490 during the fall term and complete their projects in HSHM 491 in the spring term. December graduates enroll in HSHM 490 in the spring term and complete their projects in HSHM 491 during the following fall term. Majors planning to begin their projects in the spring term should notify the senior project director by the last day of classes in the fall term. Students must meet progress requirements by specific deadlines throughout the first term to receive a temporary grade.
of SAT for HSHM 490, which will be changed to the grade received by the project upon the project’s completion. Failure to meet any requirement may result in the student’s being asked to withdraw from HSHM 490. For details about project requirements and deadlines, consult the HSHM Senior Project Handbook. Students enrolled in HSHM 491 must submit a completed project to 211 HGS no later than 5 p.m. on April 6, 2018, in the spring term, or no later than 5 p.m. on December 1, 2017, in the fall term. Projects submitted after 5 p.m. on the due date without an excuse from the student’s residential college dean will be subject to grade penalties. Credit for HSHM 490 only on completion of HSHM 491.

* HSHM 492a or b, One-Term Senior Project  Carolyn Roberts
Preparation of a one-term senior project under the supervision of an HSHM faculty member, or of an affiliated faculty member with approval of the director of undergraduate studies. There will be a mandatory meeting at the beginning of the term for students who have chosen the one-term senior project; students will be notified of the time and location by e-mail before classes begin. Majors planning to begin their projects who do not receive this notice should contact the senior project director. Students expecting to graduate in May enroll in HSHM 492 during the fall term. December graduates enroll in HSHM 492 in the preceding spring term. Students planning to begin their project in the spring should notify the senior project director by the last day of classes in the fall term. Majors must submit a completed Statement of Intention form signed by the faculty member who has agreed to supervise the project to the HSHM administrator no later than September 9, 2019 (HSHM 492a), or January 17, 2020 (HSHM 492b). Blank statement forms are available in the HSHM Senior Project Handbook on the HSHM website. Students enrolled in HSHM 492 must submit a completed senior project to the HSHM administrator no later than 5 p.m. on December 2, 2019, in the fall term, or no later than 5 p.m. on April 6, 2020, in the spring term. Projects submitted after 5 p.m. on the due date without an excuse from the student’s residential college dean will be subject to grade penalties.