

School wide Core Public Health Competencies and Learning Experiences

2.6.a School wide Core Public Health Competencies 2.6.b Learning experiences to meet competencies (required courses) Upon Graduation all MPH students will be able to:	Biostatistics BST 600 or BST 611/612	Environ Health Sciences ENH 600	Epidemiology EPI 600 or EPI 610	Health Services Admin HCO 600	Social & Behav Sciences HB 600
Domain: Biostatistics					
MPH 1. Describe the roles biostatistics serves in public health including applications in other areas of public health and the health sciences.	✓				
MPH 2. Apply descriptive techniques commonly used to summarize public health data.	✓				
MPH 3. Utilize the logic and language of scientific methods in public health and other life sciences research.	✓				
MPH 4. Use key concepts of probability, random variation, and commonly used statistical probability distributions.	✓				
MPH 5. Understand and utilize basic biostatistical concepts and distinguish among the different measurement scales and the implications for selection of statistical methods to be used based on these distinctions.	✓				
MPH 6. Describe the basic methods of measurement including reliability and validity.	✓				
MPH 7. Use basic statistics in testing hypotheses and setting confidence intervals and apply common statistical methods for inference.	✓				
MPH 8. Specify preferred methodological alternatives to commonly used statistical methods when assumptions are not met.	✓				
MPH 9. Understand analysis of basic experimental designs and apply descriptive and inferential methodologies according to the type of study design for answering a particular research question.	✓				
MPH 10. Understand simple and multiple linear regression.	✓				
MPH 11. Interpret results of statistical analysis in public health studies.	✓				
Domain: Environmental Health Sciences					
MPH 12. Specify approaches for assessing, preventing, and controlling environment hazards that pose risks to human health and safety.		✓			
MPH 13. Describe the direct and indirect human, ecological, and safety effects of major environmental and occupational agents.		✓			
MPH 14. Specify current environmental risk assessment methods.		✓			
MPH 15. Describe genetic, physiologic, and psychosocial factors that affect susceptibility to adverse health outcomes following exposure to environmental hazards.		✓			
MPH 16. Discuss various risk management and risk communication approaches in relation to issues of environmental justice and equity.		✓			
MPH 17. Explain the general mechanisms of toxicity in eliciting a toxic response to various environmental exposures.			✓		

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MPH 18. Develop a testable model of environmental injury.		✓			
MPH 19. Describe federal and state regulatory programs, guidelines, and authorities that control environmental health issues.		✓			
Domain: Epidemiology					
MPH 20. Identify key sources of epidemiologic data.			✓		
MPH 21. Describe disease patterns according to person, place and time.			✓		
MPH 22. Define and use basic epidemiologic terms as they are commonly used today.			✓		
MPH 23. Calculate and interpret measures of disease in one population, such as risk, rate, incidence, and prevalence.			✓		
MPH 24. Calculate/interpret relative measures of disease (relative risk).			✓		
MPH 25. Calculate/interpret impact measures of disease (attributable risk).			✓		
MPH 26. Interpret epidemiologic data with regard to bias, confounding, and precision.			✓		
MPH 27. Describe common epidemiologic study designs (e.g., cross-sectional, cohort, and case-control) and their strengths and weaknesses.			✓		
MPH 28. Describe goals and process of screening, and define/interpret the screening measures' sensitivity, specificity, & positive predictive value.			✓		
MPH 29. Evaluate the strengths and weaknesses of conclusions reached in epidemiologic reports and published studies.			✓		
MPH 30. Communicate the interpretation of epidemiologic data to lay audiences.			✓		
MPH 31. Describe the importance of epidemiologic data as a basis for public health interventions for disease control.			✓		
MPH 32. Describe important legal and ethical issues relating to the collection, use, analysis, and dissemination of epidemiologic data.			✓		
Domain: Social & Behavior Science					
MPH 33. Identify basic theories, concepts & models from a range of social & behavioral disciplines that are used in public health research & practice.					✓
MPH 34. Identify the causes of social and behavioral factors that affect health of individuals and populations.					✓
MPH 35. Identify individual, organizational, & community concerns, assets, resources and deficits for social and behavioral science interventions.					✓
MPH 36. Identify critical stakeholders for the planning, implementation and evaluation of public health programs, policies and interventions.					✓

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MPH 37. Describe steps and procedures for the planning, implementation and evaluation of public health programs, policies and interventions.					✓
MPH 38. Describe the role of social and community factors in both the onset and solutions of public health problems.					✓
MPH 39. Describe the merits of social and behavioral science interventions and policies.					✓
MPH 40. Apply evidence-based approaches in the development and evaluation of social and behavioral science interventions.					✓
MPH 41. Apply ethical principles to public health program planning, implementation and evaluation.					✓
MPH 42. Specify multiple targets and levels of intervention for social and behavioral science programs and/or policies.					✓
Domain: Health Services Administration					
MPH 43. Identify the main components & issues regarding organization, financing & delivery of health services and public health systems in the US.				✓	
MPH 44. Discuss policy process for improving health status of populations.				✓	
MPH 45. Describe legal & ethical bases for public health & health services.				✓	
MPH 46. Apply principles of strategic management, planning and marketing to public health.				✓	
MPH 47. Communicate health policy and management issues using appropriate outlets and effective technologies.				✓	
MPH 48. Demonstrate leadership skills for building partnerships.				✓	
MPH 49. Apply principles of program planning, development, budgeting, management and evaluation in organization and community initiatives.				✓	
MPH 50. Explain methods of ensuring community health safety and preparedness.				✓	
MPH 51. Apply “systems thinking” for resolving organizational issues and public health practice problems.				✓	
MPH 52. Apply quality and performance improvement concepts to address organizational performance issues.				✓	
MPH 53. Apply research principles to understanding health policy problems and policy issues.				✓	