
PhD in ENVIRONMENTAL HEALTH ENGINEERING

Environmental Health Engineering scientists seek to improve public health through interdisciplinary research, professional training and practice. These scientists prevent or minimize the adverse effects of exposure to physical, chemical, and biological agents by identifying and studying their sources, fate, and transport in both occupational and non-occupational environments. They also develop and evaluate risk management strategies that effectively protect human health. Exposure assessment and risk management are integrating themes within the environmental health engineering program. Research and training in exposure and risk assessment employs principles and methods in chemistry, biology, and physics and includes development and evaluation of biomarkers of exposure.

Environmental health engineering research opportunities in the Department emphasize exposure assessment methods and models for recognizing, evaluating, and controlling hazards in the workplace and community environment. Assessments consider the continuum of exposure from source to effect and are comprehensive in nature, incorporating all relevant routes and pathways with a particular emphasis on air and water contamination. Such assessments are integral to evaluating risk, discovering environmental disease associations, and developing methods and strategies for hazard reduction. Research within the division is highly interdisciplinary with opportunities to interact and collaborate with other departmental faculty, as well as faculty from other departments in the School and the School of Medicine. Applicants for research training should have a strong background in the physical, chemical and biological sciences, including college-level physics and calculus.

DIVISIONAL SEMINAR/JOURNAL CLUB

In addition to attendance at formal courses, PhD students are expected to attend the divisional seminars, which are generally held at the Bloomberg School at noon on Wednesdays. Once a month, the seminar session will be in the format of a Journal Club

presentation. All PhD students are required to lead at least one Journal Club presentation. Students are also expected to attend the monthly NIOSH Education and Research Center (ERC) seminar, which is also attended by students from the Division of Occupational and Environmental Health and the Occupational Injury Epidemiology Program.

Department of Environmental Health Sciences PhD in Environmental Health Engineering Core Curriculum Requirements

Department Requirements

180.609 Principles of Environmental Health I	MW 1:30-3:20 1 st term	4 units
180.610 Principles of Environmental Health II	TTh 8:30-10:20 2 nd term	4 units

Division Requirements

140.621 Statistical Methods in Public Health I	TTh 10:30-11:50 1 st term *	4 units
140.622 Statistical Methods in Public Health II	TTh 10:30-11:50 2 nd term *	4 units
140.623 Statistical Methods in Public Health III	TTh 10:30-11:50 3 rd term *	4 units
180.629 Environmental & Occupational Health Law & Policy	MW 10:00-11:50 3 rd term	4 units
182.625 Principles of Occupational & Environmental Hygiene	TTh 1:30-3:20 2 nd term **	4 units
182.638 Water and Health	WF 8:30-10:20 4 th term	4 units
187.610 Public Health Toxicology	WF 3:30-4:50 1 st term **	4 units
317.600 Introduction to the Risk Sciences & Public Policy	MW 5:00-6:30 1 st term **	3 units
317.605 Methods in Quantitative Risk Assessment	MW 5:00-6:30 3 rd term	4 units
340.601 Principles of Epidemiology <i>OR</i>	MWF 8:30-9:20 1 st term *	5 units
340.751 Epidemiologic Methods I	MWF 8:30-9:50 1 st term *	5 units

Occupational and Environmental Hygiene / Air Pollution Program Requirements

182.614 Industrial Hygiene Laboratory	WF 1:30-4:50 3 rd term	5 units
182.615 Airborne Particles	F 9:30-11:50 4 th term	3 units
182.617 Intro to Chemistry of Ambient Air Pollutants	TTh 3:30-4:20 2 nd term	2 units
182.616 Advanced Topics in Airborne Particles	F 8:30-10:20 2 nd term	2 units
183.641 Health Effects of Indoor and Outdoor Air Pollution EOY next offered 2008-2009	TTh 1:30-2:50 4 th term	3 units
187.634 Molecular Dosimetry & Biomarkers <i>OR</i>	MWF 10:30-11:50 4 th term	4 units
180.640 Molecular Epidemiology & Biomarkers	TTh 2:30-3:50 3 rd term	4 units

Water and Health Program Requirements

182.640 Food- and Water-borne Diseases	TTh 1:30-2:50 3 rd term	3 units
221.629 Water & Sanitation Needs in Humanitarian Emergencies	Th 1:30-3:50 2 nd term	2 units

School Requirements

The following courses fulfill School requirements for all research students. Doctoral students who have earned a MPH Degree within the last ten years are waived from the 550.865-866 requirements. In addition, all students are required to complete the Academic Ethics Module (on-line course), which is located at <http://apps1.jhsph.edu/academicethics/>. This module should be completed within two terms of matriculation and must be completed before graduating.

550.865 Public Health Perspectives on Research I	T 10:30-11:50 <i>OR</i> F 1:30-2:50 1 st term	1 unit
550.866 Public Health Perspectives on Research II	T 10:30-11:50 <i>OR</i> F 1:30-2:50 2 nd term	1 unit
306.665 Research Ethics and Integrity <i>OR</i>	TTh 1:30-2:50 3 rd term	3 units
550.860 Research Ethics	Internet 2 nd term	1 unit
Academic Ethics Module	Internet	

* Check current schedule for lab times (<http://commprojects.jhsph.edu/courses>)

** Also offered via Internet