Bachelor of Science

Environmental Health (BS)

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

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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 and health 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

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)

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 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.

- Minimum overall cumulative grade point average of C (2.00) in all courses taken toward a minor.
- Completion of ENGL 110C, ENGL 211C or ENGL 231C, and the writing intensive (W) course in the major with a grade of C or better. The W course must be taken at Old Dominion University.
- Completion of Senior Assessment.

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
Departmental Requirements		
STAT 130M	Elementary Statistics *	3
BIOL 150	Introductory Microbiology *	3
BIOL 151	Introductory Microbiology Laboratory *	1
BIOL 240 or BIOL 250	Fundamentals of Anatomy and Physiology I * Human Anatomy and Physiology I	4
CHEM 121N & CHEM 122N	Foundations of Chemistry I Lecture and Foundations of Chemistry I Laboratory +*	4
CHEM 123N & CHEM 124N	Foundations 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	
ENVH 407	Occupational Safety Standards, Laws and Regulations	
ENVH 421	Food Safety	
ENVH 423	Vector-Borne Diseases and Their Control	
ENVH 425	Occupational Safety and Health Program Management	
ENVH 426	Physical Hazards and Their Control	
ENVH 440	Principles of Ergonomics	
ENVH 442	Industrial Hygiene Sampling Methods	
ENVH 445	Air Pollution and Its Control	
ENVH 470	Industrial Environmental Management	
Elective credit may be needed to meet the minimum requirement of 120 credit hours		6
Total Credit Hours		**118-139**

\+ CHEM 103 may be required as a prerequisite.

* 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		
ENVH 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

BIOL 151	Introductory Microbiology Laboratory	1
	Credit Hours	**14**
Spring		
CHEM 211	Organic Chemistry I Lecture	3
CHEM 212	Organic Chemistry I Laboratory	2
COMM 101R	Public Speaking	3
Interpreting the Past		3
Select one of the following:		4
PHYS 101N	Conceptual Physics	
PHYS 111N	Introductory General Physics	
PHYS 231N	University Physics I	
	Credit Hours	**15**
Junior		
Fall		
BIOL 240 or BIOL 250	Fundamentals of Anatomy and Physiology I or Human Anatomy and Physiology I	4
ENVH 402W	Environmental and Occupational Health Administration and Law	3
ENVH 406	Principles of Occupational Safety and Health	3
Literature		3
Human Creativity		3
	Credit Hours	**16**
Spring		
ENVH 420	Communicable Diseases	3
ENVH 422	Water and Wastewater Technology	3
ENVH 448	Epidemiology and Biostatistics	3
Impact of Technology (Option D 300/400)		3
Philosophy and Ethics (Option D 300/400)		3
	Credit Hours	**15**
Summer		
ENVH 403	Environmental and Occupational Health Internship I	3
	Credit Hours	**3**
Senior		
Fall		
ENVH 441	Industrial Hygiene	3
ENVH Elective		3
ENVH Elective		3
ENVH Elective		3
Elective if needed		3
	Credit Hours	**15**
Spring		
ENVH 443	Principles of Toxicology	3
ENVH 466	Environmental and Occupational Risk Assessment and Decision Analysis	3
ENVH 499	Environmental and Occupational Health Senior Seminar	1
ENVH Elective		3
Elective		3
Elective if needed		2
	Credit Hours	**15**
	Total Credit Hours	**120**