

Discipline-specific Competencies

Biostatistics (BIOS 600)

- Describe the roles biostatistics serves in the discipline of public health.
- Describe basic concepts of probability, random variation and commonly used statistical probability distributions.
- Describe preferred methodological alternatives to commonly used statistical methods when assumptions are not met.
- Distinguish among the different measurement scales and the implications for selection of statistical methods to be used based on these distinctions.
- Apply descriptive techniques commonly used to summarize public health data.
- Apply common statistical methods for inference.
- Apply descriptive and inferential methodologies according to the type of study design for answering a particular research question.
- 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.
- Interpret results of statistical analyses found in public health studies.
- Develop written and oral presentations based on statistical analyses for both public health professionals and educated lay audiences.

Environmental Health Sciences (ENVR 600)

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

Epidemiology (EPID 600)

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

Health Policy and Management (HPAA 600)

- Identify the main components and issues of the organization, financing and delivery of health services and public health systems in the U.S.
- Describe the legal and ethical bases for public health and health services.
- Explain methods of ensuring community health safety and preparedness.
- Discuss the policy process for improving the health status of populations.
- Apply the principles of program planning, development, budgeting, management and evaluation in organizational and community initiatives.
- Apply principals of strategic planning and marketing to public health.
- Apply quality and performance improvement concepts to address organizational performance issues.
- Apply “systems thinking” for resolving organizational problems.
- Communicate health policy and management issues using appropriate channels and technologies.
- Demonstrate leadership skills for building partnerships.

Social and Behavioral Sciences (HBHE 600)

- Identify basic theories, concepts and models from a range of social and behavioral disciplines that are used in public health research and practice.
- Identify the causes of social and behavioral factors that affect health of individual and populations.
- Identify individual, organizational and community concerns, assets, resources and deficits for social and behavioral science interventions.

- Identify critical stakeholders for the planning, implementation and evaluation of public health programs, policies and interventions.
- Describe steps and procedures for the planning, implementation and evaluation of public health programs, policies and interventions.
- Describe the role of social and community factors in both the onset and solution of public health problems.
- Describe the merits of social and behavioral science interventions and policies.
- Apply evidence-based approaches in the development and evaluation of social and behavioral science interventions.
- Apply ethical principles to public health program planning, implementation and evaluation.
- Specify multiple targets and levels of intervention for social and behavioral science programs and/or policies.

Introduction to Public Health (SPHG 600)

- Embrace and justify a definition of public health that captures the unique characteristics of the field in terms of its history, core values, functions, and philosophy.
- Demonstrate understanding of key public health concepts, processes, methods, and data that are essential in understanding a public health problem and the approaches essential to public health practice.
- Describe how biological, environmental, socio-economic, behavioral, cultural, and other factors that impact human health, influence the global and societal burden of disease, and contribute to health disparities as well as specific individual and community health outcomes.
- Communicate and value the legal and ethical bases for public health and the cultural context of public health issues and respectful engagement with people of different cultures and socioeconomic structures.
- Demonstrate the role of the multiple disciplines and appreciate the importance of working collaboratively with diverse communities, constituencies (e.g. researchers, practitioners, agencies and organizations) to advance public health goals.
- Explain the evolution of the public health system and characterize the U.S. public health system in terms of its organizational structure, policies, objectives and how the U.S. system compares to public health systems in other countries.