MASTER OF PUBLIC HEALTH: ENVIRONMENTAL AND OCCUPATIONAL HEALTH

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

1. Apply systems thinking tools to a public health issue

Environmental and Occupational Health (ENVH): Specialists in this field focus on a combination of scientific, technical, and regulatory aspects of public health related to the assessment and control of hazardous physical, chemical, and biological agents in non-occupational and occupational environments as well as in emergencies. The major focus is recognition, evaluation, and control of human exposures to contaminated air, water, soil, and food. Emergency and disaster planning, preparation, and recognition are also emphasized.

Environmental and Occupational Health (ENVH) major competencies:

1. Apply fundamental and advanced principles of statistics, epidemiology, environmental health science, and occupational health science to real-world public health issues and problems
2. Objectively and subjectively assess chemical, biological, and physical agents classified as hazardous to human health
3. Conduct fundamental sample collection of media contaminated with hazardous chemical, biological, and physical agents
4. Critically analyze and interpret statistical, epidemiological, toxicological, and communicable disease information for prevention and remediation program development and implementation
5. Collect and evaluate applicable information to perform a risk assessment
6. Make administrative decisions based on recommended measures to reduce or eliminate environmental and occupational health hazards
7. Develop and present administrative, scientific, technical, and/or regulatory reports

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 5160</td>
<td>Environmental Health</td>
<td>3</td>
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<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 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>
</tr>
<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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<tr>
<td>PUBH 6970</td>
<td>Project in Public Health</td>
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Total Hours 24

All ENVH majors are required to take the following 5 (15 credit hours) major specific courses. In addition, all ENVH majors are required to take 2 (6 credit hours) advised electives.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>PUBH 5020</td>
<td>Occupational Health</td>
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<td>PUBH 5060</td>
<td>Occupational Safety</td>
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<td>PUBH 5310</td>
<td>Chemical Agents</td>
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<tr>
<td>PUBH 5520</td>
<td>Biological Agents</td>
<td>3</td>
</tr>
<tr>
<td>PUBH 5620</td>
<td>Physical Agents</td>
<td>3</td>
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Total Hours 15

FOUNDATIONAL COMPETENCIES: 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; 5. Compare the organization, structure, and function of health care, public health, and regulatory systems across national and international settings; 6. Discuss the means by which structural bias, social inequities, and racism undermine health and create challenges to achieving health equity at organizational, community, and societal levels; 7. Assess population needs, assets, and capacities that affect communities’ health; 8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs; 9. Design a population-based policy, program, project, or intervention; 10. Explain basic principles and tools of budget and resource management; 11. Select methods to evaluate public health programs; 12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence; 13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes; 13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes; 14. Advocate for political, social, or economic policies and programs that will improve health in diverse populations; 15. Evaluate policies for their impact on public health and health equity; 16. Apply principles of leadership, governance, and management, which includes creating a vision, empowering others, fostering collaboration, and guiding decision making; 17. Apply negotiation and mediation skills to address organizational or community challenges; 18. Select communication strategies for different audiences and sectors; 19. Communicate audience-appropriate public health content, both in writing and through oral presentation; 20. Describe the importance of cultural competence in communicating public health content; 21. Perform effectively on interprofessional teams; 22. Apply systems thinking to a public health issue.

ENVIRONMENTAL AND OCCUPATIONAL HEALTH COMPETENCIES: 1. Apply fundamental and advanced principles of statistics, epidemiology, environmental health science, and occupational health science to real-world public health issues and problems; 2. Objectively and subjectively assess chemical, biological, and physical agents classified as hazardous to human health; 3. Conduct fundamental sample collection of media contaminated with hazardous chemical, biological, and physical agents; 4. Critically analyze and interpret statistical, epidemiological, toxicological, and communicable disease information for prevention and remediation program development and implementation; 5. Collect and evaluate applicable information to perform a risk assessment; 6. Make administrative decisions based on recommended measures to reduce or eliminate environmental and occupational health hazards; 7. Develop and present administrative, scientific, technical, and/or regulatory reports.
HEALTH PROMOTION AND EDUCATION COMPETENCIES: 1. Develop an intervention and survey based on a health theory; 2. Demonstrate skills to plan and implement appropriate health programs; 3. Explain the contribution of logic models in program development, implementation, and evaluation; 4. Identify evidence-based practices to address a variety of public health problems; 5. Demonstrate skills to present effective health programs using a variety of techniques and appropriate teaching strategies; 6. Develop strategies to organize community members to advocate for change that impacts public health; 7. Differentiate the purposes of formative, process, and outcome evaluation; 8. Apply program evaluation knowledge and skill using established models.

PUBLIC HEALTH EPIDEMIOLOGY 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, and international research and surveillance databases.

PUBLIC HEALTH POLICY AND LAW COMPETENCIES: 1. Demonstrate how legal rules from cases, statutes, and regulations apply to specific factual situations; 2. Interpret when legal authority can intervene in public health based on powers and limitations; 3. Select appropriate kinds of legal interventions to address specific public health issues and evaluate the merits of the interventions; 4. Evaluate and weigh the relative merits of various local, state, and federal legal interventions for public health; 5. Interpret key policy concerns and ethical considerations shaping public health law and distinguish the roles of public health professionals and lawyers in exercising these responsibilities; 6. Influence health policy and program decision-making using scientific knowledge, analysis, communication, and consensus building; 7. Develop policies and plans that support individual and community health efforts.

GENERALIST COMPETENCIES: 1. Assess risk factors and evidence for establishing morbidity and mortality problems; 2. Develop a health promotion program; 3. Apply advanced statistical techniques for continuous data; 4. Select the appropriate methods to communicate and disseminate evaluation findings; 5. Apply the appropriate health and safety programs that are available or commonly used in the workplace.