

Competency 1	Competency 2	Course Title	Course Number	Instructors	Distributional Requirements	Course description from courses.yale.edu/
Biological & Environmental Influences on Health	Understanding & Interpreting Quantitative Data	Air Pollution and Public Health	EHS 530	Krystal Pollitt		This course discusses major emission sources, atmospheric transformation and transport, measurement and modeling techniques for human exposure assessment, and the health impacts of air pollutants. Emphasis is placed on students gaining hands-on experience with measurement (e.g., low-cost sensors, passive samplers) and spatial analysis tools (e.g., ArcGIS) for application to research, public health practice, and community engagement. Through a series of laboratory sessions, students quantitatively characterize indoor and outdoor exposure concentrations and learn methods to critically assess data quality. The public health implications of air pollutant exposure are examined through review of recent epidemiological and toxicological research.
Biological & Environmental Influences on Health		Biology of Malaria, Lyme, and Other Vector-Borne Diseases	HLTH 155, MCDB 106, E&EB 106		SC	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.
Biological & Environmental Influences on Health		Biology of the Immune System	MCDB 430	Aaron Ring et al.	SC	The development of the immune system. Cellular and molecular mechanisms of immune recognition. Effector responses against pathogens. Immunologic memory and vaccines. Human diseases including allergy, autoimmunity, immunodeficiency, and HIV/AIDS. After MCDB 300.
Biological & Environmental Influences on Health	Political Economy & Governance in Health	Clinic in Climate Justice, Climate Policy, Law, and Public Health	EPH 555, EVN 959	Robert Dubrow, Laura Bozzi, Marianne Engelman-Lado		This course is an innovative collaboration between Yale School of Public Health, Yale School of the Environment, and Vermont Law School, and includes students from both Yale and Vermont Law School. In the course, interdisciplinary student teams carry out applied projects that incorporate elements of climate justice, climate policy, and/or law with public health. Each team works with a partner organization (e.g., state agency, community organization, other nongovernmental organization) or on an ongoing project of the Yale Center on Climate Change and Health and/or the Vermont Law School Environmental Justice Clinic. A given team may include students from one institution or from both institutions, in which case team members work together remotely. The course affords the opportunity to have a real-world impact by applying concepts and competencies learned in the classroom. This course should be of interest to graduate and professional students across the University and is open to Yale College juniors and seniors.
Biological & Environmental Influences on Health	Political Economy & Governance in Health	Environmental Justice in South Asia	ANTH 322, SAST 306, EVST 324	Kalyanakrishnan Sivaramakrishnan		Study of South Asia's nation building and economic development in the aftermath of war and decolonization in the 20th century. How it generated unprecedented stress on natural environments; increased social disparity; and exposure of the poor and minorities to environmental risks and loss of homes, livelihoods, and cultural resources. Discussion of the rise of environmental justice movements and policies in the region as the world comes to grips with living in the Anthropocene.

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Biological & Environmental Influences on Health	Political Economy & Governance in Health	Environmental Law and Politics: Global Food Challenges	EVST 255, F&ES 255, GBLB 282, PLSC 215	John Wargo	SO	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.
Biological & Environmental Influences on Health		Epigenetics	MCDB 350, MCDB 650	Nadya Dimitrova, Yannick Jacob, Josien van Wolfswinkel	SC	Study of epigenetic states and the various mechanisms of epigenetic regulation, including histone modification, DNA methylation, nuclear organization, and regulation by non-coding RNAs. Detailed critique of papers from primary literature and discussion of novel technologies, with specific attention to the impact of epigenetics on human health. Introductory courses (BIOL 101-104) and two MCDB 200-level courses (strongly recommended: MCDB 202 and MCDB 200 or MCDB 210) or instructor permission.
Biological & Environmental Influences on Health		Evolution and Medicine	HLTH 250, E&EB 335, E&EB 635	Stephen Stearns	SC, WR	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.
Biological & Environmental Influences on Health	Understanding & Interpreting Quantitative Data	Evolution of the Human Diet	ANTH 665	Jessica Thompson		This course examines human nutrition and subsistence behavior from an evolutionary perspective. It begins with human nutritional literature and discussions of our biological requirements, then moves into comparison of modern human dietary ecology with those of other primates, especially our closest living relatives, the great apes. We then turn to literature that demonstrates the methods and theoretical approaches that are currently used to reconstruct past diets. As we begin to follow the evidence for changes in subsistence in the hominin lineage, case studies using these methods are integrated into discussions of how we know what we do about past nutrition. The course spends time on key issues and debates such as changes from closed-habitat to open-habitat foraging, the origins of meat-eating, the role of extractive foraging in human social systems, variation in hunter-forager subsistence systems, the origins of domestication, and the phenomenon of fad diets in industrialized nations. The course is delivered in a seminar-style format, with key readings each week that follow topical themes, with assessment based on in-class participation, critical essays, and a final research project.
Biological & Environmental Influences on Health		Human Evolutionary Biology and Life History	ANTH 242	Claudia Valeggia	SC, SO	The range of human physiological adaptability across environments and ecologies. Effects of energetic constraints on growth, reproduction, and behavior within the context of evolution and life history theory, with special emphasis on traditional non-Western societies.

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Biological & Environmental Influences on Health		Minerals and Human Health	EPS 261, EVST 261, F&ES 261	Ruth Blake	SC	<p>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.</p> <p>After one year of college-level chemistry or with permission of instructor; EPS 110 recommended.</p>
Biological & Environmental Influences on Health		Physiology for Public Health	CDE 502	Catherine Yeckel		<p>The objective of this course is to build a comprehensive working knowledge base for each of the primary physiologic systems that respond to acute and chronic environmental stressors, as well as chronic disease states. The course follows the general framework: (1) examine the structural and functional characteristics of given physiological system; (2) explore how both structure and function (within and between physiological systems) work to promote health; (3) explore how necessary features of each system (or integrated systems) are points of vulnerability that can lead to dysfunction and disease. In addition, this course offers the opportunity to examine each physiological system with respect to influences key to public health interest, e.g., age, race/ethnicity, environmental exposures, chronic disease, microbial disease, and lifestyle, including the protection afforded by healthy lifestyle factors.</p>
Biological & Environmental Influences on Health		Water, Sanitation, and Global Health	EHS 537, EMD 537	Ying Chen, Elsie Wunder		<p>Water is essential for life, and yet unsafe water poses threats to human health globally, from the poorest to the wealthiest countries. More than two billion people around the world lack access to clean, safe drinking water, hygiene, and sanitation (WASH). This course focuses on the role of water in human health from a public health perspective. The course provides a broad overview of the important relationships between water quality, human health, and the global burden of waterborne diseases. It discusses the basics of water compartments and the health effects from exposures to pathogenic microbes and toxic chemicals in drinking water. It also covers different sanitation solutions to improve water quality and disease prevention and discusses future challenges and the need for intervention strategies in the new millennium.</p>
Health & Societies	Historical Approaches	Global Health Ethics	HLTH 420, EP&E 346	Cara Kiernan Fallon	SO, WR	<p>When a new virus sweeps the globe, how should physicians, governments, and societies respond? What are an individual's rights and responsibilities in the face of illness, and how do public health organizations prioritize competing claims? How should issues of consent, quarantine, compulsory treatment, and surveillance be managed, and how do these issues change as they transcend geographic borders? This seminar examines critical issues in global health through the method of ethical analysis. The course begins with the foundations for analyzing ethical problems, considering moral and ethical frameworks for health. We examine dilemmas such as quarantines, access to care, and the limits of autonomy, and we delve into critical challenges of vulnerable populations and global inequities. We conclude by analyzing emerging tensions posed by artificial intelligence and digital health technologies. Drawing together global health perspectives and ethical analysis, we consider the principles, tradeoffs, and central tensions that inform global health today.</p>

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Health & Societies		Health and Illness in Social Context	ER7M 127, SOCY 127, EVST 127, WGSS 127	Alka Menon	SO	Present-day medicine and health care provide solutions to an ever-increasing array of human problems. Yet the achievement of health can be elusive. This course provides a broad introduction to the domains of health and illness in the U.S., with some coverage of international trends and topics. Students analyze how our personal health and public health are shaped by social structures, political struggles, expert knowledge, and medical markets. Topics include the cultural and social meanings associated with health and illness; inequalities in health and health care access and provision; controversies surrounding healthcare, medical knowledge production, and medical decision-making; and the social institutions of the health care industry.
Health & Societies	Historical Approaches	Health and Incarceration in US History	HIST 195J, HSHM 436	Miriam Rich	HU, WR	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.
Health & Societies		Healthcare for the Urban Poor	HIST 150J, HSHM 406	Sakena Abedin	HU, WR	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.
Health & Societies		Inequality in America	ANTH 366	Kathryn Dudley	SO	Sociocultural dimensions of social inequality in the contemporary United States. Ways in which the socioeconomic processes that produce inequality are inextricably embedded in worlds of cultural meaning; how those meanings are constructed and embodied in everyday practice. Perspectives from anthropology, sociology, economics, history, and popular media.
Health & Societies		Psychology of Prejudice, Stereotyping, and Discrimination	PSYC 429	Jennifer Richeson		Examination of the social psychology of stereotyping, prejudice, and discrimination. Specifically, the processes of mind and brain that give rise to both positive and negative relations between members of different societal groups. PSYC 110, PSYC 200 (or equivalent), PSYC 235 (or equivalent), PSYC 150 (recommended)
Health & Societies		Race, Ethnicity, and Immigration	EDST 144, SOCY 144, ER&M 211, EVST 144	Grace Kao	SO	Exploration of sociological studies and theoretical and empirical analyses of race, ethnicity, and immigration, with focus on race relations and racial and ethnic differences in outcomes in contemporary U.S. society (post-1960s). Study of the patterns of educational and labor market outcomes, incarceration, and family formation of whites, blacks (African Americans), Hispanics, and Asian Americans in the United States, as well as immigration patterns and how they affect race and ethnic relations.

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Health & Societies		Social Justice and Health Equity	EPH 507	Dayna Keene		This course outlines the social and structural determinants related to health inequities in the United States and globally. Conceptual, theoretical, methodological, and empirical approaches to understanding social justice and health equity are explored, with a focus on health determinants including health care, social class, poverty, oppression and power, stigma and discrimination, and neighborhood and social factors. The course takes a multidisciplinary approach, integrating methods and research from epidemiology, social sciences, and medicine to explore the individual, interpersonal, community, and societal influences that lead to healthy and unhealthy outcomes.
Health & Societies	Historical Approaches	The Problem of Global Poverty	HIST 415J, AMST 318	Joanne Meyerowitz	HU, WR	<p>Study of the programs and policies that aimed to end global poverty from 1960 to the present, from modernization to microcredit to universal basic income. Topics include the green revolution, population control, the "women in development" movement, and the New International Economic Order. Extensive work with primary sources.</p> <p>May count toward geographical distributional credit within the History major for any region studied, upon application to the director of undergraduate studies.</p>
Health & Societies		Writing Seminars: Magic, Shamanism, & Medicine	ENGL 114	Larissa Tsukamoto	WR	Why are some healing practices seen as more legitimate than others? Has modern science really changed the way we look at healing? Is there a place today for so-called alternative medicine, like acupuncture? This course will explore the theory and history of diverse modalities of non-allopathic (non-mainstream) healing across time and space: from Medieval magic and amulets to Reiki and New Age crystals; Abbasid therapeutic music to modern music therapy; Traditional Chinese Medicine to Western herbalism; and Shamanism to neuroscience. Readings will draw from accounts by patients and their families, manuals and memoirs by care providers, and scientific studies. Throughout this course, we will explore the intersection of spirituality, science, and medicine. What contributions did non-European cultures have on Western medicine? What are the arguments of the proponents and skeptics of traditional healing practices? Together we will question assumptions about the users and practitioners of Western and complementary medicine.
Historical Approaches	Political Economy & Governance in Health	Africa, Politics, Anthropology	ANTH 439	Louisa Lombard	SO	Historical-anthropological study of politics in Africa since the early nineteenth century. The creation and operation of African states; the negotiation of legitimacy, authority, and belonging by state agents and the people they govern; anthropological theories about the workings of African politics, including the involvement of both state and nonstate actors.
Historical Approaches		African Independence: A Cup of Plenty or a Poisoned Chalice?	HIST 344	Benedito Machava	HU	In every African colony after World War Two there emerged nationalist movements which no longer called for civil rights as in the pre-war years but demanded self-determination. While many of them got it easy, some had to fight long and bloody wars for it. By the 1960s the colonial edifice had crumbled except for the few settler colonies in southern Africa. But even here the winds of change could not be stopped. But what did decolonization and independence mean to Africa? Did Africans get what they wanted? Was independence a cup of plenty or a poisoned chalice? In addressing these questions, this course charts the economic, political, and cultural transformations of postcolonial Africa from the 1960s to the present. The argument is this: there can be no understanding of Africa's challenges today without an inquiry into the nature of what the continent got from the departing colonial powers.

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Historical Approaches	Health & Societies	Childbirth in America, 1650-2000	HSHM 496, HIST 110J	Rebecca Tannenbaum	HU, WR	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.
Historical Approaches	Health & Societies	Cultures of Western Medicine	HIST 244, HSHM 321	John Warner	HU, WR	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.
Historical Approaches	Health & Societies	Epidemics and the Early Modern Body	HIST 924, HSHM 768	Paola Bertucci		Epidemics in the history of the early modern world. Focusing on individual epidemics that contributed to shaping the early modern world, students discuss conceptions of the body and racist stereotyping, spaces and strategies of containment, visual and material culture of disease and treatment, and the relationship between public health and the early modern state.
Historical Approaches		Historical Perspectives on Global Health	HIST 146, HSHM 212, ER&M 214, HLTH 280	Joanna Radin	HU	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.
Historical Approaches		Histories of Confinement: From Atlantic Slavery to Social Distancing	HSHM 220, HIST 417, AFST 220	Nana Osei Quarshie	HU	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.
Historical Approaches		Plague in Early Modern Europe	HIST 239J	Peter Sahlins	HU, WR	This course studies the appearance and regular reappearance of plague from the fourteenth to the eighteenth century in Europe. Beyond a basic understanding of the debates over plague's epidemiology and transmission, we develop a multidisciplinary interpretation of the religious, medical, political, and cultural responses to and effects of the plague using a variety of different primary sources. Our concerns are two-fold: to understand daily life in times of plague; and to study plague as an agent of change and its contributions to the making of the modern world.

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Historical Approaches	Health & Societies	Problems in the History of Medicine and Public Health	AMST 877, HSHM 703, HIST 926	John Warner		An examination of the variety of approaches to the social, cultural, and intellectual history of medicine, focusing on the United States. Reading and discussion of the recent scholarly literature on medical cultures, public health, and illness experiences from the early national period through the present. Topics include the role of gender, class, ethnicity, race, religion, and region in the experience of health care and sickness and in the construction of medical knowledge; the interplay between vernacular and professional understandings of the body; the role of the marketplace in shaping professional identities and patient expectations; health activism and social justice; citizenship, nationalism, and imperialism; and the visual cultures of medicine.
Performance Representation & Health		Challenges to Realism in Contemporary African Fiction	AFST 449, AFAM, 449, ENGL 378	Stephanie Newell	HU, WR	Introduction to experimental African novels that challenge realist and documentary modes of representation. Topics include mythology, gender subversion, politics, the city, migration, and the self. Ways of reading African and postcolonial literature through the lenses of identity, history, and nation. Formerly ENGL 449.
Performance Representation & Health	Health & Societies	Intersectionality and Women's Health	ANTH 451, WGSS 431, ANTH 651, WGSS 651	Marcia Inhorn	SO	The intersections of race, class, gender, and other axes of "difference" and their effects on women's health, primarily in the contemporary United States. Recent feminist approaches to intersectionality and multiplicity of oppressions theory. Ways in which anthropologists studying women's health issues have contributed to social and feminist theory at the intersections of race, class, and gender.
Performance Representation & Health		Literature Seminars: Pandemic Literature	ENGL 115	Ryan Wepler	HU, WR	Narratives about mass illness and death challenge us to face truths that, until recently, had been obscured by the order of everyday life: they force us to confront the nature of existence when disaster has subverted norms and shattered the social order; they explore possibilities for creation and adaptation in a world freed from the constraints of materialism and conventional thinking; and they provoke us to make sense of not just our own death, but the death of our society—thereby challenging the adage "you die alone." In this course, we'll encounter plagues of sickness, sleep, blindness, and death—events that double as outbreaks of tyranny, generosity, violence, and beauty. We'll consider the relationships between suffering and self-knowledge; destruction and imagination; terror and freedom—all while seeking to understand how reading literature can help us make sense of the present. Preregistration required; see under English Department.
Performance Representation & Health	Health & Societies	Politics of Reproduction	ER&M 360, HTLH 370, HSHM 432, SOCY 390	Rene Almeling	SO, WR	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.

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Performance Representation & Health	Health & Societies	Sexuality, Gender, Health, and Human Rights	GLBL 529, WGSS 529, SBS 585	Ali Miller		This course explores the application of human rights perspectives and practices to issues in regard to sexuality and health. Through reading, interactive discussion, paper presentation, and occasional outside speakers, students learn the tools and implications of applying rights and law to a range of sexuality and health-related topics. The overall goal is twofold: to engage students in the world of global sexual health and rights policy making as a field of social justice and public health action; and to introduce them to conceptual tools that can inform advocacy and policy formation and evaluation. Class participation, short reaction papers, and a final paper are required.
Performance Representation & Health		We Interrupt this Program: The Multidimensional Histories of Queer and Trans Politics	AFAM 115, WGSS 125	Roderick Ferguson	HU	In 1991, the arts organizations Visual AIDS and The Kitchen collaborated with video artist and filmmaker Charles Atlas to produce the live television broadcast "We Interrupt this Program." Part educational presentation, part performance piece, the show was aired in millions of homes across the nation. The program, in The Kitchen's words, "sought to feature voices that had often been marginalized within many discussions of AIDS, in particular people of color and women." This course builds upon and is inspired by this aspect of Atlas's visionary presentation, an aspect that used the show to produce a critically multicultural platform that could activate cultural histories and critical traditions from various communities. In effect, the course uses this aspect as a metonym for the racial, gender, sexual, and class heterogeneity of queer art and organizing. It conducts its investigation by looking at a variety of primary materials that illustrate the heterogeneous makeup of queer and trans politics. The course also draws on more recent texts and visual works that arose from the earlier contexts that the primary texts helped to illuminate and shape.
Performance Representation & Health	Historical Approaches	Writing Seminars: Narrative and Medicine	ENGL 114	Matthew Morrison	WR	In this Writing Seminar, we will focus on writing well-reasoned analyses and essays, with emphasis on the importance of reading, research, and revision. We will read major authors and texts that define the modern medical humanities, with primary works by Mikhail Bulgakov, Henry Marsh, Atul Gawande, and Lisa Sanders. Other topics will include the philosophy of science (with a focus on Karl Popper), rationalism and romanticism (William James), and epistemology and scientism (Wittgenstein). Preregistration required; see under English Department.
Political Economy & Governance in Health		Africa in International Relations	AFT 175, PLSC 175	David Simon	SO	This courses examines key facets of how African countries interact with the rest of the world, and with other countries on the continent. Focusing mostly on Sub-Saharan African countries, it looks at international economic relations (focusing on aid but also addressing trade, investment, and debt); peacemaking and peacebuilding; and regional governance institutions.
Political Economy & Governance in Health		Bioethics, Politics, and Economics	PLSC 313, EP&E 380	Stephen Latham	SO	Ethical, political, and economic aspects of a number of contemporary issues in biomedical ethics. Topics include abortion, assisted reproduction, end-of-life care, research on human subjects, and stem cell research.

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Political Economy & Governance in Health		Data Governance in the Digital Age	GLBL 395	Nathaniel Raymond	SO	The information revolution is causing the rapid mass adoption of information communication technologies (ICTs) across nations, demographics, and sectors in the early 21st Century—such as mobile devices, social media platforms, “big data,” artificial intelligence (AI), and machine learning, geospatial mapping applications, and the Internet of Things (IoT). However, 20th Century international data governance policies, normative frameworks, and domestic regulations are struggling to keep pace with the disruptive impacts ICTs are having on an increasingly digitally networked world. This seminar explores critical issues, trends, and events relevant to both the adaption of existing data governance regimes to meet these challenges and the creation of new regimes by international organizations, the private sector, civil society, and national governments. The primary learning goal of the course is to equip students with the skills to critically read and apply extant international data governance policies in concrete sector-specific contexts (i.e. corporate, governmental, humanitarian, development, etc.). Additionally, students learn to identify gaps in current regimes and to be literate in the major ongoing debates on these issues at the United Nations, the EU, the United States Congress, and other critical loci of policy development.
Political Economy & Governance in Health	Biological & Environmental Influences on Health	Democracy and Sustainability	EVST 212, PLSC 212, EP&E 390	Michael Fotos	SO, WR	Democracy, liberty, and the sustainable use of natural resources. Concepts include institutional analysis, democratic consent, property rights, market failure, and common pool resources. Topics of policy substance are related to human use of the environment and to U.S. and global political institutions.
Political Economy & Governance in Health		Food and Drug Administration Law	HPM 595	Aaron Kesselheim		The Food and Drug Administration (FDA) is the premier consumer protection agency in the United States, with control over the availability and public discourse about potentially lifesaving therapeutics, foods, supplements, and related consumer products. Its authority has been built in response to public health crises and is constantly under scrutiny from all sides of the political spectrum. The class reviews the history of the FDA’s regulation over the health care products market, the noteworthy legislation that has shaped its oversight in this area, Supreme Court and other cases that have impacted its authority, and an introduction to key current controversies related to the FDA that affect health care delivery. (This course does not cover food law.) The enduring theme is how the FDA balances its vital public safety role against countervailing forces of personal autonomy and the rights or interests of consumers, patients, physicians, and corporations. Each class is organized around interactive discussion introducing students to the material, including hypothetical cases that require students to apply the day’s lessons and themes in determining legal and policy solutions.
Political Economy & Governance in Health		Health Economics and Public Policy	ECON 170	Howard Forman	SO	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.
Political Economy & Governance in Health		Humanitarian Interventions: Ethics, Politics, and Health	ANTH 386, GLBL 393	Catherine Panter-Brick	SO, WR	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.

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Political Economy & Governance in Health		Political Economy of Poverty Alleviation	PLSC 423, EP&E 243, GLBL 336, LAST 423	Ana De La O	SO	Overview of classic and contemporary approaches to the question of why some countries have done better than others at reducing poverty. Emphasis on the role of politics.
Political Economy & Governance in Health	Health & Societies	Politics of Global Health	GLBL 366	Vanessa Kerry	SO	Interest in and attention to global health has expanded considerably in recent years. Public and private sector investments in solving global health challenges are increasing. Many of the challenges to solving global health problems though are not only in the resources required to close existing gaps. Politics, policy and power are dominant in the global health sphere. Understanding these dynamics is essential to helping to tackle the world's greatest global health challenges. This course examines the intricate and diverse politics of global health and how they shape our inclination, ability, and direction of response to global health challenges. We explore the historical and current day power dynamics affecting health burdens, and which actually have effects on the health system's ability to care for a population. We explore the principle actors in the global health space, and how they are governed. Discussions also consider how health intersects with economics, national security, the law and regulation, climate change and conflict. Finally we explore the power dynamics within "ourselves" and how health is valued on a personal level through examination of specific countries health systems; we explore how countries have embraced health as a right (or not) and designed their health systems to care for their complete populations (or not).
Political Economy & Governance in Health	Health & Societies	Poverty and Social Welfare Policy in the United States	SOCY 341	Rourke O'Brien		Formation and effectiveness of anti-poverty policies from a sociological and public policy perspective. Consideration of who is poor and who deserves federal assistance. Topics include: origins of the modern social safety net; the federal government's role in constructing and implementing anti-poverty policy; realities of low-wage work; the "culture of poverty;" and employment- and family-based policy strategies for alleviating poverty. Applied understanding of quantitative social science research methods is helpful, but not required.
Political Economy & Governance in Health		Public Health Law	HPM 588	Shelley Geballe		This course focuses on the law as it impacts the health of populations, focusing on the legal powers and duties of federal, state, and local governments to equitably promote and protect the health of their communities, as well as the constitutional constraints on those powers to protect individual rights. It is a course designed specifically for students with no legal training, introducing students to the multiple ways the law acts as a structural and social determinant of health and health inequities as well as how the law can be used as a tool to promote health in individuals and health justice among populations. Tools examined include the use of direct and indirect regulation to alter the information and built environments, control communicable disease, and reduce chronic disease and injury; governments' "power of the purse"—to tax and spend—to fund public health programs and services, and influence individual and corporate behavior; and the role of the courts in interpreting law and resolving disputes among branches and levels of government as well as among individuals, businesses, and government. Prerequisite: HPM 514 or permission of the instructor.

Competency 1	Competency 2	Course Title	Course Number	Instructors	Distributional Requirements	Course description from courses.yale.edu/
Understanding & Interpreting Quantitative Data		Data Exploration and Analysis	S&DS 230/530, PLSC 530, ENV 757	Ethan Meyers	QR	Survey of statistical methods: plots, transformations, regression, analysis of variance, clustering, principal components, contingency tables, and time series analysis. The R computing language and Web data sources are used. Prerequisite: a 100-level Statistics course or equivalent, or with permission of instructor.
Understanding & Interpreting Quantitative Data		Epidemiology and Public Health	HLTH 240, GLBL 193	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.
Understanding & Interpreting Quantitative Data		Interdisciplinary Health Research Topics	HLTH 495	Carolyn Mazure		Empirical research project or literature review. A faculty member who establishes requirements and oversees the student's progress must sponsor each student. Registration requires the completion of the tutorial form with faculty sponsor. Tutorial forms must be submitted to the director of undergraduate studies within five business days from the start of the term. The standard minimum requirement is a written report detailing the completed research or literature review. However, alternate equivalent requirements may be set by faculty sponsors. May be elected for one or two terms. May be repeated for credit. May not be used for a senior requirement.
Understanding & Interpreting Quantitative Data		Introduction to GIS for Public Health	EHS 568	Jill Kelly		This course teaches the use of Geographic Information Systems (GIS), a collection of hardware and software tools that allow users to acquire, manipulate, analyze, and display geographic data in its spatial configuration. Students learn both the theory of geospatial analysis and practical applications of GIS in a public health context.
Understanding & Interpreting Quantitative Data		Introduction to Statistics: Medicine	S&DS 105	Ethan Meyers, Jonathan Ruening-Schrer	QR	Statistical methods used in medicine and medical research. Practice in reading medical literature competently and critically, as well as practical experience performing statistical analysis of medical data.
Understanding & Interpreting Quantitative Data	Political Economy & Governance in Health	Political Economy of Foreign Aid	PLSC 123	Peter Aronow	SO	Introduction to modern quantitative research methods in international political economy, with a focus on empirical evidence related to foreign aid. The state of knowledge regarding the effects of development assistance on democratization, governance, human rights, and conflict. The challenges of drawing causal inferences in the domain of international political economy.
Understanding & Interpreting Quantitative Data		Probability and Statistics	S&DS 238/538	Joseph Chang	QR	Fundamental principles and techniques of probabilistic thinking, statistical modeling, and data analysis. Essentials of probability, including conditional probability, random variables, distributions, law of large numbers, central limit theorem, and Markov chains. Statistical inference with emphasis on the Bayesian approach: parameter estimation, likelihood, prior and posterior distributions, Bayesian inference using Markov chain Monte Carlo. Introduction to regression and linear models. Computers are used for calculations, simulations, and analysis of data. After or concurrently with MATH 118 or 120.

Competency 1	Competency 2	Course Title	Course Number	Instructors	Distributional Requirements	Course description from courses.yale.edu/
Understanding & Interpreting Quantitative Data		Visualization of Political and Social Data	PLSC 349	Alexander Coppock	QR, SO	<p>This course is an introduction to data visualization with a focus on political and social data. Our main textbook is <i>The Visual Display of Quantitative Information</i> by Edward Tufte, a foundational book that explores the history of data visualization and offers a perspective on how graphs should be constructed. We also learn from other visualization pioneers not included in Tufte's review such as W.E.B. Du Bois and Florence Nightingale. Our secondary textbook is the <i>ggplot2</i> book by Hadley Wickham, an indispensable resource for constructing statistical graphs in the programming language R. The main goal of the course is to help students to communicate both "what we know and why we think we know it" through excellent data visualization.</p> <p>Prerequisite: Introductory course in statistics and probability. Background familiarity with learning from random samples and the construction of confidence intervals is useful. Students do not need to know how to program in R as it will be covered extensively.</p>
Required		Global Health Research Colloquium	HLTH 490	Robert Hecht		<p>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.</p> <p>Priority will be given to Global Health Fellows. Students must have completed global health fieldwork.</p>