# Degree Requirements and Competencies for the MPH in Occupational and Environmental Medicine

*(effective summer 2022)*

## Required Coursework

<table>
<thead>
<tr>
<th>MPH Common Core</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHI 511 <em>(Foundations of Public Health, Autumn)</em></td>
<td>3</td>
</tr>
<tr>
<td>PHI 512 <em>(Analytical Skills for Public Health I, Autumn)</em></td>
<td>7</td>
</tr>
<tr>
<td>PHI 513 <em>(Analytical Skills for Public Health II, Winter)</em></td>
<td>3</td>
</tr>
<tr>
<td>PHI 514 <em>(Determinants of Health, Winter)</em></td>
<td>3</td>
</tr>
<tr>
<td>PHI 515 <em>(Implementing Public Health Interventions, Spring)</em></td>
<td>4</td>
</tr>
<tr>
<td>PHI 516 <em>(Public Health Practice, Spring)</em></td>
<td>3</td>
</tr>
<tr>
<td>ENV H 599 <em>(Field Studies/Practicum)</em></td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DEOHS Common Core</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>ENV H 502 <em>(Assessing &amp; Managing Risks from Human Exposure to Environmental Contaminants, Winter)</em></td>
<td>4</td>
</tr>
<tr>
<td>ENV H 503 <em>(Adverse Health Effects of Environmental and Occupational Toxicants, Autumn)</em></td>
<td>4</td>
</tr>
<tr>
<td>ENV H 580 <em>(Environmental and Occupational Health Sciences Seminar, Autumn/Winter/Spring)</em></td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Degree Specific Course Requirements</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOST 512 <em>(Medical Biometry II, Winter)</em></td>
<td>4</td>
</tr>
<tr>
<td>Choose one of the following:</td>
<td></td>
</tr>
<tr>
<td>BIOST 513 <em>(Medical Biometry III, Spring)</em></td>
<td>4</td>
</tr>
<tr>
<td>ENV H 596 <em>(Current Issues in Environmental and Occupational Medicine, Summer)</em></td>
<td></td>
</tr>
<tr>
<td>Choose one of the following:</td>
<td></td>
</tr>
<tr>
<td>EPI 513 <em>(Epidemiological Methods II, Winter)</em></td>
<td>4</td>
</tr>
<tr>
<td>ENV H 597 <em>(Case Studies in Environmental and Occupational Health, Autumn/Winter/Spring)</em></td>
<td></td>
</tr>
<tr>
<td>ENV H 550 <em>(Occupational and Environmental Disease, Autumn/Spring)</em></td>
<td>4</td>
</tr>
<tr>
<td>ENV H 564 <em>(Recognition of Health and Safety Problems in Industry, Autumn)</em></td>
<td>2</td>
</tr>
<tr>
<td>ENV H 596 <em>(Current Issues in Environmental and Occupational Medicine, Spring)</em></td>
<td>2</td>
</tr>
<tr>
<td>ENV H 597 <em>(Case Studies in Environmental and Occupational Health, Autumn/Winter/Spring)</em></td>
<td>2 x 1 = 2</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>varies</td>
</tr>
</tbody>
</table>

### Culminating Experience

- For students who choose to complete a **RESEARCH THESIS**:  
  | ENV H 583 *(Thesis Proposal Preparation, Spring)* | 1       |
  | ENV H 700 *(Master’s Thesis, All Quarters)*      | 9       |

- For students who choose to complete a **CAPSTONE PROJECT**:  
  | ENV H 598 *(Degree Program Project/Portfolio, All Quarters)* | 9       |

| Total Minimum Credits | 68 |
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1. ENV H 596 is offered as a 2-credit course in spring quarter and two, 2-credit modules in summer quarter. Students choosing this option take both the spring and summer offerings for a total of 6 credits.
2. ENV H 597 is a 1-credit class. Students choosing this option take four quarters in addition to the required two quarters for a total of 6 quarters/credits.
3. Students work with their faculty adviser to identify an additional course to reach or exceed the total minimum credit requirement. Elective courses can be ENV H courses or courses from other prefixes (e.g., EPI, BIOST, GH, etc.).

**Additional Requirements**

- Students in this degree program are required to complete a practicum as part of the MPH common core and either a research thesis or a capstone project as a culminating experience.

**Degree Competencies**

*Upon completion of this degree program, you will be able to:*

**School of Public Health -- All MPH Students**

*Profession & Science of Public Health:*
- Explain public health history, philosophy and values
- Identify the core functions of public health and the 10 Essential Services
- Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population’s health
- List major causes and trends of morbidity and mortality in the US or other community relevant to the school or program
- Discuss the science of primary, secondary and tertiary prevention in population health, including health promotion, screening, etc.
- Explain the critical importance of evidence in advancing public health knowledge

*Factors Related to Human Health:*
- Explain effects of environmental factors on a population’s health
- Explain biological and genetic factors that affect a population’s health
- Explain behavioral and psychological factors that affect a population’s health
- Explain the social, political and economic determinants of health and how they contribute to population health and health inequities
- Explain how globalization affects global burdens of disease
- Explain an ecological perspective on the connections among human health, animal health, and ecosystem health (e.g., One Health)

*Evidence-based Approaches to Public Health:*
- Apply epidemiological methods to the breadth of settings and situations in public health practice
- Select quantitative and qualitative data collection methods appropriate for a given public health context

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- Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate
- Interpret results of data analysis for public health research, policy or practice

**Public Health & Health Care Systems:**
- Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings
- 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

**Planning & Management to Promote Health:**
- Assess population needs, assets and capacities that affect communities’ health
- Apply awareness of cultural values and practices to the design or implementation of public health policies or programs
- Design a population-based policy, program, project or intervention
- Explain basic principles and tools of budget and resource management
- Select methods to evaluate public health programs

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

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

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

**Interprofessional Practice:**
- Perform effectively on interprofessional teams

**Systems Thinking:**
- Apply systems thinking tools to a public health issue

**SPH - All Student Competency**
- Recognize the means by which social inequities and racism, generated by power and privilege, undermine health

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**DEOHS – All Graduate Student Competencies**

- Apply the major components of the environmental and occupational health framework (problem formulation, hazard identification, dose-response assessment, exposure assessment, risk characterization, risk communication, risk management, evaluation, stakeholder engagement, and research) in order to address environmental public health problems experienced in the community or work environment
- Use epidemiological and statistical techniques to describe and analyze environmental and occupational health data
- **For students choosing the THESIS option only:** Formulate hypotheses and design experiments to test such hypotheses aimed at advancing knowledge in environment and health sciences *(for students choosing the thesis option only)*
- **For student choosing the CAPSTONE option only:** Identify a current, practical problem in environmental health sciences and collect, integrate and analyze relevant information to produce practical solutions.

**DEOHS – Degree Specific Competencies**

- Evaluate injuries and illnesses that are occupationally or environmentally related within the occupational and environmental health regulatory environment and systems
- Apply evidence-based approaches to managing occupational and environmental injuries and diseases
- Recognize, evaluate, and treat human exposures to physical, chemical, or biological hazards at work or in the general environment
- Integrate aspects of surveillance and principles of exposure assessment into primary and secondary prevention of occupational and environmental disease
- Describe occupational health disparities and formulate a plan to mitigate individual and organizational factors in the workplace in order to optimize the health of the worker.