OHSU Institute of Environmental Health

Division of Environmental and Biomolecular Systems

M.S. and Ph.D. in Environmental Science and Engineering

OHSU Division of Environmental and Biomolecular Systems (EBS) offers M.S. and Ph.D. degrees in Environmental Science and Engineering (ESE).

M.S. Degree

The M.S. in ESE prepares students for careers in environmental monitoring, restoration, management, and regulation. It also can be useful preparation for higher degrees in the environmental sciences, law, or business.

Ph.D. Degree

The Ph.D. in ESE prepares students for careers in academic research, teaching, regulation, and management.

The emphasis of this degree program provides a unified and interdisciplinary understanding of natural and engineered environmental systems, with emphasis on aquatic media, including surface waters, soils, sediments, and the subsurface. Coursework addresses scales from molecular to nano, cellular, community, and ecosystem. The program emphasizes fundamental concepts from science and engineering, including chemical equilibrium and kinetics, microbial genomics and proteomics, and computer modeling and simulation.

Collaborations within OHSU’s Institute of Environmental Health, especially the Center for Coastal Margin Observation and Prediction, allow students to engage in multidisciplinary research involving applications from public health to oceanography.

Degree Tracks

Degrees are available in three tracks:

- Environmental Science and Engineering (ESE)
- Environmental and Biomolecular Systems (EBS)
- Estuary and Ocean Systems (EOS)

The ESE track is for students who prefer a traditional emphasis on environmental engineering applications. The EBS track is for students interested in environmental health or biogeochemical applications. The EOS track is focused on multidisciplinary approaches to understanding marine systems.

M.S. students can choose thesis or nonthesis options. The nonthesis option involves a laboratory research project, and can be completed in one year.

For more information:

www.ohsu.edu/ebs
Phone: 503 346-3411
Email: greenva@ohsu.edu
Curriculum

The curriculum is designed to ensure a common foundation of core concepts and skills, but also to allow considerable flexibility for customization to provide the optimal educational experience for each student.

Core concepts and skills are taught through a series of three required core courses, with the remaining coursework consisting of advanced electives, readings groups and special topics courses selected in consultation with the student’s advisory committee.

Nonthesis M.S. students spend about 1/3 of their time involved in laboratory research, thereby gaining hands-on experience with state-of-the-art methods and instrumentation. M.S. thesis students must prepare and defend a thesis based on their original research.

Ph.D. students must pass qualifying exams near the end of their first year, prepare and defend a thesis proposal in their second year, conduct original research leading to multiple peer-reviewed publications, and finally submit a written dissertation and complete an oral defense of the dissertation.

Admissions

Most students accepted into the ESE program have undergraduate degrees in the physical or biological sciences, engineering, or related disciplines (e.g., computer science). Prospective students with different backgrounds are encouraged to inquire, if they have professional or other experience that might provide adequate background.

M.S. students may be full-time or part-time. Applications are considered year round, but prospective M.S. students are encouraged to apply by July 31 and Ph.D. students by January 31, for admission to start in the following Fall quarter. Some students take ESE classes without matriculation before deciding to apply.

Faculty

The following EBS faculty advise ESE degree students:

Bradley Tebo, Ph.D., Division Head
Geomicrobiology
Antonio Baptista, Ph.D.
Coastal Margin Observation
Margo Haygood, Ph.D.
Marine Biotechnology
Richard Johnson, Ph.D.
Contaminant Hydrology
Joseph Needoba, Ph.D.
Marine Chemistry
Tawyna Peterson, Ph.D.
Biological Oceanography
Holly Simon, Ph.D.
Microbial Genomics
Paul Tratnyek, Ph.D.
Environmental Organic Chemistry
Yinglong Zhang, Ph.D.
Hydrological Modeling
Peter Zuber, Ph.D.
Microbiology

Want to Know More?

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