

## Required Coursework

	Credits
<b>DEOHS Common Core</b>	
<b>BIOST 511</b> ( <i>Medical Biometry I, Autumn</i> )	4
<b>BIOST 512</b> ( <i>Medical Biometry II, Winter</i> )	4
<b>EPI 511</b> ( <i>Introduction to Epidemiology, Autumn</i> )	4
<b>HSERV 579</b> ( <i>Structural Racism and Public Health, Autumn/Winter/Spring</i> )	1
<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 504</b> ( <i>Advanced Environmental Health Sciences Research Methods, Spring</i> )	4
<b>ENV H 580</b> ( <i>Environmental and Occupational Health Sciences Seminar, Autumn/Winter/Spring</i> )	5 x 1 = 5 <sup>1</sup>
<b>ENV H 595</b> ( <i>Research Rotation, All Quarters</i> )	2 x 3 = 6 <sup>2</sup>
<b>Area of Emphasis: Environmental Public Health</b>	
<b>ENV H 584</b> ( <i>Environmental Health Policy and Practice, Winter</i> )	4
Choose a minimum of 12 credits from the following: <b>ENV H 506</b> ( <i>Disasters and Public Health, Autumn, 3 cr.</i> ) <b>ENV H 509</b> ( <i>Microbiome and Environmental Health, Spring, 3 cr.</i> ) <b>ENV H 518</b> ( <i>Understanding and Managing the Health Risks of Climate Change, Winter, 3 cr.</i> ) <b>ENV H 521</b> ( <i>Effective Communication Strategies for Env. PH Professionals, Spring, 2 cr.</i> ) <b>ENV H 536</b> ( <i>Health Impact Assessment, Spring, 2 cr.</i> ) <b>ENV H 538</b> ( <i>Public Health and the Built Environment, Winter, 2 cr.</i> ) <b>ENV H 539</b> ( <i>One Health: Human and Animal Health in a Changing Environment, Spring, 3 cr.</i> ) <b>ENV H 540</b> ( <i>Food Safety and Health, Quarter TBD, 3 cr.</i> ) <b>ENV H 541</b> ( <i>Ecology of Environmentally Transmitted Microbial Hazards, Winter, 3 cr.</i> ) <b>ENV H 542</b> ( <i>Detection &amp; Control of Env. Transmitted Microbial Haz., Spring, 3 cr.</i> ) <b>ENV H 544</b> ( <i>Antibiotic Resistant Bacteria/Genes Impact on the Environment &amp; PH, Autumn, 4 cr.</i> ) <b>ENV H 545</b> ( <i>Water, Wastewater, and Health, Autumn, 4 cr.</i> ) <b>ENV H 546</b> ( <i>Hazardous Waste and Public Health, Quarter TBD, 3 cr.</i> ) <b>ENV H 547</b> ( <i>Environmental Change and Infectious Disease, Spring, 3 cr.</i> ) <b>ENV H 548</b> ( <i>Community Air Pollution, Winter, 3 cr.</i> ) <b>ENV H 565</b> ( <i>Geographic Information Systems (GIS) in Public Health, Autumn, 3 cr.</i> ) <b>ENV H 577</b> ( <i>Risk Assessment for Environmental Health Hazards, Autumn, 4 cr.</i> )	12
<b>Elective Courses</b> <sup>3</sup>	≥ 6
<b>Culminating Experience (Thesis)</b>	
<b>ENV H 583</b> ( <i>Thesis Proposal Preparation, Spring</i> )	1
<b>ENV H 800</b> ( <i>Doctoral Dissertation, All Quarters</i> )	27
<b>Total Minimum Credits</b>	
	<b>90</b>

- Five quarters of ENV H 580 are required for a total of 5 credits.
- Students who enter the program with a previous master's degree are required to do two rotations of 3 credits each for a total of 6 credits. Students who enter the program without a master's degree are required to do three rotations of 3 credits each for a total of 9 credits.
- 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 dissertation.

## PhD-EHS, Area of Emphasis: Environmental Public Health (*Effective Autumn 2022*)

### Sample Schedule

The schedule below includes *non-elective courses only*. Students work 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.).

FIRST YEAR		
Autumn Quarter		
<b>BIOST 511</b>	Medical Biometry I	4 cr.
<b>EPI 511</b>	Introduction to Epidemiology	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>ENV H 595</b>	Research Rotation (see footnote #2 under "Required Coursework" below)	2 cr.
<b>Non-Coursework Milestones:</b> Work with Dissertation Adviser to identify research rotations, plan dissertation project, and prepare for the Qualifying Exam		
Winter Quarter		
<b>BIOST 512</b>	Medical Biometry II	4 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>ENV H 595</b>	Research Rotation (see footnote #2 under "Required Coursework" below)	2 cr..
<b>Non-Coursework Milestones:</b> Work with Dissertation Adviser to identify research rotations, plan dissertation project, and prepare for the Qualifying Exam		
Spring Quarter		
<b>HSERV 579</b>	Structural Racism and Public Health	1 cr.
<b>ENV H 504</b>	Advanced Environmental Health Sciences Research Methods	4 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 595</b>	Research Rotation (see footnote #2 under "Required Coursework" below)	2 cr..
<b>ENV H 800</b>	Doctoral Dissertation	Var.
<b>Non-Coursework Milestones:</b> Work with Dissertation Adviser to plan dissertation project, and prepare for the PhD Qualifying Exam		
Summer Quarter		
<b>Non-Coursework Milestones:</b> Complete the PhD Qualifying Exam		
SECOND YEAR		
Autumn Quarter		
<b>ENV H 580</b>	Environmental and Occupational Health Seminar	1 cr.
<b>ENV H 800</b>	Doctoral Dissertation	Var.
<b>Non-Coursework Milestones:</b> Continue work on dissertation research project / form Doctoral Supervisory Committee by the end of spring quarter of year two		
Winter Quarter		
<b>ENV H 580</b>	Environmental and Occupational Health Seminar	1 cr.
<b>ENV H 800</b>	Doctoral Dissertation	Var.
<b>Non-Coursework Milestones:</b> Continue work on dissertation research project / form Doctoral Supervisory Committee by the end of spring quarter of year two		

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**PhD-EHS, Area of Emphasis: Environmental Public Health (*Effective Autumn 2022*)**

**Spring Quarter**

<b>ENV H 580</b>	Environmental and Occupational Health Seminar	1 cr.
<b>ENV H 800</b>	Doctoral Dissertation	Var.

**Non-Coursework Milestones:** Continue work on dissertation research project / form Doctoral Supervisory Committee by the end of spring quarter of year two

**THIRD YEAR**

**Non-Coursework Milestones:** Continue work on dissertation research project / Take General Exam

**FOURTH YEAR**

**Non-Coursework Milestones:** Continue work on dissertation research project

**FIFTH YEAR \***

**Non-Coursework Milestones:** Continue work on dissertation research project / Complete and defend dissertation in the Final Exam

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\* *Five years is the average time to degree, but the university allows up to ten years to complete a PhD.*

## Additional Requirements

- Students in this degree program are required to complete a dissertation.

## 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 -- PhD in Environmental Health Sciences

- Conceive, develop, conduct, and document original research that advances knowledge in the field of environmental health sciences
- Design experiments utilizing the principles and practical aspects of good experimental design to ensure rigor, statistical power, robustness, and reproducibility, and control for bias
- Conduct human and animal research and communicate the results of that research according to the most current ethical and regulatory guidelines
- Manage, analyze, visualize, and share environmental and occupational health data utilizing best practices and appropriate tools
- Collect, analyze, and validate different types of data (survey, direct exposure, biomarker, surveillance, etc.) from environmental health studies using appropriate practices and methodologies
- Translate environmental health research into practice and implement evidence-based interventions

### 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