GLOBAL HEALTH STUDIES

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GLOBAL HEALTH STUDIES MULTIDISCIPLINARY ACADEMIC PROGRAM
Issues related to health are among the most important challenges facing societies, both domestically and globally. Finding solutions to health-related problems requires multidisciplinary comprehension of all dimensions of health, including biological and social determinants, economics and politics of health care systems and health care delivery, and ways in which health is understood by individuals, societies, and cultures.

The Global Health Studies program facilitates global health education for undergraduates at Yale, offering interdisciplinary courses that bring together the natural sciences, social sciences, and the humanities. The GHS program is designed for students interested in critically and analytically engaging in global health. The program supports students in developing and balancing an appreciation for biomedical and technical issues related to diseases, their treatment and prevention, with an understanding of the historical, social, economic, and political concerns that are implicated in how health is determined and experienced in the twenty-first century. Students choose a major in another department or program and expand their education with courses offered by Global Health Studies.

Although most courses in global health are open to all undergraduates, students desiring greater depth in the field are encouraged to apply to become a Global Health Scholar, typically in the fall of their sophomore year. Global Health Scholars complete an interdisciplinary course of study that includes required and elective course work that supports students in achieving six global health competencies: Biological & Environmental Influences on Health; Health & Societies; Historical Approaches; Performance, Representation & Health; Political Economy & Governance in Health; Understanding & Interpreting Quantitative Data. Moreover, in the summer after junior year, Global Health Scholars pursue an experiential learning project (e.g., internships with NGOs, archival research, field-based projects with faculty, etc.), for which they can receive support in the form of designated funding and mentorship from a global health adviser. During their senior year, students enroll in a colloquium course in which they develop a capstone project that meaningfully integrates their experiential learning project with other skills and knowledge acquired through the GHS program.

To assist students in connecting classroom knowledge and skills with practical work in global health, the Global Health Studies program supports fellowships such as the Global Health Field Experience Award and the Yale College Fellowships for Research in Global Health Studies.

Qualified students may take graduate courses at the School of Public Health, subject to restrictions on graduate and professional school enrollment described in the Academic Regulations. Further information about these courses and other graduate offerings can be found in the School of Public Health bulletin. For information about the five-year B.A.–B.S./M.P.H. program offered jointly with the School of Public Health, see Public Health.

Students in the Class of 2020 follow the requirements listed below, with the addition of HLTH 240 and two electives (not three), as listed on the Global Health Studies website.

The requirements below apply to students in the Class of 2021 and beyond.

REQUIREMENTS OF THE PROGRAM
Prerequisite None
Number of courses 6 courses (inc senior req)
Specific course required HLTH 230
Distribution of courses 4 electives to achieve the six global health competencies as indicated
Other requirement Experiential learning project the summer after junior year (minimum 8 weeks)
Senior requirement Senior colloquium course (1 semester) and capstone project

Global Health Studies Courses
* HLTH 081a, Current Issues in Medicine and Public Health Robert Bazell
Analysis of issues in public health and medicine that get extensive media attention and provoke policy debates. Topics include vaccination, the value of cancer screening and genetic testing, determinants of a healthy lifestyle, the U.S. role in global health, and the cost of health care. Students critique and produce medical journalism. Enrollment limited to first-year students with a score of 4 or 5 on the Advanced Placement examination in Biology or the equivalent. Preregistration required; see under First-Year Seminar Program.
Introduction to the field of public health. The social causes and contexts of illness, death, longevity, and health care in the United States today. How social scientists, biologists, epidemiologists, public health experts, and doctors use theory to understand issues and make causal inferences based on observational or experimental data. Biosocial science and techniques of big data as applied to health.

* HLTH 152a / EREB 106a / MCDB 106a, Biology of Malaria, Lyme, and Other Vector-Borne Diseases  
Alexia Belperron  
Introduction to the biology of pathogen transmission from one organism to another by insects; special focus on malaria, dengue, and Lyme disease. Biology of the pathogens including modes of transmission, establishment of infection, and immune responses; the challenges associated with vector control, prevention, development of vaccines, and treatments. Intended for non-science majors; preference to freshmen and sophomores. Prerequisite: high school biology.

HLTH 230b / GLBL 233b, Global Health: Challenges and Responses  
Kristina Talbert-Slagle  
Overview of the determinants of health and how health status is measured, with emphasis on low- and middle-income countries. The burden of disease, including who is most affected by different diseases and risk factors; cost-effective measures for addressing the problem. The health of the poor, equity and inequality, and the relationship between health and development.

* HLTH 240b / GLBL 193b, Epidemiology and Public Health  
Marney White  
A general introduction to epidemiology and the field of public health. Methods of epidemiological investigation, research, and practice. Emphasis on study design and the skills necessary for the conduct of mentored field research. Priority to Global Health Fellows.

* HLTH 250a / E&EB 253a, Evolution and Medicine  
Stephen Stearns  
Introduction to the ways in which evolutionary science informs medical research and clinical practice. Diseases of civilization and their relation to humans’ evolutionary past; the evolution of human defense mechanisms; antibiotic resistance and virulence in pathogens; cancer as an evolutionary process. Students view course lectures on line; class time focuses on discussion of lecture topics and research papers. Prerequisite: BIOL 101–104.

* HLTH 322a / EVST 333a, Climate Change Adaptation and Global Health  
Steve Whittaker  
Climate change has the observable potential to increase the frequency and intensity of extreme weather events such as hurricanes, heat waves, droughts, frosts, and floods. In response, many concerned citizens, communities, scientific consortia, industries, and governments around the world have sought to adapt to climate change for the sake of global well-being. This course examines climate change adaptation as a risk management strategy; how it builds resilience where there was vulnerability. Health protective activities resulting from thoughtful, interdisciplinary approaches that consider political, commercial, and socio-cultural factors are held as the ideal among all adaptive responses. Scope includes but is not limited to dynamics in the U.S., Latin America, Asia, and the Caribbean. Throughout the semester, participants engage in lectures, discussions, interactive exercises, and collaborative presentations. Enrollment is open to junior and senior undergraduates of Yale University, with preference given to Jackson Institute Global Health Studies Scholars. Non-Global Health Studies Scholars require permission to enroll and should contact the instructor (steve.whittaker@yale.edu) with a brief statement of interest. Cap of 18 students.

* HLTH 485b, Global Health Justice: Advocacy, Power, and Change  
Alice Miller  
This class provides Yale College seniors (with priority given to Global Health Studies Scholars) the opportunity to comprehensively interrogate critical topics at the intersection of global health, policy, and justice with a focus on advocacy as a tool, and health equity as a goal. Through a weekly seminar (with readings, case studies, guest lectures, and seminar-style discussion), students develop the knowledge and tools to engage critically and constructively with the ideas and practices constituting advocacy, movement-building, and policy-making in global health, and work to develop a capstone project in which they explore and/or present various forms of policy development, strategic advocacy, and/or claims-making in global health. Course readings and approaches draw from human rights, public health, historical, anthropological, and other critical frames in order to introduce students to the multiple lenses through which questions of global health justice can be addressed. This course is designed to encompass diverse disciplinary perspectives and approaches: final products can be theoretically focused or analytic papers, strategic development/arguments for policy development and/or assessment of historical or archival research. This course is a requirement for all Global Health Studies Scholars who are graduating seniors and who did not complete HLTH 490 in Fall 2018. Yale College seniors who are not Global Health Studies Scholars but who have significant interest and prior coursework in global health, as well as ideas for a final project, can write to the instructors sharing their relevant background and requesting permission to enroll. Cap of 15 students.

* HLTH 490a, Global Health Research Colloquium  
Leslie Curry  
This course is designed for Yale College seniors or graduate students who are synthesizing data from global health fieldwork and preparing manuscripts that are suitable for submission to a peer-reviewed journal. Enrollment is limited to 18, and preference will be given to Global Health Fellows. The course meets weekly, but the format of individual course sessions changes as described in detail in the syllabus. Students will receive one-on-one instruction and mentorship from one of the course professors, participate in peer-review in small work groups, give a research-in-progress presentation, and develop a manuscript suitable for publication in a peer-reviewed journal. Priority will be given to Global Health Fellows. Students must have completed global health fieldwork.
Related Courses

* **ANTH 386a / GLBL 393a, Humanitarian Interventions: Ethics, Politics, and Health**  Catherine Panter-Brick
  Analysis of humanitarian interventions from a variety of social science disciplinary perspectives. Issues related to policy, legal protection, health care, morality, and governance in relation to the moral imperative to save lives in conditions of extreme adversity. Promotion of dialogue between social scientists and humanitarian practitioners. **WR, SO**

* **BENG 405b / EVST 415b, Biotechnology and the Developing World**  Angelica Gonzalez
  Study of technological advances that have global health applications. Ways in which biotechnology has enhanced quality of life in the developing world. The challenges of implementing relevant technologies in resource-limited environments, including technical, practical, social, and ethical aspects. Prerequisite: MCDB 120, or BIOL 101 and 102.

**ECON 170a, Health Economics and Public Policy**  Howard Forman
  Application of economic principles to the study of the U.S. health care system. Emphasis on basic principles about the structure of the U.S. system, current problems, proposed solutions, and the context of health policy making and politics. After introductory microeconomics. **SO**

**ECON 325b / EP&E 321b / GLBL 322b / PLSC 185b / SAST 281b, Economics of Developing Countries: Focus on South Asia**  Zachary Barnett-Howell
  Analysis of current problems of developing countries. Emphasis on the role of economic theory in informing public policies to achieve improvements in poverty and inequality, and on empirical analysis to understand markets and responses to poverty. Topics include microfinance, education, health, agriculture, intrahousehold allocations, gender, and corruption. Prerequisites: introductory microeconomics and introductory econometrics. **SO**

* **ECON 461b, Economics, Addiction, and Public Policy**  Jody Sindelar
  Smoking, alcoholism, illicit drugs, and obesity studied from economic and policy perspectives. Focus on causes of and solutions to problems. After introductory microeconomics. **SO**

**ENVE 441a, Biological Processes in Environmental Engineering**  Jordan Peccia
  Fundamental aspects of microbiology and biochemistry, including stoichiometry, kinetics, and energetics of biochemical reactions, microbial growth, and microbial ecology, as they pertain to biological processes for the transformation of environmental contaminants; principles for analysis and design of aerobic and anaerobic processes, including suspended- and attached-growth systems, for treatment of conventional and hazardous pollutants in municipal and industrial wastewaters and in groundwater. Prerequisites: CHEM 161, 165, or 163, 167 (or CHEM 112, 113, or 114, 115, or 118); MCDB 290 or equivalent; or with permission of instructor. **SC**

**EVST 255b / F&ES 255b / GLBL 282b / PLSC 215b, Global Food Challenges: Environmental Politics and Law**  John Wargo
  We explore relations among food, environment, health, and law. We consider global-scale avoidable challenges such as: starvation and malnutrition, obesity, other food related human diseases, climate instability, soil loss, water depletion and contamination, microbial hazards, chemical contamination, food waste, dietary convergence, air pollution, energy, packaging, culinary globalization, and biodiversity loss. We focus on laws that influence the world's food system, including those intended to reduce or prevent environmental and health damages. Other laws protect rights of secrecy, property, speech, confidential business information, free trade, worker protection, equal opportunity, and freedom from discrimination. Ethical concerns of justice, equity, and transparency are prominent themes. Examples of effective law, consumer movements and corporate innovations provide optimism for the future of responsible food. **SO**

* **EVST 261a / F&ES 261a / G&G 261a, Minerals and Human Health**  Ruth Blake
  Study of the interrelationships between Earth materials and processes and personal and public health. The transposition from the environment of the chemical elements essential for life. After one year of college-level chemistry or with permission of instructor; G&G 110 recommended. **SC**

* **GLBL 306a / AFST 306a, Social Enterprise in Developing Economies II**  Robert Hopkins
  Summer research developed into a case-study project on a topic related to the use of social enterprise in regional economic development. GLBL 305

**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**

* **MCDB 050a, Immunology and Microbes**  Paula Kavathas
  Introduction to the immune system and its interaction with specific microbes. Attention both to microbes that cause illness, such as influenza, HIV, and HPV, and to microbes that live in harmony with humans, collectively called the microbiome. Readings include novels and historical works on diseases such as polio and AIDS. Enrollment limited to first-year students. Preregistration required; see under First-Year Seminar Program. **SC RP**

**MCDB 290b, Microbiology**  John Wertz and Murat Acar
  Cell structure of bacteria, bacterial genetics, microbial evolution and diversity, bacterial development, microbial interaction, chemotaxis and motility, gene regulation, microbial genomics and proteomics, CRISPR, metabolism, infectious diseases, mechanisms of
pathogenesis, host defense systems, viruses, gut microbiota in health and disease. Prerequisites: BIOL 101, 102, and 103, or equivalent performance on the corresponding biological sciences placement examinations; or one term of biochemistry, or cell biology, or genetics; or with permission of instructor.  SC

PLSC 257b, Bioethics and Law  Stephen Latham
The treatment by American law of major issues in contemporary biomedical ethics: informed consent, assisted reproduction, abortion, end-of-life care, research on human subjects, stem cell research, and public health law. Readings include legal cases, statutes, and regulations. No background in law assumed.  SO

[ PSYC 355, Clinical Psychology in the Community ]