

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

**Required Coursework**

|   | Credits                |
|---|------------------------|
| <b>DEOHS Common Core</b>  |                        |
| <b>BIOST 511</b> ( <i>Medical Biometry I, Autumn</i> )  | 4                      |
| <b>EPI 511</b> ( <i>Introduction to Epidemiology, Autumn</i> )  | 4                      |
| <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 Environmental 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>Environmental and Occupational Health Sciences Seminar, Autumn/Winter/Spring</i> )  | 3 x 1 = 3 <sup>1</sup> |
| <b>Area of Emphasis: Environmental Public Health</b>  |                        |
| <b>ENV H 584</b> ( <i>Environmental Health Policy and Practice, Autumn</i> )  | 4                      |
| Choose a minimum of 12 credits from the following:<br><b>ENV H 506</b> ( <i>Disasters and Public Health, Autumn, 3 cr.</i> )<br><b>ENV H 509</b> ( <i>Microbiome and Environmental Health, Spring, 3 cr.</i> )<br><b>ENV H 518</b> ( <i>Understanding and Managing the Health Risks of Climate Change, Winter, 3 cr.</i> )<br><b>ENV H 521</b> ( <i>Effective Communication Strategies for Environmental Public Health Professionals, Spring, 2 cr.</i> )<br><b>ENV H 536</b> ( <i>Health Impact Assessment, Spring, 2 cr.</i> )<br><b>ENV H 538</b> ( <i>Public Health and the Built Environment, Winter, 2 cr.</i> )<br><b>ENV H 539</b> ( <i>One Health: Human and Animal Health in a Changing Environment, Spring, 3 cr.</i> )<br><b>ENV H 540</b> ( <i>Food Safety and Health, Quarter TBD, 3 cr.</i> )<br><b>ENV H 541</b> ( <i>Ecology of Environmentally Transmitted Microbial Hazards, Autumn, 3 cr.</i> )<br><b>ENV H 542</b> ( <i>Detection and Control of Environmentally Transmitted Microbial Hazards, Winter in odd years, 3 cr.</i> )<br><b>ENV H 544</b> ( <i>Antibiotic Resistant Bacteria/Genes Impact on the Environment and Public Health, Autumn, 4 cr.</i> )<br><b>ENV H 545</b> ( <i>Water, Wastewater, and Health, Autumn, 4 cr.</i> )<br><b>ENV H 546</b> ( <i>Hazardous Waste and Public Health, Quarter TBD, 3 cr.</i> )<br><b>ENV H 547</b> ( <i>Environmental Change and Infectious Disease, Spring, 3 cr.</i> )<br><b>ENV H 548</b> ( <i>Community Air Pollution, Winter, 3 cr.</i> )<br><b>ENV H 565</b> ( <i>Geographic Information Systems (GIS) in Public Health, Autumn, 3 cr.</i> )<br><b>ENV H 577</b> ( <i>Risk Assessment for Environmental Health Hazards, Autumn, 4 cr.</i> ) | 12                     |
| <b>Elective Courses<sup>2</sup></b>   | ≥ 13                   |
| <b>Culminating Experience (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                      |
| <b>Total Minimum Credits</b>  | <b>62</b>              |

## **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