

**PROGRAM IN PUBLIC HEALTH
MPH Core Competencies**

Course Key

HPH 500: Contemporary Issues in Public Health
HPH 501: Introduction to the Research Process
HPH 506: Biostatistics I
HPH 507: Biostatistics II
HPH 508: Health Systems Performance
HPH 514: Epidemiology for Public Health
HPH 516: Environmental & Occupational Health

HPH 523: Social & Behavioral Determinants of Health
HPH 525: Evaluating Public Health Initiatives
HPH 550: Theories of Health Behavior & Communication
HPH 555: Demography & Global Health
HPH 562: Data Management & Informatics
HPH 564: Qualitative Methods
HPH 581: Capstone Seminar: Population Health Issues

Note: Although Practicum is part of the Core Curriculum, the practicum course is not included in the core competency matrix, or in any of the matrices, because students select which competencies (at least one core and at least one concentration) to address in their practicum. Thus, it is possible that any one of the competencies listed across the matrices may be applicable to the practicum. The experiences students select for practicum will largely determine which competencies will be addressed.

Legend Primary Source of Learning Experience Secondary Source of Learning Experience

Core Competencies				Core Courses											
1. Biostatistics: Develop statistical reasoning and literacy.	HPH 500	HPH 501	HPH 506	HPH 507	HPH 508	HPH 514	HPH 516	HPH 523	HPH 525	HPH 550	HPH 555	HPH 562	HPH 564	HPH 581	
Learning Experiences:															
a. Describe the roles biostatistics serves in the discipline of public health.															
b. Describe basic concepts of probability, random variation and commonly used statistical probability distributions.															
c. Apply descriptive techniques commonly used to summarize public health data.															
d. Apply common statistical methods for inference.															
e. Interpret results of statistical analyses found in public health studies.															
2. Epidemiology: Understand patterns of disease and injury and related risk factors in human populations, how this knowledge is derived, and how this knowledge is used to control health problems in populations.	HPH 500	HPH 501	HPH 506	HPH 507	HPH 508	HPH 514	HPH 516	HPH 523	HPH 525	HPH 550	HPH 555	HPH 562	HPH 564	HPH 581	
Learning Experiences:															
a. Identify key sources of data for epidemiologic purposes.															

b. Describe a public health problem in terms of magnitude, person, time and place.														
c. Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion of health issues.														
d. Become familiar with basic ethical and legal principles pertaining to the collection, maintenance, use and dissemination of epidemiologic data.														
e. Apply the basic terminology and definitions of epidemiology.														
f. Calculate basic epidemiology measures.														
g. Draw appropriate inferences from epidemiologic data.														
h. Evaluate the strengths and limitations of epidemiologic reports.														
i. Identify the basic epidemiological study designs.														
3. Environmental and Occupational Health: Understand environmental and occupational factors including biological, physical and chemical factors that affect the health of a community and its workers.	HPH 500	HPH 501	HPH 506	HPH 507	HPH 508	HPH 514	HPH 516	HPH 523	HPH 525	HPH 550	HPH 555	HPH 562	HPH 564	HPH 581
Learning Experiences:														
a. Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents.														
b. Describe genetic, physiologic and psychosocial factors that affect susceptibility to adverse health outcomes following exposure to environmental and occupational hazards.														
c. Describe federal and state regulatory programs, guidelines and authorities that control environmental and occupational health issues.														
d. Specify current environmental and occupational risk assessment methods.														
e. Specify approaches for assessing, preventing and controlling environmental and occupational hazards that pose risks to human health and safety.														
f. Explain the general mechanisms of toxicity in eliciting a toxic response to various environmental and occupational exposures.														

4. Health Services Administration: Understand the organization, cost, financing, quality, and equity of the health care delivery system; the role of the health care delivery system in maintaining the health of populations; and current health management and policy issues.														
	HPH 500	HPH 501	HPH 506	HPH 507	HPH 508	HPH 514	HPH 516	HPH 523	HPH 525	HPH 550	HPH 555	HPH 562	HPH 564	HPH 581
Learning Experiences:														
a. Identify the organization, financing, and delivery issues of the health care system and the public health system in the US.														
b. Describe the legal, ethical, historical, and philosophical bases for the health care delivery system and for the public health system in the US.														
c. Discuss the policy process for improving the health status of populations.														
d. Describe the attributes of leadership for public health and health services delivery organizations.														
e. Identify critical stakeholders for the planning, implementing, and evaluating of public health programs, policies and interventions.														
f. Illustrate how changes in public health systems (including input, processes, and output) can be measured.														
g. Analyze the effects of political, social and economic policies on public health systems at the local, state, national and international levels.														
h. Assess strengths and weaknesses of applying the systems approach to public health problems.														
5. Social and Behavioral Sciences: Understand the behavioral, social, and cultural factors related to individual and population health and health disparities over the life course.														
	HPH 500	HPH 501	HPH 506	HPH 507	HPH 508	HPH 514	HPH 516	HPH 523	HPH 525	HPH 550	HPH 555	HPH 562	HPH 564	HPH 581
Learning Experiences:														
a. Identify basic theories, concepts and models from a range of social and behavioral disciplines that are used in public health research and practice.														
b. Identify the social and behavioral factors that affect health of individuals and populations using an ecological framework.														
c. Describe the merits and unintended consequences of social and behavioral science interventions and policies.														

d. Identify seminal research and researchers in the social and behavioral disciplines that have impacted public health research and practice.														
e. Apply behavioral and social change theories and models to real-world situations.														
f. Identify the proximate determinants of fertility and the reasons for the fertility transition.														
g. Describe general patterns in mortality over time by age and sex.														
h. Interpret components of a life table.														
i. Explain the household transition including changes in contraceptive use, marital fertility, cohabitation, and female labor force participation.														
6. Professionalism: Understand the foundations of the public health profession, and demonstrate professional, culturally competent knowledge and practice.	HPH 500	HPH 501	HPH 506	HPH 507	HPH 508	HPH 514	HPH 516	HPH 523	HPH 525	HPH 550	HPH 555	HPH 562	HPH 564	HPH 581
Learning Experiences:														
a. Become familiar with the unique characteristics of the field (e.g., population-focused, community-oriented, prevention-motivated, and rooted in social justice) and how these contribute to professional practice.														
b. Discuss major events in the history and development of the public health profession and their relevance for practice in the field.														
c. Apply basic principles of ethical analysis (e.g., the Public Health Code of Ethics) to issues of public health practice and policy.														
d. Apply the core functions of assessment, policy development, and assurance in the analysis of public health problems and their solutions.														
e. Learn the importance for public health professionals to exhibit high standards of personal and organizational integrity, compassion, honesty and respect for all people.														
f. Distinguish between population and individual ethical considerations in relation to the benefits, costs, and burdens of public health programs.														
g. Discuss the importance of working collaboratively with diverse communities and constituencies.														

h. Demonstrate effective written and oral skills for communicating with different audiences in the context of professional public health activities.														
i. Identify the importance of cultural competency to public health and to the achievement of its goals.														
7. Informatics: Collect, manage and organize data to produce information and meaning; understand how the information and knowledge exchange process can be designed to achieve specific objectives.	HPH 500	HPH 501	HPH 506	HPH 507	HPH 508	HPH 514	HPH 516	HPH 523	HPH 525	HPH 550	HPH 555	HPH 562	HPH 564	HPH 581
Learning Experiences:														
a. Apply legal and ethical principles to the use of information technology and resources in public health settings.														
b. Use information technology to access, evaluate, and interpret public health data.														
c. Utilize sources of demographic information from the Internet.														
d. Demonstrate ability to use appropriate statistical software to manage data.														
e. Apply basic informatics techniques with vital statistics and public health records in the description of public health characteristics and in public health research and evaluation.														
f. Describe basic methods of qualitative data analysis, such as open and focused coding, methodological, thematic, and integrative memoing, and triangulation.														
8. Research Methods: Synthesize the literature in an area of public health, including identification of gaps in knowledge and strengths and limitations in study design.	HPH 500	HPH 501	HPH 506	HPH 507	HPH 508	HPH 514	HPH 516	HPH 523	HPH 525	HPH 550	HPH 555	HPH 562	HPH 564	HPH 581
Learning Experiences:														
a. Develop a significant, testable population health-related research question.														
b. Summarize the published literature related to a research question using the recognized sources of health care literature including PubMed and the Cochrane Collaboration.														
c. Explain basic measurement theory and common health measurement scales.														

d. Apply theories and models of social and behavior change to study design.														
e. Describe the principal methods of data collection, including surveys, administrative records abstraction, and qualitative data collection.														
f. Identify common secondary data sources for population health research.														
g. Practice two methods of qualitative data collection: in-depth interviews and focus groups.														
h. Identify which qualitative research approach and method(s) of data collection are best-suited to answering particular kinds of research questions.														
9. Evaluation: Evaluate strategies to improve individual and population health.	HPH 500	HPH 501	HPH 506	HPH 507	HPH 508	HPH 514	HPH 516	HPH 523	HPH 525	HPH 550	HPH 555	HPH 562	HPH 564	HPH 581
Learning Experiences:														
a. Identify, define, and frame a public health problem and the situations that lead to it.														
b. Analyze information relevant to specific health policy issues and analyze policy options for public health programs.														
c. Determine the stakeholders, feasibility and expected outcomes of different policy options.														
d. Identify the criteria and gather the information necessary to judge the success of specific public health strategies.														
e. Identify mechanisms to monitor and evaluate programs and policies for their effectiveness and quality.														
f. Evaluate the costs and benefits of the options/alternate strategies for a public health problem.														
g. Develop a feasibility, impact, or evaluation plan for a public health problem.														