## Degree Requirements and Competencies for the MS in Environmental Health Sciences
### Area of Emphasis: Environmental Public Health (effective summer 2022)

**Required Coursework**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOST 511</td>
<td>(Medical Biometry I, Autumn)</td>
<td>4</td>
</tr>
<tr>
<td>EPI 511</td>
<td>(Introduction to Epidemiology, Autumn)</td>
<td>4</td>
</tr>
<tr>
<td>ENV H 501</td>
<td>(Foundations of Environmental &amp; Occupational Health, Autumn)</td>
<td>4</td>
</tr>
<tr>
<td>ENV H 502</td>
<td>(Assessing &amp; Managing Risks from Human Exposure to Environmental Contaminants, Winter)</td>
<td>4</td>
</tr>
<tr>
<td>ENV H 503</td>
<td>(Adverse Health Effects of Environmental and Occupational Toxicants, Autumn)</td>
<td>4</td>
</tr>
<tr>
<td>ENV H 580</td>
<td>(Environmental and Occupational Health Sciences Seminar, Autumn/Winter/Spring)</td>
<td>3 x 1 = 3</td>
</tr>
</tbody>
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**Area of Emphasis: Environmental Public Health**

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<tr>
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<tbody>
<tr>
<td>ENV H 584</td>
<td>(Environmental Health Policy and Practice, Autumn)</td>
<td>4</td>
</tr>
</tbody>
</table>

Choose a minimum of 12 credits from the following:

- ENV H 506 (Disasters and Public Health, Autumn, 3 cr.)
- ENV H 509 (Microbiome and Environmental Health, Spring, 3 cr.)
- ENV H 518 (Understanding and Managing the Health Risks of Climate Change, Winter, 3 cr.)
- ENV H 521 (Effective Communication Strategies for Environmental Public Health Professionals, Spring, 2 cr.)
- ENV H 536 (Health Impact Assessment, Spring, 2 cr.)
- ENV H 538 (Public Health and the Built Environment, Winter, 2 cr.)
- ENV H 539 (One Health: Human and Animal Health in a Changing Environment, Spring, 3 cr.)
- ENV H 540 (Food Safety and Health, Quarter TBD, 3 cr.)
- ENV H 541 (Ecology of Environmentally Transmitted Microbial Hazards, Autumn, 3 cr.)
- ENV H 542 (Detection and Control of Environmentally Transmitted Microbial Hazards, Winter in odd years, 3 cr.)
- ENV H 545 (Water, Wastewater, and Health, Autumn, 4 cr.)
- ENV H 546 (Hazardous Waste and Public Health, Quarter TBD, 3 cr.)
- ENV H 547 (Environmental Change and Infectious Disease, Spring, 3 cr.)
- ENV H 548 (Community Air Pollution, Winter, 3 cr.)
- ENV H 565 (Geographic Information Systems (GIS) in Public Health, Autumn, 3 cr.)
- ENV H 577 (Risk Assessment for Environmental Health Hazards, Autumn, 4 cr.)

**Elective Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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</thead>
</table>

**Culminating Experience (Thesis)**

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENV H 583</td>
<td>(Thesis Proposal Preparation, Spring)</td>
<td>1</td>
</tr>
<tr>
<td>ENV H 700</td>
<td>(Master’s Thesis, All Quarters)</td>
<td>9</td>
</tr>
</tbody>
</table>

| Total Minimum Credits | 62                           |
Degree Requirements and Competencies for the MS in Environmental Health Sciences
Area of Emphasis: Environmental Public Health *(effective summer 2022)*

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 a research thesis.

**Degree Competencies**

_Upon completion of this degree program, you will be able to:_

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

- 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
- 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)
- Recognize the means by which social inequities and racism, generated by power and privilege, undermine health
Degree Requirements and Competencies for the MS in Environmental Health Sciences
Area of Emphasis: Environmental Public Health (effective summer 2022)

DEOHS -- MS in Environmental Health Sciences

- 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
- Formulate hypotheses and design experiments to test such hypotheses aimed at advancing knowledge in environment and health sciences

DEOHS – Area of Emphasis: Environmental Public Health

- Describe the sources, pathways, and routes of exposure of environmental hazards
- Apply measurement and/or modeling methods to environmental hazards
- Recognize and explain individual and societal opportunities to prevent, mitigate, and/or adapt to environmental hazards