

Learning Objectives for M.P.H. in Epidemiology of Microbial Diseases

Core Curriculum

Upon completing the core curriculum of the M.P.H. program, the student will be able to:

- Demonstrate a knowledge base in the disciplines of biostatistics, chronic and infectious disease epidemiology, health systems, public policy, social and behavioral sciences, and environmental health.
- Apply basic research skills to specific public health problems in both group and individual settings, including the ability to define problems; construct, articulate and test hypotheses; draw conclusions; and communicate findings to a variety of audiences.
- Explain the interrelationships between a multitude of factors that can impact on a public health problem, including scientific, medical, environmental, cultural, social, behavioral, economic, political, and ethical factors.
- Review, critique, and evaluate public health reports and research articles.
- Apply public health concepts, principles, and methodologies obtained through formal course work to actual problems experienced in the community or work environment.
- Critically evaluate programs, interventions, and outcomes that relate to public health practice.
- Apply ethical standards and professional values as they relate to the practice of public health.
- Demonstrate sensitivity to the social context within which public health professionals practice.

Epidemiology of Microbial Diseases

Upon receiving an M.P.H. degree with a concentration in Epidemiology of Microbial Diseases, the student will be able to:

- Define the causes, detection, transport, transmission, and pathogenesis of infectious diseases.
- Describe major infectious disease problems in terms of magnitude, person, time, and place.
- Describe molecular, immunologic, environmental, and behavioral factors that affect exposure/and or susceptibility to infectious agents.
- Integrate general molecular, immunological, ecological, and behavioral concepts of infectious diseases of public health importance.
- Compare the available solutions and approaches for the control of important global infectious diseases and appraise the challenges in their effective control.
- Design studies of the etiology, prevention, control, and detection of infectious diseases.
- Describe the interactions of infectious agents with vertebrate and/or invertebrate hosts and the environment.
- Explain the immunological basis of vaccination and describe how the use of vaccines allows for the effective control of infectious diseases in the U.S. and abroad.
- Describe the spatial and temporal dynamics of infectious disease epidemics.
- Define the ethical challenges in research, prevention, and control of infectious diseases in the US and abroad.