

MS-EHS-Applied, Area of Emphasis: One Health (*Effective Autumn 2022*)

Required Coursework

	Credits
DEOHS Common Core	
BIOST 511 (<i>Medical Biometry I, Autumn</i>)	4
EPI 511 (<i>Introduction to Epidemiology, Autumn</i>)	4
HSERV 579 (<i>Structural Racism and Public Health, Autumn/Winter/Spring</i>)	1
ENV H 501 (<i>Foundations of Environmental & Occupational Health, Autumn</i>)	4
ENV H 502 (<i>Assessing & Managing Risks from Human Exposure to Env. 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>)	2 x 1 = 2 ¹
Area of Emphasis: One Health	
ENV H 539 (<i>One Health: Human and Animal Health in a Changing Environment, Winter</i>)	3
ENV H 586 (<i>Current Issues in Occupational Health at the Human and Animal Interface, Spring</i>)	2
Choose a minimum of 6 credits from the following: ENV H 509 (<i>Microbiome and Environmental Health, Spring, 3 cr.</i>) ENV H 541 (<i>Ecology of Environmentally Transmitted Microbial Hazards, Autumn, 3 cr.</i>) ENV H 542 (<i>Detection & Control of Env. Transmitted Microbial Hazards, Winter/odd years, 3 cr.</i>) ENV H 543 (<i>Quantitative Microbial Risk Assessment, Spring, 3 cr.</i>) ENV H 544 (<i>Antibiotic Resistant Bacteria/Genes Impact on the Env. and PH, Autumn, 4 cr.</i>) ENV H 547 (<i>Environmental Change and Infectious Disease, Spring, 3 cr.</i>) ENV H 564 (<i>Recognition of Health and Safety Problems in Industry, Autumn, 2 cr.</i>) ENV H 565 (<i>Geographic Information Systems (GIS) in Public Health, Autumn, 3 cr.</i>)	6
Elective Courses ²	≥ 12
Culminating Experience (Project)	
ENV H 598 (<i>Degree Program Project/Portfolio, All Quarters</i>)	3
ENV H 599 (<i>Field Studies, All Quarters</i>)	3
Total Minimum Credits	52

- Two quarters of ENV H 580 are required for a total of 2 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 culminating project.

MS-EHS-Applied, Area of Emphasis: One 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		
BIOST 511	Medical Biometry I	4 cr.
EPI 511	Introduction to Epidemiology	4 cr.
ENV H 501	Foundations of Environmental & Occupational Health	4 cr.
ENV H 503	Adverse Health Effects of Environmental and Occupational Toxicants	4 cr.
Non-Coursework Milestones: Work 1-on-1 with the Internship Manager and your Faculty Internship Adviser to identify possible internships / Work with Internship Manager to develop professional skills (resumes, cover letters, interviewing, etc.) / Begin applying for internships		
Winter Quarter		
ENV H 502	Assessing & Managing Risks from Human Exposure to Env. Contaminants	4 cr.
ENV H 580	Environmental and Occupational Health Seminar	1 cr.
ENV H 539	One Health: Human and Animal Health in a Changing Environment	3 cr.
	Additional course(s) from list of recommended courses (see table below)	Var.
Non-Coursework Milestones: Continue to work on professional skills with the Internship Manager and your Faculty Internship Adviser / Continue applying to internships (if needed) / Once you have accepted an internship, identify a Faculty Project Adviser		
Spring Quarter		
HSERV 579	Structural Racism and Public Health	1 cr.
ENV H 580	Environmental and Occupational Health Seminar	1 cr.
ENV H 583	Thesis Proposal Preparation	1 cr.
ENV H 586	Current Issues in Occupational Health at the Human and Animal Interface	2 cr.
ENV H 700	Master's Thesis	1 cr.
	Additional course(s) from list of recommended courses (see table below)	Var.
Non-Coursework Milestones: Continue applying to internships (if needed) / Once you have accepted an internship, identify a Faculty Project Adviser / Work with your Faculty Project Adviser to identify at least one other faculty member to serve on your Project Committee / Complete a scope of work plan for your project and a draft project proposal.		
Summer Quarter		
Complete internship		
Non-Coursework Milestones: Submit the final draft of your project proposal to your Project Committee for approval / Complete all requirements for ENV H 599		
SECOND YEAR		
Autumn Quarter		
ENV H 598	Degree Program Project/Portfolio	3 cr.
ENV H 599	Field Studies	3 cr.
Non-Coursework Milestones: Complete all requirements for ENV H 598, including the written project report, an oral presentation of the project at a public meeting, and an oral examination conducted by your Project Committee		

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, Applied

- 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
- Identify a current, practical problem in environmental health sciences and collect, integrate and analyze relevant information to produce practical solutions.

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
- 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