Bachelor of Science

Environmental Health

(BS)

www.hs.odu.edu/commhealth/academics/bs_enviro/ (http://www.odu.edu/academics/programs/undergraduate/environmental-health/)

Charlene Brassington, Interim Program Director

Environmental health is the study and management of factors that can adversely affect the environment and the health and well-being of humans. The curriculum in environmental health, which is accredited by the National Environmental Health Science and Protection Accreditation Council, encompasses a variety of disciplines in the preparation of environmental health professionals, industrial hygienists, and occupational safety specialists.

Environmental health professionals manage environmental health and safety programs, work with communities to address environmental hazards, conduct environmental hazard and accident investigations, provide safety training, conduct safety audits, perform Job Hazard Analysis, work to foster sustainability, and lead emergency preparedness and response services. Industrial hygienists conduct evaluations and monitor harmful agents and health hazards (such as: noise and vibration, chemicals, gases and vapors, radiation, heat, and biohazards) in the work environment and recommend controls to minimize the health risk to workers in the occupational environment. In simple terms they anticipate, recognize, evaluate and control occupational exposures. On the environmental side, environmental health professionals engage in education, consultation, and enforcement relating to local, state and federal environmental health laws, regulations, and standards. They work on air and water quality, food safety, management of hazardous and infectious materials, housing, disease vectors, institutional environments, and other environmental health issues.

Environmental health professionals manage environmental health and safety programs for companies, government agencies, academic institutions, non-profit organizations, health departments, and military installations.

The program requires three credit hours of internship field practice within an environmental or occupational health facility or industrial site. A variety of internship sites are available in the Hampton Roads area for these experiences. Internship sites throughout the U.S. and overseas are also available. Internships are available any semester but are typically completed in the summer between the junior and senior year. Most internships are paid and many out of area internships offer a stipend to cover expenses.

Upon graduation, students are eligible to sit for the professional licensing examination in environmental health. With work experience, students are eligible to take the certification examinations in industrial hygiene as Certified Industrial Hygienist (CIH) and/or in safety as Associate Safety Professional (ASP) and then a Certified Safety Professional (CSP).

A broad spectrum of employment opportunities are available to graduates. Alumni employment success has been outstanding, with graduates finding employment in agencies such as the USDA, EPA, OSHA, NASA, FDA, and DOD. Many work in private industries, manufacturing plants, the oil industry, consulting firms, health departments, waste and wastewater plants, civil service, and other organizations.

Admission

Students may be admitted to the program on the satisfactory completion of 60 semester hours of recommended study of required prerequisite courses and with the approval of the program director. Applications to the program, including all materials, may be submitted any time during the academic year for consideration for admission. Permission must be granted by the program director prior to applying to the program if the student has fewer than the 60 semester hours of required prerequisite courses.

Requirements

Requirements for Graduation

Requirements for graduation include the following:

• Minimum of 120 credit hours.
• Minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University.
• Minimum overall cumulative grade point average of C (2.00) in all courses taken.
• Minimum overall cumulative grade point average of C (2.00) in all courses taken toward the major.

Upper-Division General Education

Option A. Approved Disciplinary Minor, 12-24 hours minimum; also second degree or second major.

Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. An approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Health Sciences and not required by the major (6 hours)

Requirements

Lower-Division General Education

Written Communication (http://catalog.odu.edu/undergraduate/requirements-undergraduate-degrees/#written) 6

Oral Communication (http://catalog.odu.edu/undergraduate/requirements-undergraduate-degrees/#oral) 3

Mathematics (http://catalog.odu.edu/undergraduate/requirements-undergraduate-degrees/#math) 3

Language and Culture (http://catalog.odu.edu/undergraduate/requirements-undergraduate-degrees/#language) 0-6

Information Literacy and Research (http://catalog.odu.edu/undergraduate/requirements-undergraduate-degrees/#information) 3

Human Behavior (http://catalog.odu.edu/undergraduate/requirements-undergraduate-degrees/#behavior) 3

Human Creativity (http://catalog.odu.edu/undergraduate/requirements-undergraduate-degrees/#creativity) 3

Interpreting the Past (http://catalog.odu.edu/undergraduate/requirements-undergraduate-degrees/#interpret) 3

Literature (http://catalog.odu.edu/undergraduate/requirements-undergraduate-degrees/#literature) 3

Philosophy and Ethics (http://catalog.odu.edu/undergraduate/requirements-undergraduate-degrees/#philosophy) 3

The Nature of Science (http://catalog.odu.edu/undergraduate/requirements-undergraduate-degrees/#nature) 8

Impact of Technology (http://catalog.odu.edu/undergraduate/requirements-undergraduate-degrees/#impact) 3

ENGL 231C, COMM 101R, MATH 162M, and PHYS 101N, PHYS 102N, PHYS 111N, PHYS 112N, PHYS 231N, or PHYS 232N must be completed prior to acceptance into the environmental health program.

Oral Communication: COMM 101R

Mathematics: MATH 162M

Information Literacy and Research: HLTH 120G preferred

Philosophy and Ethics: PHIL 345E preferred; meets upper-division general education.

Nature of Science: Select one of the following sequences - BIOL 110N/BIOL 111N and BIOL 117N/BIOL 118N OR BIOL 121N/BIOL 122N and BIOL 123N/BIOL 124N and select one of the following - PHYS 101N, PHYS 102N, PHYS 111N, PHYS 112N, PHYS 231N, PHYS 232N.

Impact of Technology (upper-division T course outside the College of Health Sciences; meets upper-division general education)
Environmental Health Major

General Education
Complete lower-division requirements 45-51
Complete upper-division requirements (0-15 credits depending on elective choice and choice of Option) 0-15
Elective Credit may be needed to meet the minimum requirement of 120 credit hours.

Departmental Requirements
STAT 130M  Elementary Statistics * 3
BIOL 150  Introductory Microbiology * 3
BIOL 151  Introductory Microbiology Laboratory * 1
BIOL 240  Fundamentals of Anatomy and Physiology I 4
or BIOL 250  Human Anatomy and Physiology I 4
CHEM 121N & CHEM 122N  Fundations of Chemistry I Lecture and Foundations of Chemistry I Laboratory * 4
CHEM 123N & CHEM 124N  Fundations of Chemistry II Lecture and Foundations of Chemistry II Laboratory * 4
CHEM 211 & CHEM 212  Organic Chemistry I Lecture and Organic Chemistry I Laboratory * 5

Environmental Health Major
ENVH 301  Principles of Environmental Health Science 3
ENVH 402W  Environmental and Occupational Health Administration and Law ** 3
ENVH 403  Environmental and Occupational Health Internship I 3
ENVH 406  Principles of Occupational Safety and Health 3
ENVH 420  Communicable Diseases 3
ENVH 422  Water and Wastewater Technology 3
ENVH 441  Industrial Hygiene 3
ENVH 443  Principles of Toxicology 3
ENVH 448  Epidemiology and Biostatistics 3
ENVH 466  Environmental and Occupational Risk Assessment and Decision Analysis 3
ENVH 499  Environmental and Occupational Health Senior Seminar 1
ENVH Electives- Select 12 credits of the following: *** 12
ENVH 401  Occupational Health 3
ENVH 407  Occupational Safety Standards, Laws and Regulations 3
ENVH 421  Food Safety 3
ENVH 423  Vector-Borne Diseases and Their Control 3
ENVH 425  Occupational Safety and Health Program Management 3
ENVH 426  Physical Hazards and Their Control 3
ENVH 440  Principles of Ergonomics 3
ENVH 442  Industrial Hygiene Sampling Methods 3
ENVH 445  Air Pollution and Its Control 3
ENVH 470  Industrial Environmental Management 3

Total Credit Hours 118-139

*  Must be completed prior to acceptance into the environmental health program.
**  Grade of C or better required in the writing intensive course.
***  Consult with advisor for areas of specialization.
†  A grade of C or better required before taking CHEM 211 and CHEM 212.

Elective Credit
Elective credit may be needed to meet the minimum requirement of 120 credit hours.

Degree Program Guide

The Degree Program Guide is a suggested curriculum to complete this degree program in four years. It is just one of several plans that will work and is presented only as broad guidance to students. Each student is strongly encouraged to develop a customized plan in consultation with their academic advisor. Additional information can also be found in Degree Works.

Course  Title  Credit Hours
Freshman
Fall
ENGL 110C  English Composition 3
BIOL 121N or BIOL 110N  General Biology I or Environmental Science for Non-Majors 3
BIOL 122N or BIOL 111N  General Biology I Lab or Environmental Science Lab for Non-Majors 1
MATH 162M  Precalculus I 3
Information Literacy 3
CHEM 103 may be needed as prerequisite to CHEM 121N

Credit Hours 13

Spring
ENGL 211C or ENGL 231C  Writing, Rhetoric, and Research or Writing, Rhetoric, and Research: Special Topics 3
BIOL 123N or BIOL 117N  General Biology II or Introduction to Human Biology 3
BIOL 124N or BIOL 118N  General Biology II Lab or Introduction to Human Biology Lab 1
CHEM 121N  Foundations of Chemistry I Lecture 3
CHEM 122N  Foundations of Chemistry I Laboratory 1
STAT 130M  Elementary Statistics 3

Credit Hours 14

Sophomore
Fall
ENGL 301  Principles of Environmental Health Science 3
CHEM 123N  Foundations of Chemistry II Lecture 3
CHEM 124N  Foundations of Chemistry II Laboratory 1
Human Behavior 3
BIOL 150  Introductory Microbiology 3

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<td>CHEM 211</td>
<td>Organic Chemistry I Lecture</td>
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<td>CHEM 212</td>
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<td>COMM 101R</td>
<td>Public Speaking</td>
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<td>University Physics I</td>
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Total Credit Hours: 120