

# MPH - Master of Public Health

## MASTER OF PUBLIC HEALTH Courses

### **MPH 610. Introduction to Public Health. 1 Credit.**

This introductory readings course provides students with an overview of the public health sector from a local, national, and global perspective. The history of public health and recent events leading to a complete transformation of service delivery are two of the topics presented.

### **MPH 611. Social and Behavioral Sciences for Public Health. 3 Credits.**

This is a social and behavioral sciences core course for the MPH program. Psychological, social, and cultural concepts and models relevant to health and disease in society are reviewed and critiqued. Students will learn about different theoretical perspectives and how to apply appropriate social and behavioral models to public health programs. Students will learn how to select and apply appropriate social and behavioral models to the design of public health interventions and policies. The course will also cover existing social inequalities in health status related to race/ethnicity, social class, and gender, and the critical intersection between social risk factors, behavioral risk factors, and the development and implementation of public health interventions. Social ecological models that influence population health at multiple levels are emphasized.

### **MPH 612. Statistical Reasoning for Public Health. 3 Credits.**

This course is designed for student majoring in public health and health-related disciplines. The course introduces basic concepts in biostatistics and fundamental methods in statistical analysis. Although formulae and computational elements will be incorporated into the lecture, the course is designed to teach students how to make informed decisions from a given set of data collected from a health research study. This process includes exploring data, reviewing all the underlying statistical assumptions, summarizing and analyzing the data using common descriptive and inferential statistical methods, and finally reporting and interpreting the statistical results. Students will utilize statistical software to perform data analysis and answer research questions. The overall goal of this course is to assist students to develop a process for critical statistical thinking that is important in many areas of scientific research.

### **MPH 613. Environment, Society, and Health. 3 Credits.**

This course provides an introduction to 21st century environmental health science. In addition to covering some of the traditional environmental factors affecting the health of individuals and communities in the region, the nation, and around the world, the class familiarizes students with a broad range of contemporary and emerging environmental health challenges and issues. In addition, through a series of guest presentations by experienced practitioners in the field, the course introduces students to the "real world" of environmental health practice.

### **MPH 615. Systems Thinking and Health Management. 3 Credits.**

Students will learn the practice of systems thinking, which includes the ability to integrate multiple perspectives and synthesize them into a framework or model that encompasses the various ways in which a system might react to policy choices.

### **MPH 616. Research Methods in Public Health. 3 Credits.**

This is a foundational course in research methods that will provide an overview of the basic principles of research design, methods, measurements, data collection and data management in the field of public health. Students will learn the differences between quantitative, qualitative and mixed methods approaches to public health research, as well as how to formulate and evaluate research questions. The overall goal of this course is to provide practical, step-by-step guidance to the research process under the scientific method framework. Prerequisites: MPH 612 and HLSC 746.

### **MPH 622. Environmental Health Law, Justice and Governance. 3 Credits.**

This course surveys the basic legal concepts affecting environmental health services and program enforcement and administration. It is designed to provide a fundamental background of environmental and public health law for public health officers and other environmental health workers to fulfill their respective roles more successfully. Workplace occupational health and safety will not be addressed in depth in this course. Pre- or corequisite: MPH 613.

### **MPH 630. Health Communication and Social Marketing for Public Health. 3 Credits.**

This course aims to provide students with a critical understanding of how social marketing offers a useful approach to address a variety of public health problems. It will emphasize social marketing within a broader strategic health communication framework. Students will learn how social marketing and strategic health communication can be applied effectively to address public health issues and how to design effective health communication programs. Pre- or corequisite: MPH 611.

### **MPH 632. Environmental and Occupational Health Risk Assessment. 3 Credits.**

This course is an introduction to risk assessment, as applied to environmental and workplace hazards. It examines the fundamental concepts of risk. Students will learn the United States Environmental Protection Agency (USEPA) standard and advanced methodology for quantitative risk assessment including hazard identification, exposure assessment, dose-response modeling, risk characterization, and risk communication. Utilization of qualitative assessment methods and ecological risk assessment are also explored. Pre- or corequisite: MPH 613.

### **MPH 640. Health Disparities and Social Justice. 3 Credits.**

This course provides an introduction to the topic of global health disparities through an in-depth examination and discussion of the relationship between social injustice and inequitable health outcomes. Students will be introduced to the social and environmental determinants of health disparities and the pathways and mechanisms leading to inequitable health outcomes in vulnerable groups, as well as strategies for addressing these determinants to improve health. Pre- or corequisite: MPH 611.

### **MPH 643. Principles of Toxicology. 3 Credits.**

An introduction to the fundamentals of toxicology with emphasis on the interaction of environmental and industrial chemicals with humans are studied. Exposure, dose response, kinetics and distribution of toxicants, metabolism of toxic agents, factors that affect toxicity and introductory chemical carcinogenesis are discussed.

### **MPH 651. Health Promotion Theory and Practice. 3 Credits.**

This course provides students with a comprehensive overview of the practical and theoretical principles and skills needed to plan, implement, and evaluate health promotion programs in a variety of settings. The course will help students apply constructs from theories to understand the determinants of health behaviors and emphasizes the importance of addressing health behavior change at the individual, interpersonal, organizational, community and societal levels of the social ecological model. Pre- or corequisite: MPH 611.

### **MPH 661. Program Planning and Evaluation. 3 Credits.**

This course provides public health graduate students with a comprehensive overview of the practical and theoretical principles and skills needed to plan, implement, and evaluate health programs in a variety of settings. Pre- or corequisite: MPH 611.

### **MPH 669. Applied Practice Experience. 1-3 Credits.**

This course provides students with an opportunity to engage in public health practice in the community or in a working environment. Applied practice experience (APE) is based on applied learning, problem-based and competency-linked activities. Students gain competence in public health practice relevant to the concentration area selected. The applied learning will require students to complete a project related to an actual public health issue that is a focus within a specific organization. Pre- or corequisite: Approval of Practicum Director and/or Program Director.

**MPH 670. Applied Mixed-Methods Research in Health Promotion. 3 Credits.**

Examines multicultural consideration across health promotion and public health domains, and developing a culturally sensitive and effective plan for health behavior change using mixed-methods research.

**MPH 688. Grant Writing for Public Health Practice. 3 Credits.**

This course covers issues and problems concerned with the development of grants and contracts as they relate to the health professions. The course focuses on the multiple roles of funding agencies and the importance of matching the interests of the grant seeker with the corresponding funding agency.

**MPH 689. Integrative Learning Experience. 1-3 Credits.**

This is the culminating course for the MPH program. Students demonstrate an ability to integrate and synthesize foundational and concentration-specific competencies from their MPH program coursework. Students complete assignments that address timely public health issues culminating in high quality written products and an e-portfolio that demonstrate the analysis, synthesis and intersection of course work and concurrent practicum experiences. Students from all tracks are required to complete this course prior to graduation.

**MPH 712. Applied Biostatistics. 3 Credits.**

This course presents modern methods for analyzing data from epidemiologic and public health studies using the latest statistical methods. Emphasis will also be placed on technical and statistical report writing. Pre- or corequisite: Satisfactory academic performance with B or above in MPH 746, MPH 612 and MPH 616 or approval from instructor or program director.

**MPH 713. Applied Statistical Programming. 3 Credits.**

This course covers programming and computing techniques using contemporary statistical packages. Emphasis is placed on practical issues relating to organizing, modifying, and preparing data for analysis. Pre- or corequisite: Satisfactory academic performance with B or above in MPH 746, MPH 612 and MPH 616 or approval from instructor or program director.

**MPH 716. Application of Epidemiological Methods. 3 Credits.**

The course aims to prepare students with hands-on experience in producing common epidemiological measures while critically evaluating the quality of data and the design of epidemiological investigations. Pre- or corequisite: Satisfactory academic performance with B or above in MPH 746, MPH 612 and MPH 616 or approval from instructor or program director.

**MPH 717. Epidemiology of Infectious Diseases. 3 Credits.**

This course focuses on the epidemiology of infectious diseases from a public health perspective. It applies traditional and contemporary epidemiological methods used to deal with infectious diseases. Pre- or corequisite: Satisfactory academic performance with B or above in MPH 746, MPH 612 and MPH 616 or approval from instructor or program director.

**MPH 746. Epidemiology. 3 Credits.**

This course examines epidemiology as a method for viewing inborn community health problems and as a body of knowledge derived from this method. Skills in using epidemiology as a method and as knowledge to solve community health problems will be included.

**MPH 761. Advanced Quantitative Methods. 3 Credits.**

This course adopts an applied approach to teaching health professions students the necessary competencies and skills in advanced quantitative methods. Topics include handling missing data, survey design and exploratory factor analysis, mediation and moderation analysis, and an introduction to confirmatory factor analysis and structural equation modeling (SEM). Pre- or corequisite: MPH 612 and MPH 746.

**MPH 776. Global Health. 3 Credits.**

This course will introduce the student to the political, social, cultural and ethical issues involved in disease prevention and health promotion globally. Specific emphasis will be on incidence/prevalence, morbidity/mortality, and identified health problems in specific regions and countries. This course will also identify international health prerogatives aimed at improving health status through education and intervention.

**MPH 778. Global Environmental Health. 3 Credits.**

The goal of this course is to guide students with a public health perspective to develop skills to identify and analyze environmental health problems globally. It is designed to provide knowledge on recognizing and evaluating major environmental health issues and risk factors in developed and developing countries by using group discussions and real-life case studies. Pre- or corequisite: MPH 613.

**MPH 784. Creating Sustainable Environmental Futures. 3 Credits.**

This course examines the interrelationships between individual and societal decisions and the global environment, and analyzes the consequences these interrelationships have for public health and sustainability. The course is organized into four in-depth modules: (1) toxic substances and environmental disasters, (2) food, sustainability, environmental quality and health, (3) climate, sea-level rise and public health, and (4) communities, sustainability and health. Students engage in an extensive examination of each area, analyze the public health implications, and consider various strategies for improving individual and population health, and enhancing sustainability, in the local area, the region, the nation and around the world.