

Environmental Health (ENVH)

Course information contained within the Bulletin is accurate at the time of publication in June 2025 but is subject to change. For the most up-to-date course information, please refer to the Course Catalog.

ENVH 5004. Environmental Health. 1.5 Credit Hour.

ENVH 5004 is a required foundational, introductory course for the MPH degree programs, and as such serves as an introduction to the various aspects of the Environmental Health field. The course incorporates not only the common concepts associated with environmental exposures (air, water, soil, food, etc.) but also legacy and emerging issues associated with environmental threats to human health, including the potential impacts of emerging contaminants on human health. The emphasis is on biological, chemical, and physical sources of exposures, their salient characteristics, potential effects on human and ecological health, and the modern responses (methods, actions, and policies) for limiting exposures and effects.

Repeatability: This course may not be repeated for additional credits.

ENVH 5013. Global Environmental Health. 3 Credit Hours.

This is an intermediate-level graduate course for those interested in environmental health and global health. Other graduate students may attend the course with the instructor's permission, provided they meet the course prerequisites. This course does not meet the core requirement for environmental health in the MPH program.

Course Attributes: SF

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of B- in (ENVH 5004 (may be taken concurrently), ENVH 5103, or PBHL 5103)

ENVH 5309. Water, Sanitation and Public Health. 3 Credit Hours.

This is an intermediate-level graduate course for those interested in water, sanitation and hygiene and the implications on public health. Graduate students from the College of Public Health or from Engineering, Environmental Sciences or other related fields may attend the course with the instructor's permission. The course explores the importance of water, sanitation and hygiene on public health. The course is designed for the students to get hands-on learning about selecting and designing appropriate water and sanitation interventions as well as selecting methods for evaluating the public health impact of these interventions.

Repeatability: This course may not be repeated for additional credits.

ENVH 8016. Environmental Exposures and Human Health Risk Assessment. 3 Credit Hours.

This course will provide in-depth review of the four major steps of risk assessment, including hazard identification, exposure assessment, dose-response assessment and risk characterization. The course covers qualitative and quantitative exposure estimates for determining the exposure-response relation and health risks in an epidemiological study. The course also covers the development of estimates of mixture exposures for epidemiology and intervention studies. Students will develop an understanding of the underlying sciences and mathematics that fall within exposure science and use Markov chain method to build exposure models. Risk characterization will provide practical tools for course is an introduction to the use of stochastic modeling to identify, assess, and manage environmental health hazards. Students will conduct an environmental risk assessment, including planning, scoping, exposure and risk assessment, and communication through the lens of public health. Students will compare and contrast estimation-based approaches, versus p-value only approaches in hazard identification modeling, including implications of Type I versus Type II error cut-offs. In addition to the cancer slope factor and Hazard Quotient (HQ), the concepts for the Hazard Index (HI) for combining exposures in the HI will be covered.

Course Attributes: SF

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of B- in ENVH 5004 and (EPBI 5006 (may be taken concurrently), EPBI 5002 (may be taken concurrently), or PBHL 5002 (may be taken concurrently))

ENVH 8019. Environmental Policy and Regulation. 3 Credit Hours.

This is an upper-level graduate course that focuses on the concepts of policy and regulatory systems meant for the protection and management of the environment in the United States, including the evolution of the regulatory systems and policy making process to address both legacy and emerging environmental issues and the factors that shape these policies and regulations. Emphasis will be placed on the development of the standards, enforcement, and compliance of selected federal environmental regulations and their equivalent enforcements at the state and local levels, and ultimately, how those regulations influence public health. The course might be of interest to those interested in understanding environmental policy and regulation in the U.S., identifying means to facilitate changes in environmental policy for human health and environmental protection, and how it provides foundation for other international policies and laws pertaining to environmental management and sustainability. Students may find this as an applied policy- and decision-making course. The course will bring in other experts, either in the form of team teaching or guest speakers, who will offer relevant and timely perspectives on topics of significant interest.

Course Attributes: SF

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of B- in (PBHL 5005, SBS 5005, or HPM 5005) and (PBHL 5103 or ENVH 5103)

ENVH 8207. Environmental Epidemiology. 3 Credit Hours.

This intermediate course will cover selected topics in occupational and environmental epidemiology through a focus on specific health outcomes, such as non-malignant respiratory diseases, cancer, and musculoskeletal disorders, within the context of particular study designs or exposures. Students will have the opportunity to critically examine the current literature and to study contemporary issues in research. Exposure assessment, biomarkers, and emerging diseases within the context of the workplace and the environment will be addressed.

Course Attributes: SF

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of B- in (ENVH 5004 or ENVH 5103) and (EPBI 5201, PBHL 5201, EPBI 5101, or PBHL 5101)

ENVH 8309. Exposure Assessment. 3 Credit Hours.

Exposure assessment is the multidisciplinary field that identifies and characterizes exposure to environmental agents; develops estimates of exposure for epidemiology, exposure-response, trend and surveillance, and risk assessment studies; and evaluates the significance of exposure of effectiveness of intervention strategies.

Course Attributes: SI

Repeatability: This course may not be repeated for additional credits.

ENVH 9289. MPH Fieldwork I. 3 Credit Hours.

This course entails a fieldwork project or internship in a public health agency. It includes seminars, oral and written reports of progress, and joint supervision by a preceptor and faculty member.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of B- in EPBI 5201, EPBI 5002, EPBI 5005, HPM 5006, SBS 5001, and EPBI 8012 (may be taken concurrently)

ENVH 9389. MPH Fieldwork II. 3 Credit Hours.

This course is an evaluation of the fieldwork project or internship using a full range of research methodologies. Data are collected, analyzed, and reported in a comprehensive final report. Oral and/or poster presentations are presented to public health organizations. The course includes a final oral defense of the project or internship.

Repeatability: This course may not be repeated for additional credits.