

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

Required Coursework

	Credits
DEOHS Common Core	
BIOST 511 (<i>Medical Biometry I, Autumn</i>)	4
BIOST 512 (<i>Medical Biometry II, Winter</i>)	4
EPI 511 (<i>Introduction to Epidemiology, Autumn</i>)	4
ENV H 501 (<i>Foundations of Environmental & Occupational Health, Autumn</i>)	4
ENV H 502 (<i>Assessing & Managing Risks from Human Exposure to Environmental Contaminants, Winter</i>)	4
ENV H 503 (<i>Adverse Health Effects of Environmental and Occupational Toxicants, Autumn</i>)	4
ENV H 580 (<i>Environmental and Occupational Health Sciences Seminar, Autumn/Winter/Spring</i>)	6 x 1 = 6 ¹
ENV H 595 (<i>Research Rotation, All Quarters</i>)	2 x 3 = 6 ²
Area of Emphasis: Environmental Public Health	
ENV H 584 (<i>Environmental Health Policy and Practice, Autumn</i>)	4
Choose a minimum of 12 credits from the following: ENV H 506 (<i>Disasters and Public Health, Autumn, 3 cr.</i>) ENV H 509 (<i>Microbiome and Environmental Health, Spring, 3 cr.</i>) ENV H 518 (<i>Understanding and Managing the Health Risks of Climate Change, Winter, 3 cr.</i>) ENV H 521 (<i>Effective Communication Strategies for Environmental Public Health Professionals, Spring, 2 cr.</i>) ENV H 536 (<i>Health Impact Assessment, Spring, 2 cr.</i>) ENV H 538 (<i>Public Health and the Built Environment, Winter, 2 cr.</i>) ENV H 539 (<i>One Health: Human and Animal Health in a Changing Environment, Spring, 3 cr.</i>) ENV H 540 (<i>Food Safety and Health, Quarter TBD, 3 cr.</i>) ENV H 541 (<i>Ecology of Environmentally Transmitted Microbial Hazards, Autumn, 3 cr.</i>) ENV H 542 (<i>Detection and Control of Environmentally Transmitted Microbial Hazards, Winter in odd years, 3 cr.</i>) ENV H 544 (<i>Antibiotic Resistant Bacteria/Genes Impact on the Environment and Public Health, Autumn, 4 cr.</i>) ENV H 545 (<i>Water, Wastewater, and Health, Autumn, 4 cr.</i>) ENV H 546 (<i>Hazardous Waste and Public Health, Quarter TBD, 3 cr.</i>) ENV H 547 (<i>Environmental Change and Infectious Disease, Spring, 3 cr.</i>) ENV H 548 (<i>Community Air Pollution, Winter, 3 cr.</i>) ENV H 565 (<i>Geographic Information Systems (GIS) in Public Health, Autumn, 3 cr.</i>) ENV H 577 (<i>Risk Assessment for Environmental Health Hazards, Autumn, 4 cr.</i>)	12
Elective Courses ³	≥ 15
Culminating Experience (Thesis)	
ENV H 583 (<i>Thesis Proposal Preparation, Spring</i>)	1
ENV H 800 (<i>Doctoral Dissertation, All Quarters</i>)	27
Total Minimum Credits	90

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

1. Six quarters of ENV H 580 are required for a total of 6 credits.
2. 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.
3. 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 minimum of two research rotations (see footnote #2 above).
- Pass a qualifying exam, typically at the end of their first year of study.
- Pass a general exam.
- Research, prepare, defend, and submit 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)

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

- 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

DEOHS -- PhD in Environmental Health Sciences

- Conceive, develop, conduct, and document original research that advances knowledge in the field of environmental 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