

VCU MPH Program Competencies, Effective Fall 2012

A. BIostatISTICS

Competencies: Upon graduation a student with an MPH should be able to...

- A. 1. Describe the roles biostatistics serves in the discipline of public health.
- A. 2. Describe basic concepts of probability, random variation and commonly used statistical probability distributions.
- A. 3. Describe preferred methodological alternatives to commonly used statistical methods when assumptions are not met.
- A. 4. Distinguish among the different measurement scales and the implications for selection of statistical methods to be used based on these distinctions.
- A. 5. Apply descriptive techniques commonly used to summarize public health data.
- A. 6. Apply common statistical methods for inference.
- A. 7. Apply descriptive and inferential methodologies according to the type of study design for answering a particular research question.
- A. 8. 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.
- A. 9. Interpret results of statistical analyses found in public health studies.
- A. 10. Develop written and oral presentations based on statistical analyses for both public health professionals and educated lay audiences.

B. ENVIRONMENTAL HEALTH SCIENCES

Competencies: Upon graduation a student with an MPH should be able to...

- B. 1. Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents.
- B. 2. Describe genetic, physiologic and psychosocial factors that affect susceptibility to adverse health outcomes following exposure to environmental hazards.
- B. 3. Describe federal and state regulatory programs, guidelines and authorities that control environmental health issues.
- B. 4. Specify current environmental risk assessment methods.
- B. 5. Specify approaches for assessing, preventing and controlling environmental hazards that pose risks to human health and safety.
- B. 6. Explain the general mechanisms of toxicity in eliciting a toxic response to various environmental exposures.
- B. 7. Discuss various risk management and risk communication approaches in relation to issues of environmental justice and equity.

C. EPIDEMIOLOGY

Competencies: Upon graduation a student with an MPH should be able to...

- C. 1. Identify key sources of data for epidemiologic purposes.
- C. 3. Describe a public health problem in terms of magnitude, person, time and place.
- C. 4. Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion of health issues.
- C. 5. Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use and dissemination of epidemiologic data.
- C. 6. Apply the basic terminology and definitions of epidemiology.
- C. 7. Calculate basic epidemiology measures.
- C. 8. Communicate epidemiologic information to lay and professional audiences.
- C. 9. Draw appropriate inferences from epidemiologic data.
- C. 10. Evaluate the strengths and limitations of epidemiologic reports.

D. HEALTH POLICY AND MANAGEMENT

Competencies: Upon graduation a student with an MPH should be able to...

- D. 1. Identify the main components and issues of the organization, financing and delivery of health services and public health systems in the US.
- D. 2. Describe the legal and ethical bases for public health and health services.
- D. 3. Explain methods of ensuring community health safety and preparedness.
- D. 4. Discuss the policy process for improving the health status of populations.
- D. 9. Communicate health policy and management issues using appropriate channels and technologies.
- D. 10. Demonstrate leadership skills for building partnerships.

E. SOCIAL AND BEHAVIORAL SCIENCES

Competencies: Upon graduation a student with an MPH should be able to...

- E. 1. Identify basic theories, concepts and models from a range of social and behavioral disciplines that are used in public health research and practice.
- E. 2. Identify the causes of social and behavioral factors that affect health of individuals and populations.
- E. 3. Identify individual, organizational and community concerns, assets, resources and deficits for social and behavioral science interventions.
- E. 4. Identify critical stakeholders for the planning, implementation and evaluation of public health programs, policies and interventions.
- E. 5. Describe steps and procedures for the planning, implementation and evaluation of public health programs, policies and interventions.
- E. 6. Describe the role of social and community factors in both the onset and solution of public health problems.
- E. 7. Describe the merits of social and behavioral science interventions and policies.
- E. 8. Apply evidence-based approaches in the development and evaluation of social and behavioral science interventions.
- E. 9. Apply ethical principles to public health program planning, implementation and evaluation.
- E. 10. Specify multiple targets and levels of intervention for social and behavioral science programs and/or policies.

F. COMMUNICATION AND INFORMATICS

Competencies: Upon graduation, it is increasingly important that a student with an MPH be able to...

- F. 2. Describe how societal, organizational, and individual factors influence and are influenced by public health communications.
- F. 4. Apply theory and strategy-based communication principles across different settings and audiences.
- F. 5. Apply legal and ethical principles to the use of information technology and resources in public health settings.
- F. 6. Collaborate with communication and informatics specialists in the process of design, implementation, and evaluation of public health programs.
- F. 7. Demonstrate effective written and oral skills for communicating with different audiences in the context of professional public health activities.
- F. 8. Use information technology to access, evaluate, and interpret public health data.
- F. 9. Use informatics methods and resources as strategic tools to promote public health.
- F. 10. Use informatics and communication methods to advocate for community public health programs and policies.

G. DIVERSITY AND CULTURE

Competencies: Upon graduation, it is increasingly important that a student with an MPH be able to...

- G. 2. Explain how professional ethics and practices relate to equity and accountability in diverse community settings.
- G. 5. Use the basic concepts and skills involved in culturally appropriate community engagement and empowerment with diverse communities.
 - I.
- G. 6. Apply the principles of community-based participatory research to improve health in diverse populations.
 - I.
- G. 9. Cite examples of situations where consideration of culture-specific needs resulted in a more effective modification or adaptation of a health intervention.
 - I.
- G. 10. Develop public health programs and strategies responsive to the diverse cultural values and traditions of the communities being served.

H. LEADERSHIP

Competencies: Upon graduation, it is increasingly important that a student with an MPH be able to...

- H. 3. Articulate an achievable mission, set of core values, and vision.
- H. 4. Engage in dialogue and learning from others to advance public health goals.
- H. 5. Demonstrate team building, negotiation, and conflict management skills.
- H. 6. Demonstrate transparency, integrity, and honesty in all actions.

I. PUBLIC HEALTH BIOLOGY

Competencies: Upon graduation, it is increasingly important that a student with an MPH be able to...

- I. 3. Identify the ethical, social and legal issues implied by public health biology.

J. PROFESSIONALISM

Competencies: Upon graduation, it is increasingly important that a student with an MPH be able to...

- J. 2. Apply basic principles of ethical analysis (e.g. the Public Health Code of Ethics, human rights framework, other moral theories) to issues of public health practice and policy.
- J. 3. Apply evidence-based principles and the scientific knowledge base to critical evaluation and decision-making in public health.
- J. 5. Promote high standards of personal and organizational integrity, compassion, honesty and respect for all people.
- J. 8. Distinguish between population and individual ethical considerations in relation to the benefits, costs, and burdens of public health programs.
- J. 9. 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.
- J. 10. Appreciate the importance of working collaboratively with diverse communities and constituencies (e.g. researchers, practitioners, agencies and organizations).

K. PROGRAM PLANNING

Competencies: Upon graduation, it is increasingly important that a student with an MPH be able to...

- K. 1. Describe how social, behavioral, environmental, and biological factors contribute to specific individual and community health outcomes.
- K. 2. Describe the tasks necessary to assure that program implementation occurs as intended.
- K. 3. Explain how the findings of a program evaluation can be used.
- K. 4. Explain the contribution of logic models in program development, implementation, and evaluation.
- K. 5. Differentiate among goals, measurable objectives, related activities, and expected outcomes for a public health program.
- K. 6. Differentiate the purposes of formative, process, and outcome evaluation.
- K. 7. Differentiate between qualitative and quantitative evaluation methods in relation to their strengths, limitations, and appropriate uses, and emphases on reliability and validity.