# Degree Requirements and Competencies for the MS in Environmental Health Sciences

## Area of Emphasis: One Health (effective summer 2022)

### Required Coursework

<table>
<thead>
<tr>
<th>DEOHS Common Core</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOST 511 (Medical Biometry I, Autumn)</td>
<td>4</td>
</tr>
<tr>
<td>EPI 511 (Introduction to Epidemiology, Autumn)</td>
<td>4</td>
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<tr>
<td>ENV H 501 (Foundations of Environmental &amp; Occupational Health, Autumn)</td>
<td>4</td>
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<tr>
<td>ENV H 502 (Assessing &amp; Managing Risks from Human Exposure to Environmental Contaminants, Winter)</td>
<td>4</td>
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<tr>
<td>ENV H 503 (Adverse Health Effects of Environmental and Occupational Toxicants, Autumn)</td>
<td>4</td>
</tr>
<tr>
<td>ENV H 580 (Environmental and Occupational Health Sciences Seminar, Autumn/Winter/Spring)</td>
<td>3 x 1 = 3¹</td>
</tr>
</tbody>
</table>

### Area of Emphasis: One Health

| ENV H 539 (One Health: Human and Animal Health in a Changing Environment, Spring) | 3 |
| ENV H 586 (Current Issues in Occupational Health at the Human and Animal Interface, Autumn) | 2 |

Choose a minimum of 6 credits from the following:

- ENV H 509 (Microbiome and Environmental Health, Spring, 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 543 (Quantitative Microbial Risk Assessment, Spring, 3 cr.)
- ENV H 547 (Environmental Change and Infectious Disease, Spring, 3 cr.)
- ENV H 564 (Recognition of Health and Safety Problems in Industry, Autumn, 2 cr.)
- ENV H 565 (Geographic Information Systems (GIS) in Public Health, Autumn, 3 cr.)

### Elective Courses

≥ 18

### Culminating Experience (Thesis)

| ENV H 583 (Thesis Proposal Preparation, Spring) | 1 |
| ENV H 700 (Master’s Thesis, All Quarters) | 9 |

| Total Minimum Credits | 62 |

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 Requirements and Competencies for the MS in Environmental Health Sciences
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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

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: One Health

- Describe the benefits and challenges of a multidisciplinary, integrative approach when implementing studies regarding health concerns at the human-animal-ecosystem interface
- Assess zoonotic diseases and other exposures (including toxic and infectious) using a comparative, species spanning approach including animal sentinel and natural animal model concepts

Department of Environmental & Occupational Health Sciences, School of Public Health, University of Washington • Rev. 3/22/21
Degree Requirements and Competencies for the MS in Environmental Health Sciences
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- Describe an integrated approach to prevention that incorporates human, animal, and environmental perspectives in a systems framework
- Explain the ECOHAB set of connections between human, animal, and environmental health
- Apply the COHERE guidelines to critically appraise One Health Studies