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 history of American and Western medicine and public health, medicine and race in the slave trade, health and healing in Africa, scientific knowledge production in the global South, institutions of confinement, health activism, biotechnology, the history of the earth sciences, climate change and planetary catastrophe, the scientific revolution, scientific collections and material culture.

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 the 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 (HSHM 490, 491), or one-term project (HSHM 492) and 1 addtl HSHM elective

Courses in History of Science, Medicine, and Public Health explore the interactions of medicine, public health, technology, science, and society from a global and historical perspective. Encompassing the Scientific Revolution through the digital revolution, topics include public health and epidemics in global perspective; the relationships of medicine and the media in modern America; the development
of the earth and environmental sciences; nuclear weapons and electronic computers; museums and scientific collections; genetics and biotechnology; medical technologies and pharmaceuticals; the interplay of technology, industry, and the state; and the relationship between science, medicine, and the arts.

Majors organize their curriculum through thematic pathways that combine courses in the sciences and humanities. Pathways include 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 pathways in their own areas of interest in consultation with the director of undergraduate studies (DUS).

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

**Professors** Deborah Coen, Naomi Rogers, John Warner

**Associate Professors** Paola Bertucci, Joanna Radin, William Rankin

**Assistant Professors** Carolyn Roberts, Nana Quarshie

**Lecturers** Sakena Abedin, Ivano Dal Prete, Chitra Ramalingam, Miriam Rich

**Affiliated Faculty** Rene Almeling (Sociology), Toby Appel (Yale University Library), Melissa Grafe (Yale University Library), Dimitri Gutas (Near Eastern Languages & Civilizations), Ann Hanson (Classics), Jessica Helfand (School of Art), Marcia Inhorn (Anthropology), Kathryn James (Yale University Library), Amy Kapczynski (Law School), Gundula Kreuzer (Music), Amy Meyers (Yale Center for British Art), Alan Mikhail (History), Ayesha Ramachandran (Comparative Literature), Paul Sabin (History), Jason Schwartz (School of Medicine), Gordon Shepherd (School of Medicine), Frank Snowden (History), Rebecca Tannenbaum (History), R. John Williams (English)

**View Courses**

**Courses**

**HSHM 206b / HIST 114b, History of Reproductive Health and Medicine in the U.S.** Miriam Rich

This course surveys the history of reproductive health and medicine in the United States from the late eighteenth century to the present. The course emphasizes the cultural and historical contexts of reproductive health; the significance of reproduction within the broader social, cultural, and political history of the United States; and the entanglements of reproductive medicine with social and political categories of race, gender, disability, nation, and kinship. Topics include the management of reproduction in U.S. slavery and empire, reproductive medicine and concepts of race, practitioners and professional authority over childbirth and pregnancy, eugenics and sterilization, movements for reproductive rights and healthcare, reproductive biotechnology, and present-day disparities in access to and quality of reproductive care.  

**HU**

**HSHM 207b / AMST 236b / EVST 318b / HIST 199b, 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 211b / EPS 211b / EVST 211b / HIST 416b, Global Catastrophe since 1750** Bill 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 212a / ER&M 214a / HIST 146a / HLTH 280a, Historical Perspectives on Global Health** Joanna Radin

In the 21st century “global health” is recognized as an influential framework for orienting action among a huge range of groups including public health workers, activists, philanthropists, economists, political leaders, and students. How did this come to pass? This survey class introduces you to the historical circumstances that have contributed to the contemporary landscape of global health. We travel through several centuries to examine how ideas about disease, colonialism, race, gender, science, diplomacy, security, economy, and humanitarianism have shaped and been shaped by attempts to negotiate problems of health that transcend geopolitical borders.  

**HU**

**HSHM 220a / AFST 230a / HIST 417a, Histories of Confinement: From Atlantic Slavery to Social Distancing** Nana Osei Quarshie

This course looks closely at the history of asylums, hospitals, prisons, and schools. It seeks to understand their workings and the interplay between bureaucratic forms, spatial and material organization, and modes of discipline, control, and remediation. It asks, how is institutional power organized, displayed, deployed, and disputed, and what are the limits and contradictions inherent in these efforts? Our readings draw from a range of contexts and disciplines to consider the relationship between the built environment and institutional life.  

**HU**

**HSHM 226b / HIST 236b, The Scientific Revolution** Ivano Dal Prete

The changing relationship between the natural world and the arts from Leonardo to Newton. Topics include Renaissance anatomy and astronomy, alchemy, and natural history.  

**HU**
HSHM 321a / HIST 244a, 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.  WR, HU

* HSHM 407a / HIST 289Ja / HSAR 399a / HUMS 420a, Collecting Nature  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.  WR, HU

* HSHM 422a / HIST 467Ja, Cartography, Territory, and Identity  Bill 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 424b / HIST 194Jb, Citizenship, Race, and Public Health in U.S. History  Miriam Rich
This course examines the history of citizenship, race, and public health in the modern United States. The course explores how public health practices structured shifting boundaries of social and political inclusion, focusing particularly on the late nineteenth and early twentieth centuries. How did public health interventions serve to affirm, regulate, or deny the citizenship of different groups? How have public health issues both shaped and been shaped by systems of racial inequality? Topics include the history of public health and immigration, surveillance and regulation of racialized and gendered subjects, eugenics and racial hygiene, health activism and reform, and ethics of public health powers.  WR, HU

* HSHM 432a / ER&M 360a / HLTH 370a / SOCY 390a / WGSS 390a, Politics of Reproduction  Rene Almeling
Reproduction as a process that is simultaneously biological and social, involving male and female bodies, family formation, and powerful social institutions such as medicine, law, and the marketplace. Sociological research on reproductive topics such as pregnancy, birth, abortion, contraception, infertility, reproductive technology, and aging. Core sociological concepts used to examine how the politics of reproduction are shaped by the intersecting inequalities of gender, race, class, and sexuality.  WR, SO

* 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

* HSHM 444a / HIST 206Ja, Medieval Minds and Brains  Amelia Kennedy
How did monks try to tame their thoughts, discipline their minds, and banish distraction? How did medieval scholars memorize so much material (and why was memory so important)? People living in the premodern era thought of cognition in different terms than we do today, and they used different strategies for making their brains behave how they wanted. Despite these differences, some experiences are almost universally familiar: Like us, medieval people forgot things and tried to improve their memories; they sometimes grew anxious or sad; and they studied hard to learn things that were important to them. This seminar surveys understandings of the mind and brain in Europe and the Mediterranean, c. 300-1500. It is divided into four major units: Mindfulness, Memory, Meditation & Mysticism, and "Madness" & Mental Health. Since this is a writing seminar, we focus throughout the course on developing a writing process and honing the skills used in making historical arguments. Sophomore Seminar: Registration preference given to sophomores. Not normally open to first-year students.  WR, HU

* HSHM 449b, Critical Data Visualization: History, Theory, and Practice  Bill Rankin
Critical analysis of the creation, use, and cultural meanings of data visualization, with emphasis on both the theory and the politics of visual communication. Seminar discussions include close readings of historical data graphics since the late eighteenth century and conceptual engagement with graphic semiology, ideals of objectivity and honesty, and recent approaches of feminist and participatory data design. Course assignments focus on the research, production, and workshopping of students' own data graphics; topics include both historical and contemporary material. No prior software experience is required; tutorials are integrated into weekly meetings. Basic
proficiency in standard graphics software is expected by the end of the term, with optional support for more advanced programming and mapping software. HU

* HSHM 462b, Pharmaceuticals in Medicine and Health Care, 1900-Present  Jason Schwartz
The history of pharmaceuticals and their role in medicine and health care from 1900 to the present. This seminar examines how pharmaceuticals have shaped the practice of medicine and delivery of health care, approaches to prevention and treatment, medical knowledge and disease definitions, and related topics. It looks broadly at pharmaceuticals in the United States and globally as well as deeply at specific classes of products that have raised particular questions and considerations throughout their histories. Additional topics include pharmaceutical regulation and the U.S. Food and Drug Administration, pricing and financial issues, marketing and direct-to-consumer advertising, research and development, and safety controversies. WR, HU

* HSHM 465b / HIST 176Jb / WGSS 457b, 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 468a / HIST 260Ja, 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 475b / HIST 128Jb, Race and Disease in American Medicine  Sakena Abdin
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 486a / AFST 486a / HIST 374Ja, African Systems of Thought  Nana Osei Quarshie
This seminar explores the effects of colonialism and post-colonial power relations on the production of scientific, medical, and embodied knowledge about Africa. The course focuses on three broad themes covered across four units. First, we read debates over the nature and definition of science and tradition. How have colonialism and post-colonial power relations defined the tasks of an African science? What does it mean to decolonize African thought or culture? Second, we examine the nature of rationality. Is reason singular or plural? Culturally-bound or universal? To what extent are witchcraft, African healing practices, and ancestor veneration rational practices? Is there a “traditional” rationality? Third, we explore the relationship between scientific representations, social practices, and local culture. What relationship exists between social practices and culturally shared categories of knowledge? Lastly, we examine the intersection of capital and medical expertise. How have shifting conceptions of value and capital, reshaped scientific and medical authority in Africa? WR, HU

* HSHM 488b / HIST 153Jb, The History of Drugs and Addiction in Twentieth Century America  Marco Ramos
Virtually every American today “does” drugs. As a nation, our drug use ranges from everyday activities, such as drinking coffee or beer, to combating illnesses with prescription medications, to using illegal drugs for recreation. This course follows a loose chronology beginning in the early twentieth century and ending in the present day. Instead of focusing on the biography of a single drug, or class of drugs, this course incorporates a wide range of substances, including alcohol, cigarettes, pharmaceuticals, and narcotics. For each session, students read a selection of essays, book chapters, and primary source material. Through these readings, we discuss how certain ways of using and selling drugs have been sanctioned and encouraged, while others have been pathologized as addiction or criminalized. We explore how drug definitions are constructed, how they shift over time, how they affect (and are affected by) people who use, sell, and regulate drugs. We also trace how the moralized concept of “addiction” emerged in the twentieth century and how this concept intersected with societal anxieties about race, immigration, indigeneity, and gender. Throughout the course, films, images, music, and television episodes are presented as objects of analysis to provide insight into the cultural lives of drugs. As a group, we discuss how historians have approached this subject, assess their sources and assumptions, and consider the choices they have made in researching and writing. Students are expected to apply these lessons and demonstrate the ability to think and write critically about the history of drugs. WR, HU

* HSHM 490a or b and HSHM 491a or b, Yearlong Senior Project  Staff
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  
Staff
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.

* HSHM 496a / HIST 110Ja, Childbirth in America, 1650-2000  
Rebecca Tannenbaum
This course considers the ways childbirth has been conducted in the United States over three centuries. Topics include the connections between childbirth and historical constructions of gender, race, and motherhood, as well as changes in the medical understanding and management of childbirth. WR, HU