

## MPH-Environmental Health Sciences, Thesis Option (*Effective Autumn 2022*)

### Required Coursework

	Credits
<b>MPH Common Core</b>	
<b>PHI 511</b> ( <i>Foundations of Public Health, Autumn</i> )	3
Choose one of the following: <b>PHI 512</b> ( <i>Analytical Skills for Public Health I, Autumn, 7 cr.</i> ) OR <b>BIOST 511</b> ( <i>Medical Biometry I, Autumn, 4 cr.</i> ) AND <b>EPI 512</b> ( <i>Epidemiologic Methods I, Autumn, 4 cr.</i> )	7 or 8
<b>PHI 513</b> ( <i>Analytical Skills for Public Health II, Winter</i> )	3
<b>PHI 514</b> ( <i>Determinants of Health, Winter</i> )	3
<b>PHI 515</b> ( <i>Implementing Public Health Interventions, Spring</i> )	4
<b>PHI 516</b> ( <i>Public Health Practice, Spring</i> )	3
<b>ENV H 599</b> ( <i>Field Studies/Practicum</i> )	4
<b>DEOHS Common Core</b>	
<b>ENV H 501</b> ( <i>Foundations of Environmental &amp; Occupational Health, Autumn</i> )	4
<b>ENV H 502</b> ( <i>Assessing &amp; Managing Risks from Human Exposure to Env. Contaminants, Winter</i> )	4
<b>ENV H 503</b> ( <i>Adverse Health Effects of Environmental and Occupational Toxicants, Autumn</i> )	4
<b>ENV H 580</b> ( <i>Env. &amp; Occupational Health Sciences Seminar, Autumn/Winter/Spring</i> )	3 x 1 = 3 <sup>1</sup>
<b>Degree Specific Course Requirements</b>	
<b>ENV H 584</b> ( <i>Environmental Health Policy and Practice, Winter</i> )	4
<b>Elective Courses</b> <sup>2</sup>	≥ 10
<b>Culminating Experience</b>	
For students who choose to complete a <b>RESEARCH THESIS</b>	
<b>ENV H 583</b> ( <i>Thesis Proposal Preparation, Spring</i> )	1
<b>ENV H 700</b> ( <i>Master's Thesis, All Quarters</i> )	9
For students who choose to complete a <b>CAPSTONE PROJECT</b>	
<b>ENV H 598</b> ( <i>Degree Program Project/Portfolio, All Quarters</i> )	9
<b>Total Minimum Credits</b>	<b>65</b>

1. Three quarters of ENV H 580 are required for a total of 3 credits.
2. Student works with their faculty adviser to identify additional courses 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 either a research thesis or a capstone project.

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### Sample Schedule (Thesis Option)

The schedule below includes non-elective courses only. Students work with their faculty adviser to identify additional elective courses 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.).

FIRST YEAR		
Autumn Quarter		
<b>PHI 511</b>	Foundations of Public Health	3 cr.
<b>PHI 512</b>	Analytical Skills for Public Health I (7 cr.)	7-8 cr.
OR		
<b>BIOST 511</b>	Medical Biometry I (4 cr.)	
AND		
<b>EPI 512</b>	Epidemiologic Methods I (4 cr.)	
<b>ENV H 501</b>	Foundations of Environmental & Occupational Health	4 cr.
<b>ENV H 503</b>	Adverse Health Effects of Environmental and Occupational Toxicants	4 cr.
<b>Non-Coursework Milestones:</b> Work 1-on-1 with your Initial Faculty Mentor to identify possible thesis and practicum projects		
Winter Quarter		
<b>PHI 513</b>	Analytical Skills for Public Health II	3 cr.
<b>PHI 514</b>	Determinants of Health	3 cr.
<b>ENV H 502</b>	Assessing & Managing Risks from Human Exposure to Env. Contaminants	4 cr.
<b>ENV H 580</b>	Environmental and Occupational Health Seminar	1 cr.
<b>ENV H 584</b>	Environmental Health Policy and Practice	4 cr.
<b>Non-Coursework Milestones:</b> Continue working with your Faculty Mentor to identify possible thesis and practicum projects / Identify a Thesis Adviser by the end of the quarter		
Spring Quarter		
<b>PHI 515</b>	Implementing Public Health Interventions	4 cr.
<b>PHI 516</b>	Public Health Practice	3 cr.
<b>ENV H 580</b>	Environmental and Occupational Health Seminar	1 cr.
<b>ENV H 583</b>	Thesis Proposal Preparation	1 cr.
<b>ENV H 700</b>	Master's Thesis	1 cr.
<b>Non-Coursework Milestones:</b> Write thesis proposal and form Thesis Committee / Confirm practicum site and complete associated learning contract		
Summer Quarter		
No formal coursework		
<b>Non-Coursework Milestones:</b> Complete practicum (≥160 hours) / Begin thesis project as outlined in thesis proposal		
SECOND YEAR		
Autumn Quarter		
<b>ENV H 580</b>	Environmental and Occupational Health Seminar	1 cr.
<b>ENV H 599</b>	Field Studies/Practicum	4 cr.
<b>ENV H 700</b>	Master's Thesis	3 cr.
<b>Non-Coursework Milestones:</b> Complete academic work related to practicum (paper, presentation, etc.) / Continue work on thesis project		
Winter Quarter		
<b>ENV H 700</b>	Master's Thesis	2 cr.
<b>Non-Coursework Milestones:</b> Continue work on thesis project		

**Non-Coursework Milestones:** Present at Graduate Student Research Day / Defend and submit thesis / Present practicum at MPH Symposium

## 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
- 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

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- 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

## **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 students 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 – MPH in Environmental Health Sciences**

- Assess and contrast the roles and responsibilities of state and federal governments in environmental health policy development and implementation
- Describe the roles of politics, public opinion, and economics in environmental health policy development
- Develop and evaluate strategies and approaches to address environmental health issues
- Assess the magnitude, determinants, and impacts of a community-level environmental health issue
- Develop strategies to communicate about environmental health policy issues for different audiences or sectors, using different media