

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 a definition of public health that captures 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.
- Discuss sentinel events in the history and development of the public health profession and their relevance for practice in the field.
- Describe the role that biostatistics, epidemiology, environmental sciences, health behavior, and health policy and management serves in the discipline of public health.
- Describe a public health problem in terms of magnitude, person, time and place.
- Describe how social, behavioral, environmental, and biological factors contribute to specific individual and community health outcomes.
- Describe the legal and ethical bases for public health and health services
- Engage in dialogue and learning from others to advance public health goals.
- Appreciate the importance of working collaboratively with diverse communities and constituencies (e.g. researchers, practitioners, agencies and organizations).