

# PUBLIC HEALTH STUDIES (PUBH)

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## **PUBH 5000 Foundations of Public Health**

This course will provide a topical overview of the inter-disciplinary field of public health and provides grounding in the public health paradigm. Through a series of lectures and recitation sessions, students will learn about the history of public health and the core public health sciences including behavioral and social sciences, biostatistics, epidemiology, environmental health, and policy and management. Other topics include ethics in public health, context analyses (specifically sociographic mapping and urban health), community participation in research, public health promotion, and the prevention of chronic and infectious diseases.

Fall

1 Course Unit

## **PUBH 5010 Introduction to Biostatistics**

Introduction to Biostatistics This course is designed to provide a broad overview of biostatistics methods as well as applications commonly used for public health research. Topics covered include measurement and categorizing variables, use and misuse of descriptive statistics, testing hypotheses, and applying commonly used statistical tests. An emphasis will be placed on the practical application of data to address public health issues, rather than theoretical and mathematical development. Students will learn how to choose and apply statistical tools to data sources, when and how statistical tools can be used to analyze data, and how to interpret others' quantitative studies. Students will gain experience using online datasets and the STATA statistical software package.

Fall or Spring

1 Course Unit

## **PUBH 5020 Introduction to the Principles and Methods of Epidemiology**

This course will provide an introduction to the principles and methods of epidemiology as a research science. The course introduces the student designs applied to human populations, including randomized trials and observational studies (cohort, case-control, cross-sectional, ecological). Homework and in-class assignments focus on building skills in locating, assessing, and synthesizing evidence from the epidemiologic literature, with an emphasis on critical thinking, causal inference, and understanding bias and confounding.

Fall or Spring

1 Course Unit

## **PUBH 5030 Environmental and Occupational Health**

This course will provide a broad introduction to the scientific basis of occupational and environmental health. Content will address issues in the ambient, occupational and global environments as well as the tools, concepts and methods used in environmental health.

Fall or Spring

1 Course Unit

## **PUBH 5040 Public Health Theories & Frameworks**

This course provides students with a solid foundation in behavioral and social science theory, research, and interventions as they pertain to public health. Content will provide exposure to a broad range of theories, including the theoretical foundations of social science applications for help-seeking, gender, race, ethnicity and social class. These theories will be discussed using examples of their applications to numerous public health problems including HIV/AIDS, violence, cancer, cardiovascular diseases, obesity, and diabetes.

Fall, Spring, and Summer Terms

1 Course Unit

## **PUBH 5050 Public Health Policy & Administration**

This course is an introduction to health policy and management. It examines both the historical and current state of health policy in America and integrates these concepts within the context of public health practice. We will examine key concepts in understanding US health care organization, financing and delivery, our current political and economic debate on health care reform, examining the role and management issues of public health departments, and case studies in public health policy and management.

Fall, Spring, and Summer Terms

1 Course Unit

## **PUBH 5060 Methods for Public Health Practice**

This is a course designed around modules whose objective is to provide students with greater familiarity in a range of methods essential to public health practice. The course will be framed around an in-depth capacity and needs assessment and community public health planning in Philadelphia. Topics covered will include data collection and evaluation, both quantitative and qualitative, uses of informatics in public health, analysis of vital statistics, working with communities, methods for developing and facilitating solutions to public health problems, including concepts of advocacy and policy formation and development of interventions. The course demonstrates how core public health competency areas in data analysis and communication provide foundations for applications for both practice and practice-based research.

Fall, Spring, and Summer Terms

1 Course Unit

## **PUBH 5070 Public Health Law & Ethics**

What is best - or, at least, seems best – for the public's health is not always consistent with society's view of what is legal, ethical, or good policy. This course introduces key concepts of legal, ethical, and policy analysis and attempts to demonstrate with current examples how these forces empower, guide, and constrain public health decision-making and actions. The course will combine lecture, Socratic dialogue, and group discussion in an informal setting. The course will feature guest lectures by several distinguished experts from Penn and from other universities.

Fall, Spring, and Summer Terms

1 Course Unit

## **PUBH 5170 Geography & Public Health**

This course will provide an introduction to GIS in public health research and practice. Through a series of lectures and labs students will explore theories linking health and the environment, spatial analysis and spatial epidemiology, and applications of GIS-related data collection and analysis.

Spring

Also Offered As: EPID 5180

1 Course Unit

**PUBH 5190 Foundations of Global Health**

This course presents an overview of issues in global health from the viewpoint of many different disciplines, with emphasis on economically less developed countries. Subjects include: millennium goals; measures of disease burden; population projections and control; environmental health and safe water; demography of disease and mortality; zoonotic infectious diseases; AIDS and HIV prevention; vaccine utilization and impact; eradication of polio virus; chronic diseases; tobacco-associated disease and its control; nutritional challenges; social determinants of global health; harm reduction and behavioral modifications; women's reproductive rights; health economics and cost-effective interventions; health manpower and capacity development; bioethical issues in a global context. Undergraduates interested in taking this course should contact the program to request a permit; permits are only granted to students who have previously taken HSOC 010-401, and preference is given to juniors and seniors.

Fall

1 Course Unit

**PUBH 5210 Program Evaluation in Public Health**

There are many public health programs developed to promote change and improve individual and community health. The question most funders and organizations have for public health programs is: Did it work? And how do we know? This course is designed to review the practices of evaluation planning and methods of measurement. Students learn how evaluation can provide practical tools for identifying public health problems, program development, program implementation, including taking a reflective practice approach, ensuring equity and fairness in program delivery (i.e., combating disparities), and generally promoting public health through effective and efficient programmatic efforts. This course builds upon Methods for Public Health Practice and students will be allowed to design an evaluation of the program designed in this course or to choose another program. Note: This course satisfies the RTE requirement for the Generalist Track.

Spring, even numbered years only

Prerequisite: PUBH 5060

1 Course Unit

**PUBH 5230 Epidemics: Social causes and consequences of outbreaks, emergencies, threats**

Public health demands both critical thinking and quick decision-making—often without the benefit of all the data we desire. Take this course to learn how other public health professionals (and lawyers/doctors/activists/educators/policymakers) have responded, both successfully and disastrously, to evolving health threats. Using a case-based method, the course will probe true public health emergencies, considering the (limits of) information available to scientists; the public response; political/economic considerations; media coverage; policy/programmatic response; and health/social outcomes. The course will tackle cases from infectious disease and social epidemiology, and will cover: outbreak investigation, lay epidemiology, surveillance and rapid response, and strategies to address the social determinants of health, including poverty/SES and racism. Students in the class will develop key skills in critical epidemiological reasoning and public health action. Note: This course satisfies the RTE requirement for the Environmental Health track.

Spring

1 Course Unit

**PUBH 5250 Health & Human Rights**

This course will explore the interplay between health and human rights and enable students to critically apply human rights to public health practice. We will explore the development of health as a human right and how public health research and policy can affect human rights. Students will learn about core human rights principles and mechanisms and the international development agenda. The class will examine topics at the intersection of global health and human rights including HIV/AIDS, harm reduction, migration, sexual and reproductive health, and climate change. Class material will primarily focus on public health challenges in the global south; however, we will also discuss health and human rights issues faced by vulnerable populations in the United States.

1 Course Unit

**PUBH 5290 Public Health Perspectives on Sexual & Reproductive Health**

This course will survey a range of key current and historic topics in reproductive and sexual health nationally and internationally with a particular emphasis on implications for public health. Policy, epidemiology, clinical practice, advocacy, and service delivery topics will be covered through presentations and conversations with leaders in the fields of reproductive and sexual health. The course will provide students with a broad general introduction to these topics which is appropriate for those interested in either public health or clinical aspects of the field. For students who wish to pursue a focused career in this area, this course is a necessary introduction. Students who will be working in related areas of public health will have exposure to a broad general understanding of reproductive and sexual health.

Fall

1 Course Unit

**PUBH 5300 Environmental Toxicology: Risk Assessment and Health Effects**

This course presents general principals of toxicology and the disposition of toxins in the body. Case studies of the effects of environmental and occupational toxins on individuals will be analyzed. This course is designed for students who desire a strong foundation in toxicological concepts and principals and provides an overview of major toxins in our environment and their association with human health. Prerequisite: Undergraduates needs permission

Not Offered Every Year

Also Offered As: NURS 6770

1 Course Unit

**PUBH 5310 Public Health Nutrition**

The course is designed to introduce students to the core concepts, policies and practice of public health nutrition. The course will draw upon real world examples of local, national, and global initiatives to decrease risk of chronic diseases related to the World Health Organization's (WHO) major nutrition-related chronic diseases.

1 Course Unit

**PUBH 5350 Race & Public Health**

This seminar course will provide a broad overview of the social conditions that engender racial health disparities in the United States. Using the concept of racial capitalism and the fundamental cause of disease theory as starting points, we will explore the ways in which racism and capitalism have shaped the social conditions we swim in; how those social conditions have produced what Ruth Wilson Gilmore calls “group-differentiated vulnerability to premature death”; and how collective action and policy have, both historically and in the present moment, aimed to address racialized health inequities. We will draw from writings in public health, economics, history, sociology, feminist studies, and critical geography studies; grey literature from community organizations, government agencies, and non-profit organizations; and various media, including news, books, music, and film. Students will engage in active student participation and leadership, self-reflection, and intensive reading that emphasizes foundational texts. Ultimately, this course aims to give students the competency to use racial capitalism as a lens to identify, make sense of, and address racial health disparities in their areas of public health interest.

Fall

1 Course Unit

**PUBH 5380 Qualitative Methods in Health Research**

The purpose of this course is to expose students to a variety of qualitative approaches/methodologies that may be used in health services/policy research. In didactics we will discuss the pros and cons of a range of qualitative Methods, how the method is actually implemented (with multiple experts presenting approaches), and pair the presentation with a broader discussion in which students compare and contrast health oriented articles in which the method was used. Students will have the opportunity to apply the theoretical approaches to their own research interests with direct input from the faculty and their peers.

Prerequisite: Permission needed from Instructor.

Summer Term

Also Offered As: HPR 5030

1 Course Unit

**PUBH 5390 Designing Interventions to Promote Health and Reduce Health Disparities**

Advanced analysis, design and evaluation of interventions to promote health and reduce health disparities with a focus on underserved vulnerable minority or ethnic populations, through culturally competent research, education and clinical practice. Areas to be evaluated include:

- Health disparities as it relates to health promotion and disease prevention behavioral intervention research in vulnerable communities
- Concepts of marginalization, race, ethnicity, class, gender and culture as it relates to health disparities
- Social-psychological theoretical and research approaches related to developing culturally congruent health promotion interventions to reduce health disparities for vulnerable populations
- The use of elicitation, focus groups and ethnographic techniques to tailor health behavior theory to meet the needs of the population
- Culturally competent research methodologies, involving education and/or clinical practice, e.g. culturally competent measures, recruitment, retention, and informed consent in hard to reach populations
- Community participatory research as a strategy for working with the community to build research partnership and build capacity for sustained health promotion initiatives
- Health promotion intervention strategies for reducing health disparities in vulnerable communities
- Strategies to evaluate the effectiveness of interventions using randomized controlled trials (RCTs) in community and clinical settings
- Strategies for tailoring successful evidenced-based health promotion interventions to a variety of different populations for use in clinical trials and community settings
- Examine approaches for the translating and disseminating evidenced-based intervention research

Prerequisite: PhD Students

Spring, even numbered years only

Also Offered As: NURS 8230

1 Course Unit

**PUBH 5400 Go Global**

This course is designed to house a country-specific course with time in country to build partnerships and work through public health challenges. The country of focus rotates based on the year and current events.

1 Course Unit

**PUBH 5420 Parallel Plagues: Infectious Diseases and their Control in Peru and The United States**

Infectious agents continue to emerge, killing and harming humans and animals with unrelenting regularity. The emergence and control of these agents are, in some ways, remarkably different in different geographies. In other ways the patterns and consequences of infectious agents are very similar. The course will be structured around a series of pairings of infectious disease problems that affect Peru and the United States. Some pairings will be in terms of the agents themselves; others will be more thematic. In each case we will trace two lines of inquiry, one in each country, but always with an eye to the harmonics—where these lines resonate—even if they do not interact. The primary goal of the course is to investigate the historical, political and economic forces driving infectious disease in Peru and the US. A co-primary goal is to bring students and faculty from Penn and our partner institutions in Peru, Universidad Peruana Cayetano Heredia, to work their way through topics in infectious disease control, which are inherently challenging. The course will be taught in English but a workable knowledge of Spanish will be helpful.

Also Offered As: LALS 5420

1 Course Unit

**PUBH 5510 Global Health Policy and Delivery**

This participatory interdisciplinary seminar course examines contemporary issues in global health policy and delivery. The overall organizing framework for the class is the social determinants of health. The class will consider evidence that inequalities in education, income, and occupation influence health status. Students will develop skills in policy analysis, policy brief development, and policy impact monitoring. The public policy process will be explored using a variety of contemporary global health case studies which focus on content areas such as maternal health, HIV policy, refugee health and global healthcare delivery. Finally, we will examine the global health workforce and the impact of widespread global migration of health professionals on receiving and sending countries.

Spring

Also Offered As: NURS 6400

1 Course Unit

**PUBH 5530 Science and Politics of Food**

This course provides an introduction to the many forces that shape what we eat. These include psychological, political, biological, legal, economic, and social influences. We will discuss and critically evaluate scientific research on food policies designed to improve the world's diet. This course will have strong focus on the communication of health information and issues of health disparities as they relate to food environments and food policies. In addition, course assignments, activities, and lectures are designed to develop skills related to critiquing research and communicating evidence-based opinions in a clear and compelling manner.

1 Course Unit

**PUBH 5540 Impact Evaluation of Global Health Programs**

This course will provide an introduction to impact evaluation, an important methodology for evidence-based health policies and programs. Impact evaluation comprises a set of approaches to generating robust evidence of program performance against desired objectives. A distinct type of broader monitoring and evaluation approaches, impact evaluation focuses on identifying a credible counterfactual (what would have happened in the absence of the program of interest?) to permit attribution of observed outcomes to interventions. In this course, we will cover the why, when, and how of impact evaluation, including basic econometric methods for study design, data collection, and analysis. Both experimental and quasi-experimental designs will be discussed. Case studies and exercises will draw on classic studies and the contemporary evaluation literature, and will allow students to "get their hands dirty" with data manipulation and analysis.

1 Course Unit

**PUBH 5550 A Public Health Approach to Behavioral Health**

This course is designed to focus on the public health issue of behavioral health, with a focus on mental health and its relation to substance use. The course will apply public health approaches beyond individual clinical treatment to take a population level approach to behavioral health. In addition to learning the prevalence and impact of behavioral health conditions, this course will also look at: the historical impact of mental health policy, including the Community Mental Health Services Act of 1963, on behavioral health services and public health issues like homelessness; strategies to address behavioral health taking a public health approach, e.g., widespread universal screening, community activation, community level interventions, and health promotion in addition to prevention; and local examples of community level interventions to address behavioral health including Mural Arts' Porch Light Program, a partnership with the City of Philadelphia Department of Behavioral Health.

1 Course Unit

**PUBH 5650 Health Communication in the Digital Age**

Health communication spans activities from in-person communication to technology based interventions and mass media campaigns. Health communication interventions are applied across a variety of health promotion and disease prevention activities. In this course, we will explore a variety of approaches to using communication strategies to improve individual and population health. The course will provide an introduction to the theory, design, and evaluation of health communication programs. We will review and critique several health communication interventions. The course will also include a special emphasis on new media and technology, as well as developing practical skills for developing health communication programs.

1 Course Unit

**PUBH 5700 Evidence-Based Strategies to Improve Adolescent and Young Adult Health**

This course examines the health and well-being of young people between 10 and 26 years of age in the United States, and the influence of evidence-based practice, programs, and policy on the health of this important age group. The course includes an examination of adolescent and young adult (AYA) health and well-being within a life-course framework; biological, psychological, gender and sexual development between 10 and 26 years of age including issues specific to sexual minority youth; nutritional health and health policy; and reproductive health and health policy. We will examine the influence of systems and policy on key AYA health issues using case studies in injury prevention, obesity prevention, HIV testing and care, and access to routine health care and reproductive health services. The impact of MCH/Title V, Title X, the ACA, and legislation related to child nutrition and school food programs on AYA health will be integrated throughout the course.

Spring

1 Course Unit

**PUBH 5730 Substance Use as a Public Health Issue**

Over 70,000 people died from drug overdoses in the US in 2017 alone, exceeding the number of US soldiers who died in the twenty years of the Vietnam War. This course will provide an overview of the contemporary challenges in addressing substance use as a public health problem. Students will learn about the personal and environmental factors that often contribute to substance use, as well as the downstream consequences, including HIV and hepatitis C. Students will also learn public health strategies to address substance use, including primary prevention and harm reduction. Finally, issues around drug policy at the local, state, and federal level will be discussed. While this course will use opioids and the crisis in Philadelphia as the primary case study, other drugs will be touched upon as well. The course combines lecture, interactive class exercise, and group discussion.

1 Course Unit

**PUBH 5750 Intimate Partner Violence**

Intimate partner violence (IPV), defined as physical, sexual or psychological harm imposed by a current or former intimate partner, is a public health problem leading to increased morbidity and mortality worldwide. The purpose of this course is to familiarize students with the definition, theories, dynamics, scope, consequences of, and interventions to prevent and address, violence among intimate partners. Through this course, students will gain insight into the epidemiology of IPV across the life course, including risk and protective factors and examine unique considerations for vulnerable populations. The course will highlight current measurement issues in the field of IPV assessment and address IPV-related policies to address screening, prevention, and response to IPV. Using a social-ecological framework, we will examine the issue of IPV prevention and intervention from the individual, relationship, community, and society perspectives, and explore approaches to and need for screening, as well as primary, secondary, and tertiary levels of prevention.

Also Offered As: SWRK 7750

1 Course Unit

**PUBH 5780 Housing Quality, Equity and Public Health**

This course examines housing as a social determinant of health through the lens of environmental justice and health equity. The course examines the direct mental and physical impacts of housing quality and access, specifically for urban, low-income children and adults; the policies, social and economic factors that create inequities; and solutions to address these issues. Key concepts include: the public health impact of housing environmental quality and affordability; environmental justice; racial equity in housing policy.

Spring

1 Course Unit

**PUBH 5840 Health Messaging in Africa: Public Performance and Community Health Education**

Health Messaging in Africa: Public Performance as Participatory Action Research". This course asks, What about performance offers a unique opportunity to learn from and with communities? How might dramatic performance be used to share information while learning from an audience? This course examines the work and research of young artists from Liberia, West Africa who used street theatre to teach best practices for prevention during the Ebola crisis and considers how their use of dialogical performance contributed to critical knowledge which iteratively informed interventions throughout their awareness campaign. The visiting artists will share their firsthand experiences and guide the class through use of their playwriting model for community change. Students will design public performance projects around local-global community-based concerns using the tools they have learned. Students may choose from a variety of local organizations dedicated to serving immigrant communities and local communities of color in Philadelphia to develop performance-based public health messaging informed by a communications for development approach. Public health researchers who are looking for innovative ways to share their data will gain insights into this experimental ethnographic method and practitioners who want to offer their communities ways to connect best practices to lived experience will develop new pedagogical tools.

Not Offered Every Year

1 Course Unit

**PUBH 5880 Advanced Leadership Skills in Community Health**

Grounded in a social justice perspective, this course aims to provide the student with a foundational overview of the field of community health and leadership skills in public health advocacy. The course encourages critical thinking about health outcomes framed by the broad context of the political and social environment. This course analyzes the range of roles and functions carried out by leaders in healthcare advocacy for marginalized communities; integrates knowledge of health policy and the key influence of government and financing on health outcomes; explores community-based participatory research and interventions as tools for change; and discusses ways to develop respectful partnerships with community organizations. An assets-based approach that draws upon the strengths of communities and their leaders provides a foundation for community-engagement skill building. The course emphasizes the development of skills and techniques to lead effective, collaborative, health-focused interventions for disenfranchised groups, including residents of urban neighborhoods. Prerequisite: Undergraduates with permission of the instructor

Spring

Also Offered As: HPR 5880, NURS 5870

1 Course Unit



**PUBH 5890 The Public Health Challenges of Alzheimer's Disease and Cognitive Aging**

Once upon a time, Alzheimer's disease was a rare disease, and then it became common, but soon thereafter, it turned into a crisis. What happened, and what do we need to do? This course will lead students to find the answers to this question, answers that are at the intersections of medicine, ethics, public policy, culture and health care. Topics covered include the histories of Alzheimer's disease and cognitive aging and their changing definitions, the concepts of cognition and function and how they are assessed, the contested science and practice of measuring the disease's prevalence and mortality, autonomy and capacity, risk and preventative factors for cognitive decline, the demography and economics of caregiving, and the creative public health initiatives and models of care that could reduce stigma, enhance cognition and maintain independence. Students will apply biostatistical and epidemiological methods to critique papers, close textual analysis to understand concepts and their shifting meanings, and writing to clearly and succinctly frame a problem, its costs and solutions. The course will include lectures, readings from the literature, group discussions and in-class exercises, and interviews with guest experts. Evaluation will be based on participation, presentations, written assignments, and exam results.

1 Course Unit

**PUBH 5900 BGS Public Health Certificate Students' Seminar Series.**

For BGS Public Health Certificate students only.

Fall or Spring

1 Course Unit

**PUBH 6040 Qualitative Research in Social Sciences**

This course explores the theory, methods, ethics, and practicalities of qualitative research. Its central goal is to leave students prepared to lead their own qualitative projects, whether MPH capstones, other theses, or future research pursued after graduate education. Qualitative analysis has broad utility for the examination of experience, cognition, culture, language, and social interaction. Accordingly, we will progress through readings conveying insights of qualitative researchers from numerous disciplines. We will begin by clarifying the kinds of knowledge that qualitative methods generate. We will then seek to demystify the role of theory in qualitative research. Next, we will cover the major aspects of preparing a qualitative study: identifying appropriate sites and samples, communicating with stakeholders and facilitators, and cultivating a reflexive mindset attuned to ethical issues. We will subsequently examine the various methods for creating qualitative data (observation, interviewing, and their variants) before turning to the analysis of this data using an iterative coding process managed via software. Finally, we will work on developing explanatory theory from this analysis.

Spring

1 Course Unit

**PUBH 6050 Epidemiology and Control of Infectious Diseases**

This course will focus on the application of epidemiological methods to the discovery, detection, and evaluation of infectious disease threats together with an evidence based assessment of the value of public health interventions intended to reduce prevalence and severity of disease in people. In-class assignments are intended to build skills in location, interpreting, assessing, and synthesizing evidence from the epidemiologic literature, with an emphasis on critical thinking, causal inference, and understanding bias and confounding.

1 Course Unit

**PUBH 6060 Interpreting Epi Literature to Inform and Influence**

This course is designed for students interested in further exploration of epidemiologic methods and the challenge of establishing a causal relationship between exposure and outcome using an observational science. We will utilize case studies to address the application of epidemiologic data to specific issues of relevance to public health. The nature of observational data will be explored through these case studies and specific methodological challenges will be highlighted and examined. Also Offered As: NURS 6160

1 Course Unit

**PUBH 6070 Advanced Local Policymaking**

This course is designed to provide the foundational context and practical skills necessary to effectively advocate for evidence-based policy change in furtherance of public health objectives. The class will be interactive in nature and will require participation in public health advocacy exercises in order to hone advocacy skills. There will also be a focus on persuasive communication, both oral and written. We will explore the entire advocacy process from the identification of a problem and evaluation of possible policy solutions to utilizing the full range of advocacy tools to promote policy change. We will be using real-time examples of public health challenges affecting the health, safety and well-being of children and families here in Philadelphia and in communities across the country.

1 Course Unit

**PUBH 6080 Behavioral Economics and Health**

This course will explore answers to pressing public health questions through the lens of behavioral economics. Behavioral economics, a field at the intersection of psychology and economics, suggests that humans rarely behave rationally when making health-related decisions. The course will take a very pragmatic, hands-on orientation to behavioral economics and health research and practice. It will also leverage the deep and rich expertise of Penn's Center for Health Incentives and Behavioral Economics, a leading research organization in the field.

Also Offered As: NURS 6130

1 Course Unit

**PUBH 6090 Management & Leadership in Public Health**

The goal of this course is to build upon management and leadership skills, and learn and apply public health management and leadership tools (mlts) to effectively use in practice. This course uses pubh 506 to build a foundation, with increased emphasis on financial, administrative, operational, and human resource management and leadership in public health. Students will have the ability to apply key concepts and further develop their leadership and management skills and apply specific mlts tools. The course uses a case-based framework and pulls from real life examples. The course is ideally designed for the student who will use the mph to advance in careers leading and managing public health initiatives across a variety of sectors.

1 Course Unit

**PUBH 6100 Mathematical Models for the Control of Infectious Diseases**

As infectious diseases are transmitted from one host to another, the dynamics of transmission in the population of hosts follow certain basic rules. If one knows and understands these rules, one can plan rational strategies to prevent or control infections. One of the principal tools of those interested in public health interventions to control or ameliorate infectious diseases is the mathematical model. A model is just a means of representing and manipulating something that would not otherwise be accessible. This course provides students with the opportunity to construct models of the transmission of infectious diseases and to use these models to plan or compare disease control strategies. The course is predicated upon the notion that the act of building a mathematical model of disease transmission is often the very best way of understanding what is going on. This understanding will be further refined by the examination of more complicated and sophisticated model structures as they appear in the recent published literature. Prerequisite: Permission of instructor A disproportionate number of emerging infectious diseases and recent disease outbreaks in the United States and elsewhere have shared a common characteristic—they affect veterinary as well as human populations. Many are also vector-borne, passing between different species of hosts through insects and other invertebrates. In some cases humans are only 'spillover hosts' whose infection is incidental to the transmission cycle. Interdisciplinary approaches are especially important to control such diseases. As a particular focus of the course, students will learn the tools needed for successful collaborations to address the growing problem of zoonotic and vector-borne diseases.

Fall

Also Offered As: EPID 5160

1 Course Unit

**PUBH 6170 Globalizing Health Security: The Local to Global Role of PH in Preparedness**

This course provides an introduction to health security issues and its challenges. The course will introduce students to the historical development, structure, operation, and current and future directions of the major components of global, regional, national, and local health security systems. It examines the ways in which health security programs are organized and delivered, with attention to risks and vulnerabilities of special populations; roles of private- and public-sector actors, civil society organizations, and philanthropy in health security; the influences that impact health security policy decisions; factors that determine the allocation of health security resources and the establishment of priorities; and the relationship of costs to benefits (and how those are measured).

Prerequisite: PUBH 5050

1 Course Unit

**PUBH 6250 Public Health, Cities, & the Climate Crisis**

Climate change has been called the most pressing public health crisis of the 21st century. This course will tackle the intersectional issues that climate change requires us to consider for public health and the design of cities. As such, the course will be offered jointly between the MPH program and the School of Design. The overall structure of the course will be a set of community-based design projects that look to raise climate change risk awareness across disciplines and to identify strategies (policies, programs, projects) to ameliorate or adapt to those risks with health outcomes used as the benchmark for success. In this way, the course touches on both Climate Action and Societal Resilience. The geographic focus of the course will be the Urban environment, with a strong focus on Philadelphia. The course will be purposefully interdisciplinary, recognizing that initial group projects must include developing a shared vocabulary between the different students. Key to our success is a more holistic integration of climate change thinking into professional student training and a common ground on which to collaborate.

Prerequisite: PUBH 5060

1 Course Unit

**PUBH 6370 Advocacy & Public Health**

This course is designed to provide the foundational context and practical skills necessary to effectively advocate for evidence-based policy change in furtherance of public health objectives. The class will be interactive in nature and will require participation in public health advocacy exercises in order to hone advocacy skills. There will also be a focus on persuasive communication, both oral and written. We will explore the entire advocacy process from the identification of a problem and evaluation of possible policy solutions to utilizing the full range of advocacy tools to promote policy change.

Spring

Also Offered As: HPR 6370, NURS 5650

Prerequisite: PUBH 5050 OR PUBH 5070

1 Course Unit

**PUBH 6450 COVID-19 & the Law**

The Covid-19 pandemic illustrates that law is a powerful tool for addressing public health emergencies, and that laws are sometimes ineffective or harmful. During this moment of profound exigency and uncertainty, the use of law in control efforts is politically, empirically and legally contested. This class explores empirical and legal controversies related to the use of law and legal reform in responding to the Covid-19 pandemic. Each week the class will examine a different legal intervention (e.g., stay-at-home-orders) or domain of infrastructural law (e.g., workers compensation as an exclusive remedy for occupational harms). Assigned reading will include recent judicial decisions and associated social science studies. By the end of the course, students will be able to describe (1) theories about how law shapes risk for Covid-19 including disparate effects across different population groups; (2) knowledge about the effects of different legal interventions (e.g., the effect of mask mandates); and (3) key legal decisions assessing the legality of those response measures.

Not Offered Every Year

1 Course Unit

**PUBH 7080 Capstone Seminar I**

The Capstone is a culminating experience required for graduation in the Master of Public Health Program. In two Capstone seminars, students will have an opportunity to synthesize the knowledge and public health competencies they have developed through their coursework. Capstone students will apply their knowledge and skills to public health problems in a chosen area of interest. They will engage their peers in scholarly discussion, drawing from relevant scientific literature and public health experience in order to begin to develop a common grounding and identity as public health professionals. The Capstone incorporates two semester-long seminars and a research project. over the course of the Capstone, students will develop, propose, revise, implement, and present their projects. As their projects successfully come to fruition they will also advise their junior colleagues still in the proposal stage.

1 Course Unit

**PUBH 7090 Capstone Seminar II**

This course is the second of two Capstone courses related to the culminating project required for graduation in the Master of Public Health Program. MPH students apply their knowledge and skills to public health problems in a chosen area of interest under the guidance of a Capstone Mentor.

1 Course Unit