

ENVIRONMENTAL HEALTH SCIENCES

Department Website (https://www.sc.edu/study/colleges_schools/public_health/study/areas_of_study/environmental_health_sciences/)

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The Department of Environmental Health Sciences does not offer an undergraduate degree in environmental health sciences but does provide a number of undergraduate courses for undergraduate Arnold School of Public Health Majors and undergraduate students in a number of other undergraduate programs including Marine Science and Environmental Resource Management.

Courses

ENHS 223 - Introduction to Global Environmental Health (3 Credits)

Introduction to global environmental health, with a focus on toxic pollution and disease burden in developing countries. Investigation of international treaties, corresponding environmental pollution processes, and human health effects.

ENHS 321 - Environmental Pollution and Health (3 Credits)

A survey of pollution (chemical, biological, physical) effects on environmental quality and public health with emphases on how each pollutant class behaves and affects individual and community health over acute to chronic exposure periods.

Cross-listed course: ENVR 321

ENHS 323 - Global Environmental Health (3 Credits)

Concerns in global environmental health, with a focus on toxic pollution and disease burden in developing countries. Investigation of international treaties, corresponding environmental pollution processes, and human health effects.

Cross-listed course: ENVR 323

ENHS 324 - Environment and Obesity (3 Credits)

Role of the built environment and environmental toxins in the development and progression of obesity and metabolic syndrome from a public health perspective.

ENHS 415 - Disasters and Public Health Emergency Management (3 Credits)

Introduction to emergency preparedness and response in relation to environmental and public health. Historical context for the emergence of public health emergency preparedness and demonstration of articulation with community response partner agencies in the post-COVID era.

ENHS 450 - Introduction to Public Health Microbiology (3 Credits)

Public health microbiology and the intersection between microbial disease, the environment, and health, with a particular focus on critical public health issues in the 21st century.

ENHS 490 - Independent Study (1-3 Credits)

Enrollment and topic to be approved in advance by advisor and instructor. May be repeated.

Graduation with Leadership Distinction: GLD: Research

ENHS 492 - Special Topics in Environmental Health Sciences (3 Credits)

Issues and emerging themes in environmental health. May be repeated for a total of 9 credit hours as content varies by title.

ENHS 515 - Disasters and Public Health Emergency Management (3 Credits)

Introduction to emergency preparedness and response in relation to environmental and public health. Historical context for the emergence of public health emergency preparedness and demonstration of articulation with community response partner agencies in the post-COVID era.

ENHS 555 - Climate Change Impacts on Human Health (3 Credits)

A detailed exploration of the impacts of climate change on human health and well-being.

ENHS 575 - Public Health and Community Disaster Resilience (3 Credits)

A study of national, community, and organizational multi-hazard resilience and risk management framed in the public and environmental health contexts.

ENHS 585 - Crisis Leadership for the Public Health Professional (3 Credits)

A study in the intersection of public health and crisis leadership to develop the knowledge and skills needed to effectively respond to and recover from emergencies and disasters.

ENHS 592 - Advanced Special Topics in Environmental Health (1-3 Credits)

Emerging issues and topics concerning environmental health. May be repeated as content varies by title up to a total of 9 credit hours.

ENHS 625 - Medical Mycology (3 Credits)

Advanced study of infectious diseases caused by fungi. Etiology, symptoms, and treatment of fungi related illnesses.

Cross-listed course: BIOL 625

ENHS 660 - Concepts of Environmental Health Science (3 Credits)

Environmental health sciences presenting the earth as a complex system in which people, plants, animals, and non-living physical-chemical components interact.

ENHS 661 - Parasitology (4 Credits)

Parasites of biological, economic, and public health importance.

Prerequisites: 300 level Biology course or equivalent.

Cross-listed course: BIOL 531, EPID 661

ENHS 662 - Industrial Health Programs (3 Credits)

Analysis, planning, and implementation of programs to protect workers' health in industry; legislative and regulatory background.

ENHS 664 - Environmental Genomics (3 Credits)

"State of the art" molecular techniques that elucidate mechanisms of environmental contaminants in model systems.

ENHS 665 - Biofilms in Environmental Health and Disease (3 Credits)

Effect of bacterial biofilm process on many diverse areas. Recognition, prevention, and control of biofilm-related problems in the environment, health care, industry, and engineering.

ENHS 666 - Metals and Human Health (3 Credits)

Trace metal(loid)s, their fate and transport in the environment and their potential impacts on human health.

Prerequisites: BIOL 101 or BIOL 110; CHEM 101 and CHEM 102, or equivalent.

ENHS 670 - Environmental Pollutants and Human Health (3 Credits)

Overview of environmental pollutants and their impact on human health; case studies of environmental catastrophes; principles of ecotoxicology; air, water, and land pollution associated with neurotoxicity, toxicology, and carcinogenesis.

Prerequisites: BIOL 101 or BIOL 110; CHEM 101 and CHEM 102.

ENHS 671 - From Air to Alveoli: Exposure Science (3 Credits)

A receptor-oriented approach for assessing human exposure to environmental contaminants by inhalation, dermal and ingestion routes. Covers methods for estimating exposures to protect health and well-being, to relate adverse effects to exposures, and to comply with regulations and guidelines.

ENHS 675 - Infectious Disease Ecology (3 Credits)

Ecological theories as the basis for environmental change and the (re)emergence of infectious agents that ultimately impact human and ecosystem health.

ENHS 681 - Occupational Ergonomics I (3 Credits)

Introduction to ergonomics: hazards identification and analysis; solution design and implementation; human musculoskeletal characteristics, injuries; effects of work on performance, safety, and health. Application to manufacturing and office environments.