Guide to the Focus in Medicine and Society

For History and Science Concentrators

Science and Society Track

Honors Eligible

The Medicine and Society focus in the Science and Society track offers opportunities for study that are both more interdisciplinary and more focused than those available to students doing a conventional plan of study in our concentration. It is designed for students considering a career in medicine, health sciences, health policy, or who otherwise have a pronounced interest in the medical sciences. It allows students to combine course work in many of the scientific subjects required for medical school admission with a coherent program of courses that look at health and medicine from a range of historical, social, scientific and humanistic perspectives.

To graduate with this focus in History and Science, students need to take four semesters of tutorial: History of Science 97 (Sophomore Tutorial), History of Science 98 (Junior Tutorial) and History of Science 99ab (two semesters of Senior Tutorial). History of Science 100 (Knowing the World: An Introduction to the History of Science) is a required course.

Students also need to take four courses in medical sciences; no more than two courses may be introductory (introductory courses are normally defined as courses without a prerequisite); courses should be relevant courses in Chemistry, Human Evolutionary Biology, Life Sciences, Mathematics, Molecular and Cellular Biology, Neurobiology, Organismic and Evolutionary Biology, Physical Sciences, or Stem Cell and Regenerative Biology.

Students will also take five additional courses; at least two must be in the history of medicine or its allied fields (including the life sciences, mind sciences, bioethics, biotechnology) and be taught by members of the Department of the History of Science; two will normally be drawn from other disciplines concerned with the social, ethical or humanistic analysis of medicine and health (anthropology, economics, ethics, sociology); and one can be an open-ended elective that can be fulfilled by taking any of the History of Science department course offerings.

Required Courses:

- History of Science 97, Tutorial, Sophomore Year.
- History of Science 98, Tutorial, Junior Year.
- History of Science 99ab, Tutorial, Senior Year (the senior thesis--two semesters). Normally, the thesis will address some historical question about medicine and health, broadly understood.
- History of Science 100: Introduction to the History of Science
- Four courses in medical sciences (normally courses that also count for pre-medical requirements)
- Five additional courses (see above)

The list of courses on the following pages outlines many of the courses that can be used to fulfill the requirements for the Focus in Medicine and Society, but it does not necessarily include all of the relevant courses. Students may petition to have other relevant courses in the history of medicine count for concentration credit by contacting Allie Belser, Manager of Student Programs.

1. History of Science Tutorials

- History of Science 97, Tutorial, Sophomore Year (offered during the spring semester)
- History of Science 98, Tutorial, Junior Year (normally taken during the fall semester)
- History of Science 99ab, Tutorial, Senior Year (the senior thesis--two semesters; normally, the thesis will address some historical question about medicine and health, broadly understood)

2. History of Science 100

All concentrators will be required to enroll in History of Science 100, Knowing the World: An Introduction to the History of Science, which is offered only during the fall semester.

3. History of Medicine and Allied Fields

Course requirements: four courses; no more than two may be introductory (normally defined as courses without a prerequisite); at least two must be in the history of medicine or its allied fields (including the life sciences, mind sciences, bioethics, biotechnology) and be taught by members of the Department of the History of Science; and two will normally be drawn from other disciplines concerned with the social, ethical or humanistic analysis of medicine and health (anthropology, economics, ethics, sociology).

a. At least two courses concerned with medicine and its allied fields, taught by faculty from the Department of the History of Science, chosen from among the following:

Classical Studies 165. Medicine in the Greco-Roman World
Culture and Belief 34. Madness and Medicine: Themes in the History of Psychiatry
Culture and Belief 58. Case Studies in the Medical Humanities: Interdisciplinary Perspectives on the Experience of Illness
East Asian Studies 170 (formerly CB 11). Medicine and the Body in East Asia and in Europe
General Education 1004 (formerly CB 47). The Darwinian Revolution
General Education 1089 (formerly HISTSCI 140). The Border: Race, Politics, and Health in Modern Mexico
General Education 1116 (formerly ER 33). Medical Ethics and History
General Education 1150. Medicine and Conflict: The History and Ethics of Healing in Political Turmoil
General Education 1170. Confronting COVID-19: Science, History, Policy
History of Science 136. History of Biotechnology
History of Science 139v. Ecological Visions of Health and Disease
History of Science 141. Foreign Bodies: On Health and Migration
History of Science 142vj. History and Politics of the American Obesity Epidemic
History of Science 143vp. Histories of Therapeutics
History of Science 144. Medical Technologies in Historical Perspective
History of Science 145. Medicine and Health in America
History of Science 146. (How) Does Medicine Work?
History of Science 146v. Bodies in Flux: Medicine, Gender, and Sexuality in the Modern Middle East
History of Science 147. The Changing Concept of Race in America: From Jefferson to Genomics
History of Science 147v. Graphic! Visualizing Medicine from Textbooks to Comics
History of Science 148. Sick and Tired of Being Sick and Tired: A History of Health Disparities in America
History of Science 148vj. Race, Medicine, and Mass Incarceration
History of Science 149. The History and Culture of Stigma
History of Science 152vp. Technology and Modern Medicine: From the Stethoscope to Nanotech
History of Science 156vh. Biopolitical Animals: Nonhumans in Medicine, Science, and Society
History of Science 170. Broken Brains
History of Science 176. Brainwashing and Modern Techniques of Mind Control
History of Science 176v. Mind and Matter: Themes in the History of Neuroscience

History of Science 177v. The Sciences of Memory, Lies, and Pain
History of Science 178. History of the Psychotherapies
History of Science 179. The Freudian Century
History of Science 212. Death in the Age of Plague
History of Science 242. Global Perspectives on the History of Medicine
History of Science 245. The Changing Concept of Race in America: From Jefferson to Genomics
History of Science 247. Current Issues in the History of Medicine: Seminar
History of Science 249. Historical Perspectives on the Opioid Epidemic
History of Science 253. Bioethics, Law, and the Life Sciences

b. Two courses will normally be taken in a field concerned with the social, ethical or humanistic analysis of medicine and health, chosen from among the following:

Anthropology
Anthropology 2796. Medical Anthropology: Advanced Topics
African and African American Studies 189x. Medicine, Culture, and Society

Economics
Economics 1389. Economics of Global Health
Economics 1460. Economics of Health Care Policy
Economics 2460. Health Economics Workshop
Economics 2465. Health Economics
Empirical and Mathematical Reasoning 20. The Business and Politics of Health

Global Health and Health Policy
Global Health and Health Policy 50. The Quality of Health Care in America
Global Health and Health Policy 99. Research in Global Health and Health Policy
Empirical and Mathematical Reasoning 20. The Business and Politics of Health
Science of Living Systems 16. Human Evolution and Human Health
Science of Living Systems 19. Nutrition and Global Health
Societies of the World 24. Global Health Challenges: Complexities of Evidence-Based Policy
Societies of the World 25. Case Studies in Global Health: Biosocial Perspectives
United States in the World 11. U.S. Health Care Policy
United States in the World 31. American Society and Public Policy

Ethics
Ethical Reasoning 24. Bioethics
Ethical Reasoning 33. Medical Ethics and History
SCRB 60. Ethics, Biotechnology, and the Future of Human Nature

Sociology
Sociology 146. Death by Design: Health Inequalities in Global Perspective
Sociology 165. Inequalities in Health Care
Sociology 168. Sociology of Biomedicine and Global Health
African and African American Studies 197. Poverty, Race, and Health

c. One can be an open-ended elective that can be fulfilled by taking any of the History of Science department course offerings.

4. Medical Sciences Area

Course requirements: four courses in medical sciences, selected from one or more or the following fields; no more than two may be introductory (which is normally defined as a course without a prerequisite--courses with an asterisk count as introductory). This list is not necessarily current or complete.

Common Medical Sciences Sequences of Courses in Chemistry:

*__Life Sciences 1a.__ An Integrated Introduction to the Life Sciences: Chemistry, Molecular Biology, and Cell Biology
*__Physical Sciences 1.__ Chemical Bonding, Energy, and Reactivity: An Introduction to the Physical Sciences
Chemistry 17. Principles of Organic Chemistry
Chemistry 27. Organic Chemistry of Life

Or

*__Life Sciences 1a.__ An Integrated Introduction to the Life Sciences: Chemistry, Molecular Biology, and Cell Biology
*__Physical Sciences 1.__ Chemical Bonding, Energy, and Reactivity: An Introduction to the Physical Sciences
Chemistry 20. Organic Chemistry
Chemistry 30. Organic Chemistry

Life Sciences 1a and Physical Sciences 1 together satisfy the one year general chemistry requirement for medical school; Chemistry 17/27 or Chemistry 20/30 satisfy the organic chemistry requirement for medical school. The Chemistry 17/27 sequence is intended primarily for students interested in the Life Sciences, and the Chemistry 20/30 sequence is intended primarily for students interested in Chemistry and the Physical Sciences.

Other sequences can include:
Chemistry and Chemical Biology Department Courses numbered 100 and above
*Life and Physical Sciences A. Foundational Chemistry and Biology
*Life Sciences 1b. An Integrated Introduction to the Life Sciences: Genetics, Genomics, and Evolution
Physical Sciences 2. Mechanics, Elasticity, Fluids, and Diffusion
Physical Sciences 3. Electromagnetism, Waves, Imaging, and Information
Physical Sciences 11. Foundations and Frontiers of Modern Chemistry: A Molecular and Global Perspective
Chemistry 20. Organic Chemistry
Chemistry 30. Organic Chemistry
Chemistry 40. Inorganic Chemistry
Chemistry 60. Foundations of Physical Chemistry

Human Evolutionary Biology
HEB Courses numbered 1200 and above
*Life and Physical Sciences A. Foundational Chemistry and Biology
*Life Sciences 1b. An Integrated Introduction to the Life Sciences: Genetics, Genomics, and Evolution
Life Sciences 2. Evolutionary Human Physiology and Anatomy
*OEB 10. Foundations of Biological Diversity

Life Sciences

*Life and Physical Sciences A. Foundational Chemistry and Biology
*Life Sciences 1a. An Integrated Introduction to the Life Sciences: Chemistry, Molecular Biology, and Cell Biology
*Life Sciences 1b. An Integrated Introduction to the Life Sciences: Genetics, Genomics, and Evolution
Life Sciences 2. Evolutionary Human Physiology and Anatomy
Life Sciences 50ab. Integrated Science
Life Sciences 100. Experimental Research in the Life Sciences
Life Sciences 120. Global Health Threats
*Science of Living Systems 11. Molecules of Life
SCRB 60. Ethics, Biotechnology, and the Future of Human Nature

Mathematics

Applied Mathematics Department courses numbered 100 and above
Mathematics Department courses numbered 100 and above
Statistics Department courses numbered 110 and above
*Mathematics Ma. Introduction to Functions and Calculus I
*Mathematics Mb. Introduction to Functions and Calculus II
*Mathematics 1a. Introduction to Calculus
Mathematics 1b. Calculus, Series, and Differential Equations
Mathematics 18. Multivariable Calculus for Social Sciences
Mathematics 19a. Modeling and Differential Equations for the Life Sciences
Mathematics 19b. Linear Algebra, Probability, and Statistics for the Life Sciences
Mathematics 21a. Multivariable Calculus
Mathematics 21b. Linear Algebra and Differential Equations
Mathematics 23a. Linear Algebra and Real Analysis I
Mathematics 23b. Linear Algebra and Real Analysis II
Mathematics 25a. Honors Linear Algebra and Real Analysis I
Mathematics 25b. Honors Linear Algebra and Real Analysis II
Mathematics 55a. Honors Abstract Algebra
Mathematics 55b. Honors Real and Complex Analysis
Applied Mathematics 21a. Mathematical Methods in the Sciences
Applied Mathematics 21b. Mathematical Methods in the Sciences
*Statistics 100. Introduction to Quantitative Methods for the Social Sciences and Humanities
*Statistics 101. Introduction to Quantitative Methods for Psychology and the Behavioral Sciences
*Statistics 102. Introduction to Statistics for Life Sciences
*Statistics 104. Introduction to Quantitative Methods for Economics

Molecular and Cellular Biology

Molecular and Cellular Biology Department courses numbered 100 and above
*Life Sciences 1a. An Integrated Introduction to the Life Sciences: Chemistry, Molecular Biology, and Cell Biology
*Life Sciences 1b. An Integrated Introduction to the Life Sciences: Genetics, Genomics, and Evolution
MCB 60. Cellular Biology and Molecular Medicine
MCB 63. Biochemistry and Molecular Medicine
MCB 64. The Cell Biology of Human Life in the World
MCB 65. Physical Biochemistry: Understanding Macromolecular Machines
MCB 68. Cell Biology Through the Microscope
*MCB 80. Neurobiology of Behavior
*MCB 81. Fundamentals of Neuroscience
Life Sciences 100r. Experimental Research in the Life Sciences
Life Sciences 120. Global Health Threats

Applied Mathematics 126. Statistics and Inference in Biology
Mathematics 153. Mathematical Biology-Evolutionary Dynamics
Physics 141. The Physics of Sensory Systems in Biology
SCRB 192. Principles of Drug Discovery and Development

Neurobiology

Neurobiology Department courses numbered 100 and above

*Life Sciences 1a. An Integrated Introduction to the Life Sciences: Chemistry, Molecular Biology, and Cell Biology
*Life Sciences 1b. An Integrated Introduction to the Life Sciences: Genetics, Genomics, and Evolution
*MCB 80. Neurobiology of Behavior
*MCB 81. Fundamentals of Neuroscience
Neurobiology 101. Auditory Neurobiology
BCMP 213. Behavioral Pharmacology
Life Sciences 100. Experimental Research in the Life Sciences
MCB 105. Systems Neuroscience
MCB 115. Cellular Basis of Neuronal Function
MCB 125. Molecular Basis of Behavior
MCB 129. The Brain: Development, Plasticity and Decline
MCB 145. Neurobiology of Perception and Decision Making
MCB 146. Experience-Based Brain Development: Causes and Consequences
MCB 148. The Neurobiology of Pain
MCB 170. Brain Invaders: Building and Breaking Barriers in the Nervous System
MCB 186. Circadian Biology: From Cellular Oscillators to Sleep Regulation
OEB 57. Animal Behavior
OEB 105. Neurobiology of Motor Control
OEB 223. Topics in Neurogenetics
Physics 141. The Physics of Sensory Systems in Biology
Psychology 1052. The Application of fMRI in Cognitive Neuroscience Research
Psychology 1201. Your Brain on Drugs: Psychopharmacology
Psychology 1304. Brain Damage as a Window into the Mind: Cognitive Neuropsychology
Psychology 1430. Human Memory and Amnesia
Psychology 1452. The Human Face
SCRB 180. Regeneration and Repair in the Mammalian Brain
SCRB 182. Got (New) Brain? The Evolution of Brain Regeneration

Organismic and Evolutionary Biology

Oganismic and Evolutionary Biology Department courses numbered 100 and above

*OEB 10. Foundations of Biological Diversity
OEB 50. Genetics and Genomics
OEB 51. Biology and Evolution of Invertebrate Animals
OEB 52. Biology of Plants
OEB 53. Evolutionary Biology
OEB 54. Biology of the Fungi
OEB 55. Ecology: Populations, Communities, and Ecosystems
OEB 56. Geobiology and the History of Life
OEB 57. Animal Behavior
OEB 59. Plants and Human Affairs

Physics

Physics Department Courses numbered 100 and above

Physical Sciences 2. Mechanics, Elasticity, Fluids, and Diffusion
Physical Sciences 3. Electromagnetism, Waves, Imaging, and Information
Physical Sciences 12a. Mechanics from an Analytic, Numerical, and Experimental Perspective
*Physics 15a. Introductory Mechanics and Relativity
*Physics 15b. Introductory Electromagnetism
Physics 15c. Wave Phenomena
Physics 16. Mechanics and Special Relativity
Applied Physics 50a. Physics as a Foundation for Science and Engineering, Part I
Applied Physics 50b. Physics as a Foundation for Science and Engineering, Part II
Applied Physics 195. Introduction to Solid State Physics
Astronomy 191. Astrophysics Laboratory
Chemistry 160. The Quantum World
Chemistry 161. Statistical Thermodynamics
Chemistry 163. Frontiers in Biophysics
Chemistry 165. Experimental Physical Chemistry
Earth and Planetary Sciences 131. Introduction to Physical Oceanography and Climate
Engineering Sciences 120. Introduction to the Mechanics of Solids
Engineering Sciences 123. Introduction to Fluid Mechanics and Transport Processes
Engineering Sciences 154. Electronic Devices and Circuits
Engineering Sciences 173. Electronic and Photonic Devices
Engineering Sciences 181. Engineering Thermodynamics
Engineering Sciences 190. Introduction to Materials Science and Engineering

Stem Cell and Regenerative Biology

Stem Cell and Regenerative Biology Department courses numbered 100 and above

SCRB 10. Human Developmental and Regenerative Biology
SCRB 20. Molecular Genetics and Genomics in Development and Disease
SCRB 25. Biochemistry and Human Metabolism
SCRB 60. Ethics, Biotechnology, and the Future of Human Nature
SCRB 91r. Introduction to Research
Biomedical Engineering 110. Physiological Systems Analysis
Biomedical Engineering 121. Cellular Engineering
Biomedical Engineering 125. Tissue Engineering
Biomedical Engineering 130. Neural Control of Movement
Biomedical Engineering 153. Bioelectromagnetics
Biomedical Engineering 160. Chemical Kinetics and Reactor Design
Biomedical Engineering 191. Introduction to Biomaterials
Engineering Sciences 53. Quantitative Physiology as a Basis for Bioengineering