

## Coverage of MPH Discipline-specific Competencies MPH Core Courses and Special Projects

MPH Core Competencies	PHC 6050	PHC 6001	PHC 6102	PHC 6313	PHC 6406	Special Project
<b>Biostatistics</b>						
Describe the roles biostatistics serves in the discipline of public health	X			X		
Describe basic concepts of probability, random variation and commonly used statistical probability distributions	X					
Describe preferred methodological alternatives to commonly used statistical methods when assumptions are not met	X					
Distinguish among the different measurement scales and the implications for selection of statistical methods to be used based on these distinctions	X					
Apply descriptive techniques commonly used to summarize public health data	X				X	P
Apply common statistical methods for inference	X					P
Apply descriptive and inferential methodologies according to the type of study design for answering a particular research question	X					P
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	X		X	X		X
Interpret results of statistical analyses found in public health studies	X		X	X	X	X
Develop written and oral presentations based on statistical analyses for both public health professionals and educated lay audiences						X

X: Competency is expected upon completion of the course

P: Competency has the potential to be achieved depending upon the scope and topic of each student's Special Project (internship or research project)

PHC 6050: Statistical Methods for Health Sciences I

PHC 6001: Principles of Epidemiology

PHC 6102: Introduction to Public Health Administrative Systems

PHC 6313: Environmental Health Concepts in Public Health

PHC 6406: Psychological, Behavioral, and Social Issues in Public Health

Special Project: Students may enroll in one of the following special project courses: PHC 6946 Public Health Internship, PHC 6912 Independent Research Project, or PHC 6913 Biostatistics Project. Each project is designed to meet an individual student's needs. Students achieve or enhance competence in a variety of areas through their special projects.

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<b>Environmental Health</b>						
Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents				X		
Describe genetic, physiologic and psychosocial factors that affect susceptibility to adverse health outcomes following exposure to environmental hazards				X		
Describe federal and state regulatory programs, guidelines and authorities that control environmental health issues				X		
Specify current environmental risk assessment methods				X		
Specify approaches for assessing, preventing and controlling environmental hazards that pose risks to human health and safety				X		
Explain the general mechanisms of toxicity in eliciting a toxic response to various environmental exposures				X		
Discuss various risk management and risk communication approaches in relation to issues of environmental justice and equity				X		
Develop a testable model of environmental insult				X		

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<b>Epidemiology</b>						
Identify key sources of data for epidemiologic purposes		X		X		P
Identify the principles and limitations of public health screening programs		X			X	
Describe a public health problem in terms of magnitude, person, time and place		X	X	X		P
Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion of health issues		X		X		
Identify basic ethical and legal principles pertaining to the collection, maintenance, use and dissemination of epidemiologic data		X				P
Apply the basic terminology and definitions of epidemiology		X		X		P
Calculate basic epidemiology measures		X				P
Communicate epidemiologic information to lay and professional audiences			X			P
Draw appropriate inferences from epidemiologic data		X	X	X		P
Evaluate the strengths and limitations of epidemiologic reports		X		X		P
Apply basic infectious disease methods and data		X				
Apply basic chronic disease methods and data		X				

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<b>Public Health Management &amp; Policy</b>						
Identify the main components and issues of the organization, financing and delivery of health services and public health systems in the US			X			
Describe the legal and ethical bases for public health and health services			X			
Explain methods of ensuring community health safety and preparedness			X			P
Discuss the policy process for improving the health status of populations			X			P
Apply the principles of program planning, development, budgeting, management and evaluation in organizational and community initiatives			X			P
Apply the principles of strategic planning and marketing to public health						
Apply quality and performance improvement concepts to address organizational performance issues			X			P
Apply “systems thinking” for resolving organizational problems			X			P
Communicate health policy and management issues using appropriate channels and technologies			X			
Demonstrate leadership skills for building partnerships			X			P
Identify future challenges for public health and potential solutions			X			

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<b>Social &amp; Behavioral Sciences</b>						
Identify basic theories, concepts and models from a range of social and behavioral disciplines that are used in public health research and practice					X	P
Identify the causes of social and behavioral factors that affect health of individuals and populations					X	P
Identify individual, organizational, and community concerns, assets, resources and deficits for social and behavioral science interventions and policies					X	
Identify critical stakeholders for the planning, implementation and evaluation of public health programs, policies and interventions			X		X	P
Describe steps and procedures for the planning, implementation and evaluation of public health programs, policies and interventions			X		X	P
Describe the role of social and community factors in both the onset and solution of public health problems			X	X	X	X
Describe the merits of social and behavioral science interventions and policies			X		X	P
Apply evidence-based approaches in the development and evaluation of social and behavioral science interventions			X		X	P
Apply ethical principles to public health program planning, implementation, and evaluation					X	
Specify multiple targets and levels of intervention for social and behavioral science programs and/or policies					X	

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