Epidemiology and Public Health

EPH 100a and EPH 101b, Professional Skills Series  Kelly Shay and Felicia Spencer
The Professional Skills Series is intended to prepare M.P.H. students for leadership positions as public health professionals. Material covered includes public speaking, presentation skills, professional writing, negotiation and conflict resolution, and networking and social media. Attendance at all sessions is required (elective for Advanced Professional M.P.H. and Accelerated M.B.A./M.P.H. students), and some homework is a part of the program. Although no credit or grade is awarded, satisfactory performance will be noted on the student’s transcript.  0 Course cr per term

EPH 500b, Public Health Practicum  Chandra Kelsey
This course is one of the options available to students to fulfill the practice requirement for the M.P.H. degree. The course design combines experiential learning and guided classroom discussion. Students are assigned to a field placement in an appropriate setting that affords the opportunity to apply public health concepts and competencies learned in the classroom through a practice experience that is relevant to the students’ areas of specialization. Emphasis is placed on situating students in community-based organizations and other public health service settings such as local or state health departments, where they can work on authentic public health problems and issues. This course provides a means for students to gain exposure to the mission and activities of diverse public health organizations and thus may help to inform their decisions about professional work pursuits upon completion of the M.P.H. degree. Open only to second-year M.P.H. students, Advanced Professional M.P.H. students, and Accelerated M.B.A./M.P.H. students.

EPH 501a, U.S. Health Justice Concentration Practicum  Danya Keene
This is the practicum course for the U.S. Health Justice Concentration. All students participating in the U.S. Health Justice Concentration complete a practicum. (With additional approval of the Office of Public Health Practice, this course can also be used to meet the Applied Practice Experience requirement for graduation.) This practicum experience addresses the objectives of the concentration and is conducted in partnership with a public health or other community organization. Students who choose to complete the practicum during an academic term enroll in this course (in lieu of EPH 500). Prior to the practicum, students complete a work plan and project description that will be reviewed by a faculty adviser and their preceptor at the partner organization. Possible projects may include evaluation, needs assessment, advocacy, public health communication, and/or service provision. Projects should be focused on understanding and ameliorating social or structural determinants of health inequality. During the practicum, students participate in biweekly group reflection meetings with concentration faculty and other concentration students. Upon completion of the practicum, students produce a minimum of two tangible work products or deliverables. These projects and deliverables must be distinct from the students’ thesis work or work completed in other independent study courses. Open only to students in the U.S. Health Justice Concentration. Prerequisite: SBS 590 (may be taken concurrently).

EPH 504a, Biostatistics in Public Health  Michael Wininger
This course provides an introduction to the use of statistics in medicine and public health. Topics include descriptive statistics, probability distributions, parameter estimation, hypothesis testing, analysis of contingency tables, analysis of variance, regression models, and sample size and power considerations. Students develop the skills necessary to perform, present, and interpret statistical analyses using R software.

EPH 507a, Social Justice and Health Equity  Danya 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.

EPH 508a, Foundations of Epidemiology and Public Health  Linda Niccolai
This course presents an introduction to epidemiologic definitions, concepts, and methods. Topics include history of epidemiology, descriptive epidemiology, measurement of disease occurrence and association, study design (ecologic, cross-sectional, case-control studies, cohort, and intervention), surveillance, measurement validity and screening, random variation and precision, bias, confounding, effect modification, and causality. The course also teaches skills for quantitative problem solving and for understanding epidemiologic concepts in the published literature.

EPH 510a, Health Policy and Health Care Systems  Jason Hockenberry
This course provides an introduction to the making, understanding, and consequences of health policy. The design and performance of the health care system are assessed, with particular attention to the complex and often contested manner in which health care is organized, financed, and delivered in the United States. The course also considers the fundamental concerns—such as cost, access, and quality—that shape the development of health policy and health systems in all countries, and it looks to the health systems of other countries in order to understand the advantages and disadvantages of alternative approaches. An overview of the important actors in the health care and political systems is provided, and students are introduced to methods for understanding the behavior of these policy makers and stakeholders. Health issues are placed in the context of broader social goals and values.
EPH 513b, Major Health Threats: Determinants and Solutions  Catherine Yeckel and Windy Tanner
This course introduces students to three major health threats: global climate change, antibiotic resistance, and type 2 diabetes mellitus. The goal is to achieve foundational knowledge of environmental factors in population health; ecological perspectives in human, animal, and ecosystem health (one health); biological and genetic factors that affect population health; as well as the impact of globalization on global disease burden. The course’s modular format includes mixed lecture, case study, and vignette approaches. Small, cross-disciplinary groups are used throughout the term to actively apply concepts, hone data interpretation skills, and frame research and health solution projects. Importantly, this group structure is used to implement an overarching leadership skills module to permit conversations, problem solving, and projects for each module. The course culminates in planning, designing, communicating, and pitching innovative solutions to major health threats.

EPH 532E, Leading Effective Teams  
Leadership is commonly described as the process of engaging others to set and achieve a common goal. This intensive prepares students to work in high-functioning interdisciplinary teams in public health, applying a relational approach to leadership. Students explore theories and practices of leadership and followership, working effectively across organizational boundaries and levels of hierarchy, and engaging with diverse organizations in cross-sectoral collaborations to promote public health. Students are exposed to evidence-based approaches to prospective organizational culture change to apply in their own organizations. Theories and principles are demonstrated through experiential learning activities and structured self-reflection. This is one in a three-part series of intensives for students enrolled in the Executive Online M.P.H. Program. Open only to students enrolled in the Executive Online M.P.H. Program. ½ Course cr

EPH 533E, Foundations of Behavior Change  
This course provides an introduction to behavioral theory as it pertains to health and health care delivery. The focus is on the integration of social, psychological, and behavioral factors that must be considered in developing and implementing best clinical practice and public health initiatives. Students learn and practice the fundamentals of health behavior change (i.e., behavioral theory) via experiential exercises. Open only to students enrolled in the Executive Online M.P.H. Program. 1 Course cr

EPH 530Ea, Design Thinking in Public Health Systems  Kali Bechtold, Leslie Curry, and Erika Linnander
Solution-focused problem-solving is an essential competency for public health professionals. This intensive introduces an iterative framework to innovatively solve complex challenges from the perspective of target user groups. Students address complex public health challenges utilizing a design-thinking framework. Students leave the intensive with a firm understanding of how to address complex public health challenges that account for target user’s desires/needs, what is financially viable and sustainable, and what is technically feasible. This is one in a three-part series of intensives for students enrolled in the Executive Online M.P.H. Program. Open only to students enrolled in the Executive Online M.P.H. Program. ½ Course cr per term

EPH 531Eb, Strategic Management in Complex Systems  Kali Bechtold, Leslie Curry, and Erika Linnander
Solving the world’s most pressing public health challenges requires strategic management of resources in the context of complexity. This intensive uses case-based teaching and learning in small groups to prepare students to effectively manage human, financial, and political resources to improve implementation of public health programs and strategies. This is one in a three-part series of intensives for students enrolled in the Executive Online M.P.H. Program. Open only to students enrolled in the Executive Online M.P.H. Program. ½ Course cr

EPH 520, Summer Internship  
The Internship is a degree requirement that is completed in the summer between the first and second academic years. Students work with their faculty advisers, the Career Management Center, and the Office of Public Health Practice to identify suitable public health placements such as medical care facilities, community agencies, public health departments, research projects, laboratories, and other sites engaged in public health activities. The internship experience sometimes serves as a basis for the M.P.H. thesis. The internship is displayed on the transcript with a grade of “S” (Satisfactory) upon completion. A course unit is not given for the summer internship. All students, with the exception of those in the Advanced Professional M.P.H. Program and the Accelerated M.B.A./M.P.H. Program, must complete an approved Summer Internship. The Summer Internship may be used to complete the practice requirement for the M.P.H. degree with prior approval from the Office of Public Health Practice. 0 Course cr

EPH 524a and EPH 525b, Thesis  Staff
The thesis (2 course units) is typically a yearlong project that is completed in the second academic year and is the culmination of the student’s educational experience at YSPH. It is frequently a report of a small research project performed independently by the student. Students work with faculty advisers in designing their project and in writing the thesis. Detailed guidelines for the thesis are outlined in Appendix II of the YSPH Bulletin. The thesis is not a requirement for students in the Biostatistics, Health Care Management, Health Policy, or Advanced Professional M.P.H. programs (except for those in the Occupational and Environmental Medicine track). 2 Course cr per term
EPH 534Ea, Foundations of Epidemiology and Public Health  Carol Oladele
This course introduces the fundamental principles of epidemiology, concepts, and methods of application in public health. Students gain an understanding of the role of epidemiology in investigations of diseases and health events in clinical and public health settings. Topics covered include the history of epidemiology, description of population patterns, study design, measurement of disease frequency, causal inference, measurement, sources of bias, confounding, and effect modification. Students critically evaluate and interpret epidemiologic findings from published literature. Open only to students enrolled in the Executive Online M.P.H. Program.

[ EPH 535E, Biostatistics in Public Health ]
This course provides an introduction to the use of statistics in medicine and public health. Topics include descriptive statistics, probability distributions, parameter estimation, hypothesis testing, analysis of contingency tables, analysis of variance, regression models, and sample size and power considerations. Students develop the skills necessary to perform, present, and interpret statistical analyses using R software. Open only to students enrolled in the Executive Online M.P.H. Program. 1 Course cr

EPH 536Eb, Evidence-Based Decision-Making in Public Health  Kristina Talbert-Slagle
This online seminar for M.P.H. students focuses on interdisciplinary, student-driven learning and utilizes a mixture of teaching approaches including lecture, large- and small-group discussion, case studies, and practicum sessions. Students learn how to apply principles of complex systems theory to define evidence, explore different types of evidence and evidence-based decision-making frameworks, and apply their knowledge and public health training to real-world public health decision-making through case study analysis. Through their work in this course, students develop critical thinking approaches to enable evaluation of both the quality and robustness of evidence, as well as potential gaps between theory and practice in evidence-based decision-making in public health. By studying the experience of others in the field of public health, students are able to apply “lessons learned” from past examples of public health decision-making to their own work and interest area(s). The final product for this course is a heavily documented, seven-page paper applying principles and practice of evidence-based decision-making to the student’s area of public health interest. Students develop their final paper throughout the term, receiving feedback from the instructor and their classmates. Open only to students enrolled in the Executive Online M.P.H. Program.

EPH 537Eb, Frontiers of Public Health  Sten Vermund
This course is designed to expose students to the breadth of public health and is required of M.S. and Ph.D. students who do not have prior degrees in public health. It explores the major public health achievements in the last century in order to provide students with a conceptual interdisciplinary framework by which effective interventions are developed and implemented. Case studies and discussions examine the advances across public health disciplines including epidemiology and biostatistics, environmental and behavioral sciences, and health policy and management services that led to these major public health achievements. The course examines global and national trends in the burden of disease and underlying determinants of disease, which pose new challenges; and it covers new approaches that are on the forefront of addressing current and future public health needs. Open only to students enrolled in the Executive Online M.P.H. Program.

EPH 538Ea, Health Policy and Health Care Systems  Erika Rogan
This core course for the Executive M.P.H. program provides an introduction to the making, understanding, and consequences of health policy. The design and performance of the health care system are assessed, with particular attention to the complex and often contested manner in which health care is organized, financed, and delivered in the United States compared to other countries. Recorded lectures are made available to set the stage for each week’s topic(s), and we meet as a group to discuss the material and apply key concepts to the practice of health policy. The course examines the fundamental concerns—affordability, accessibility, and quality—that shape the development of health policy and health systems. Students are introduced to the key stakeholders, policy makers, institutions, and processes that influence the design and implementation of health policy and health care systems. Health issues are placed in the context of broader social goals and values, including equity; and critical trade-offs to be made while seeking such goals are discussed. To lend some coherence to our explorations, these general concerns are illustrated most consistently with health policies and programs from the United States. However, we draw from examples from other countries during several class sessions to convey how health policy and system issues play out in other nations. Open only to students enrolled in the Executive Online M.P.H. Program.

EPH 539Ea, Ethics in Public Health  Laura Bothwell
The purpose of this condensed course is to familiarize students in the online Executive M.P.H. with critical foundations of public health ethics and to foster sophisticated ethical reasoning so that students may carefully apply and negotiate different ethical principles in relation to current public health challenges. The course examines ethical frameworks across cultures and considers sociohistorical context in relation to ethical constructs and applications. Attention is given to the interplay of race, gender, social inequalities, and marginalized populations when approaching matters of public health ethics. The first part of the course explores core principles of public health ethics; the second part of the course broadly applies these principles to some key areas of the field of public health practice in which ethics are particularly pertinent—infectious disease control, environmental health, social determinants of health, and policies of global health care access. Each session has readings and prerecorded material viewable online that should be completed before class. For each session, we meet for one hour of live discussion and interaction that synthesize and build on the readings and prerecorded material. Brief written reflections are incorporated into live interactions. A paper in which students evaluate ethical principles in relation to practical professional public health experience is developed and discussed incrementally. Open only to students enrolled in the Executive Online M.P.H. Program. ½ Course cr
[ EPH 540E, Executive Online M.P.H. Capstone ]
This course is designed to strengthen students’ skills in applied public health practice and integrative work products that are of immediate relevance to public health organizations. The course works with students to help them meet the requirements of the M.P.H. applied practice experience (APE) and the M.P.H. integrative learning experience (ILE). In the first term, students complete work products that strengthen their skills in applied (public) health practice. In the second term, students complete work products that demonstrate their ability to integrate content from the M.P.H. curriculum and effectively demonstrate achievement of selected competencies. For both terms there is a priority on individual and small-group supports, with synchronous class sessions designed to draw on the core M.P.H. curriculum in the context of the capstone projects. Pedagogical content is based on an ecological framework, principles of public health ethics, and a philosophy of problem-based learning. Open only to students enrolled in the Executive Online M.P.H. Program.
1 Course cr

[ EPH 541E, Executive Online M.P.H. Capstone ]
This course is designed to strengthen students’ skills in applied public health practice and integrative work products that are of immediate relevance to public health organizations. The course works with students to help them meet the requirements of the M.P.H. applied practice experience (APE) and the M.P.H. integrative learning experience (ILE). In the first term, students complete work products that strengthen their skills in applied (public) health practice. In the second term, students complete work products that demonstrate their ability to integrate content from the M.P.H. curriculum and effectively demonstrate achievement of selected competencies. For both terms there is a priority on individual and small-group supports, with synchronous class sessions designed to draw on the core M.P.H. curriculum in the context of the capstone projects. Pedagogical content is based on an ecological framework, principles of public health ethics, and a philosophy of problem-based learning. Open only to students enrolled in the Executive Online M.P.H. Program.
1 Course cr

EPH 542b, Practice-Based Community Health Research  Debbie Humphries
This course is one of the options available to students to fulfill the practice requirement for the M.P.H. degree. The course develops students’ skills in planning and implementing practice-based community health research projects. The course content is based on an ecological framework, principles of community and public health ethics, and a teaching strategy of significant learning experiences and team-based learning. Given the current emphasis on using evidence-based practices in public health, this course helps students develop skills in turning practice activities and data into evidence. Teams of four to six students work on a community-driven research project at a local agency based on proposals submitted by a range of community organizations. Through this exercise and related assignments throughout the term, students develop skills in planning and implementing practice-based research projects, including developing project timelines, logic models, and program impact theories.

EPH 555a or b, Clinic in Climate Justice, Law, and Public Health  Laura Bozzi
This course is an innovative collaboration between Yale School of Public Health and Vermont Law School and includes faculty and students from both Yale and Vermont Law School. In the course, interdisciplinary student teams carry out applied projects at the intersection of climate justice, law and public policy, and public health. Each team works with a partner organization (e.g., state agency, community organization, other nongovernmental organization) to study, design, and implement a project, typically through community-based participatory research practices. The course affords the opportunity to have a real-world impact by applying concepts and competencies learned in the classroom. Class sessions and team meetings are conducted using a hybrid approach that combines in-person, all-virtual, and virtually connected classroom arrangements. This course should be of interest to graduate and professional students across the University and is open to Yale College juniors and seniors. In addition, this course is one of the options available to students to fulfill the practice requirement for the M.P.H. degree at YSPH and the capstone requirement for the M.E.M. degree at YSE. Students who plan to enroll must complete an application, which will be used to match each student with a clinic project. Check the course's Canvas site or contact the Yale instructor at laura.bozzi@yale.edu for more information. Prerequisite: EHS 547 or permission of the instructor.

[ EPH 556, Health Care Environmental Sustainability Practicum ]
If the U.S. health care sector were a nation itself, it would rank thirteenth in the world for greenhouse gas emissions. Health care is an enormous and complex system, in need of environmental health assessment and sustainability science to measure and mitigate pollution and public health damages. Policy and business innovation is also essential to implement pollution preventive efforts while maintaining patient safety and quality care. In this course, interdisciplinary student teams perform applied public health or practice projects related to health care, sustainability science, and public health. Each team works with a clinical (physician or nurse) and/or management mentor from Yale New Haven Hospital or its affiliates, or in collaboration with partners such as the National Health Service Sustainable Development Unit of the United Kingdom. Each group uses the opportunity to apply concepts and competencies learned in the classroom to the field of health care. This course should be of interest to students from the Schools of Public Health, Environment, Management, Medicine, and Nursing. This course is one of the options available to students to fulfill the practice requirement for the M.P.H. degree and the ENV capstone requirement. 1 Course cr

EPH 557b, Evidence-Based Decision-Making in Global Health  Kristina Talbot-Slagle
This course is a capstone seminar for M.P.H. students in the Global Health Concentration. Through a mixture of teaching approaches including lecture, large- and small-group discussion, case studies, practicum sessions, and student-led experiential learning, students study and apply principles of evidence-based decision-making in global health to their specific area(s) of interest. Students learn how to define evidence and explore different types of evidence that are and have been used in global health evidence-informed decision-
making. By analyzing case studies, students also examine what has and has not been considered evidence in global health decisions, and they develop critical-thinking approaches to enable evaluation of both the quality and robustness of evidence, as well as potential gaps. By studying the experience of others in the field of global health, students are also able to apply lessons learned from past examples of global health evidence-based decision-making to their own work and interest area(s). The final product for this course is a fifteen-page paper summarizing how the principles and practice of global health evidence-based decision-making apply to each student’s interest area. Prerequisites: completion of one year of an M.P.H. program and a global summer M.P.H. internship experience.

**EPH 570a and EPH 571b, Seminar in Climate Change and Health**  
Kai Chen

In this two-term, monthly, not-for-credit seminar, students are introduced to a wide variety of topics related to climate change and health. The seminar features talks by Yale faculty, as well as invited speakers from other institutions. Students are expected to read one or two relevant papers in advance of each talk and to articulate questions for the speaker. This course is specifically targeted for students in the Climate Change and Health Concentration but is open to all members of the YSPH and Yale communities. Two terms of this seminar are required of students in the Climate Change and Health Concentration. Although no credit or grade is awarded, satisfactory performance will be noted on the student’s transcript.  

**EPH 580a and EPH 581b, Seminar for Modeling in Public Health**  
A. Paltiel and Theodore Cohen

This weekly seminar exposes students in the health professions to key issues in global health research and practice. The course features talks by faculty from across Yale University doing modeling-related research, as well as invited speakers from other universities and public health agencies. The objectives are to offer students the opportunity to witness the scope and range of questions in public health policy and practice that may be addressed, understood, and informed using model-based approaches; appreciate the breadth of public health modeling research being conducted around the University and beyond; explore possible collaborations/relationships with other scholars and professionals; review, critique, and evaluate model-based public health research in a structured environment; and form their own opinions regarding the applicability, relevance, and responsible use of modeling methods. Two terms of this no-credit seminar are required of students in the Public Health Modeling Concentration. For each class, one or two readings are circulated/posted on the course website prior to the talk. Students are encouraged to read the articles and articulate questions for the speaker.  

**EPH 591a, Global Health Seminar**  
Michael Skonieczny

This weekly seminar exposes students in the health professions to key issues in global health research and practice. The course features talks by Yale faculty from across the health professional schools and other global health experts from around the world. Its collaborative nature provides a rich environment for interdisciplinary dialogue. The goal is for students to attain a good understanding of key issues upon which they may base future research, service, and clinical pursuits in the field of global health. Although no course credit is awarded, satisfactory performance is noted on the student’s transcript.  

**EPH 591b, Global Health Foundations: Principles and Applications**  
Rafael Perez-Escamilla

Global health is the field of study of distribution and social, economic, and biomedical risk factors for diseases across countries’ borders, and how to address them. In this context global health requires interdisciplinary approaches involving social, behavioral, biological, medical, and public health sciences. This case study-based course provides an introduction to the foundations of global health, emphasizing its colonial origins, prevalent neocolonial approaches, and inequities. Students apply critical-thinking principles to learn to analyze global health challenges and propose equitable solutions from a social justice multidisciplinary perspective based on a “flipped classroom” pedagogical approach. Global health is an exciting and hugely important but complex field that requires critical thinking to understand how to transform its governance and improve the enormous inequities within and across countries worldwide. Prerequisite: EPH 591 or permission of the instructor.

**EPH 600a, Research Ethics and Responsibility**  
Christian Tschudi

This course seeks to introduce major concepts in the ethical conduct of research and some of the personal and professional issues that researchers encounter in their work. Sessions are run in a seminar/discussion format. Prerequisite: doctoral student or postdoctoral status only.  

**EPH 608a, Frontiers of Public Health**  
Sten Vermund

This course is designed to expose students to the breadth of public health and is required of M.S. and Ph.D. students who do not have prior degrees in public health. It explores the major public health achievements in the last century in order to provide students with a conceptual interdisciplinary framework by which effective interventions are developed and implemented. Case studies and discussions examine the advances across public health disciplines including epidemiology and biostatistics, environmental and behavioral sciences, and health policy and management services that led to these major public health achievements. The course examines global and national trends in the burden of disease and underlying determinants of disease, which pose new challenges; and it covers new approaches that are on the forefront of addressing current and future public health needs.