MASTER OF PUBLIC HEALTH: PUBLIC HEALTH EPIDEMIOLOGY

The school of population health offers a variety of degree options and graduate courses. In health, a master of public health is offered with five majors.

MPH Program

The MPH degree program is fully accredited by the Council on Education for Public Health (CEPH) and requires four semesters to complete as a full-time student. Part-time students take approximately eight semesters to complete the program.

The core competencies for the Master of Public Health are:

Evidence-based Approaches to Public Health

1. Apply epidemiological methods to the breadth of settings and situations in public health practice
2. Select quantitative and qualitative data collection methods appropriate for a given public health context
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate
4. Interpret results of data analysis for public health research, policy or practice

Public Health & Health Care Systems

1. Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings
2. Discuss the means by which structural bias, social inequities and racism undermine health care and create challenges to achieving health equity at organizational, community, and societal level

Planning & Management to Promote Health

1. Assess population needs, assets and capacities that affect communities’ health
2. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs
3. Design a population-based policy, program, project, or intervention
4. Explain basic principles and tools of budget and resource management
5. Select methods to evaluate public health programs

Policy in Public Health

1. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence
2. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes
3. Advocate for political, social or economic policies and programs that will improve health in diverse populations
4. Evaluate policies for their impact on public health and health equity

Leadership

1. Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making
2. Apply negotiation and mediation skills to address organizational or community challenges

Communication

1. Select communication strategies for different audiences and sectors
2. Communicate audience-appropriate public health content, both in writing and through oral presentation
3. Describe the importance of cultural competence in communicating public health content

Interprofessional Practice

1. Perform effectively on interprofessional teams

Systems Thinking

Epidemiology involves factors affecting disease and disability in populations. As a fundamental science of public health and preventive medicine, epidemiology traditionally has focused on causation through population studies for both infectious and chronic diseases. Epidemiologists quantify the distribution of diseases and establish determinants of health problems by describing and analyzing the biological, environmental, and behavioral factors affecting health, illness, and premature death. Epidemiologists use descriptive and analytic techniques to gather information on disease occurrence, extend basic knowledge about the physical, mental, and social processes affecting health, and develop effective disease control measures.

Public Health Epidemiology (PHEP) major competencies:

1. Differentiate the major epidemiologic research study designs based on their strengths and limitations
2. Distinguish between the major sources of bias in epidemiologic research (confounding, selection bias, and measurement error) and select the appropriate method to evaluate and reduce bias
3. Apply criteria to support whether or not an association is causal
4. Formulate appropriate public health recommendations using evidence-based practice based on a synthesis of findings across studies found in the scientific literature
5. Design an epidemiologic study to address a question of interest
6. Identify and apply molecular/genetic principles and technologies in public health practice
7. Write a clear description of the rationale, methods, results, and interpretation of an epidemiologic investigation
8. Identify, analyze, and interpret data arising from local, national, or international research and surveillance databases
Applicants are required to complete an online application, as well as submit official transcripts from all institutions where they have taken courses (transcripts from institutions outside the US must be translated, evaluated, and reported on the 4.00 scale), 3 letters of recommendation (2 of which must be from persons with a graduate degree), a resume, and a letter of statement of purpose.

The GRE is not required for graduates from an accredited US institution with a GPA ≥ 3.00. The GRE may be required by the MPH Admissions Committee for applicants with a GPA < 3.00. The GRE is required for all students graduating from institutions outside the US and any student with a GPA < 2.7.

Regular admission to the MPH program requires:

- An earned bachelor’s degree from an accredited college or university
- GPA ≥ 3.00 (on a 4.00 scale)
- All students must have foundation courses in college-level mathematics, and social sciences
  - Environmental and Occupational Health and Safety majors must also complete college-level courses in organic/inorganic chemistry, organic chemistry and biological science (biology, biochemistry, anatomy, physiology, etc.)
  - Public Health Epidemiology majors also must complete college level courses in biological sciences (e.g., biology, biochemistry, anatomy, physiology, etc.)
- TOEFL ≥ 550 (paper-based), ≥ 213 (computer-based), or ≥79 (IBT) for applicants who graduated from institutions outside the US.

Provisional admission to the MPH program may be offered with one or more of the following deficiencies:

- Missing foundation course(s)
- GPA < 3.00, but ≥ 2.7

Provisional students take 4 courses (12 credit hours) in the MPH program. Preferably, all 4 courses will be core courses, but 1 major specific course is also allowed. No electives may be taken. Students must attain a B or better in each of these courses to be admitted as a regular status student. Any student not attaining a B or better in these 4 courses could be dismissed from the program.

All MPH students are required to take the following 8 (24 credit hours) core courses.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>PUBH 6000</td>
<td>Biostatistics</td>
<td>3</td>
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<tr>
<td>PUBH 6010</td>
<td>Public Health Epidemiology</td>
<td>3</td>
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<tr>
<td>PUBH 6020</td>
<td>Management and Leadership in Public Health</td>
<td>3</td>
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<tr>
<td>PUBH 6050</td>
<td>Concepts and Issues in Environmental Health</td>
<td>3</td>
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<tr>
<td>PUBH 6080</td>
<td>Social Determinants of Health</td>
<td>3</td>
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<tr>
<td>PUBH 6090</td>
<td>Issues in Public Health</td>
<td>3</td>
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<tr>
<td>PUBH 6950</td>
<td>Integrative Learning Experience</td>
<td>2</td>
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<td>One of the Following Must Be Completed:</td>
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<tr>
<td>PUBH 6960</td>
<td>Internship in Public Health</td>
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All PHEP majors are required to take the following 5 (15 credit hours) major specific courses. In addition, all PHEP majors are required to take 2 (total of 6 credit hours) advised electives.

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<tr>
<th>Code</th>
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<th>Hours</th>
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<tr>
<td>PUBH 6030</td>
<td>Advanced Epidemiology</td>
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<td>PUBH 6060</td>
<td>Advanced Biostatistics</td>
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<tr>
<td>PUBH 6120</td>
<td>Epidemiology Infectious Diseases</td>
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<td>PUBH 6550</td>
<td>Chronic Disease Epidemiology</td>
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<td>PUBH 6070</td>
<td>Genetic Epidemiology</td>
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<tr>
<td>or PUBH 6130</td>
<td>Molecular Epidemiology</td>
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<td>Total Hours</td>
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