

# 88 / English, Environmental Health

Eng 491 (F, S) 1-8 hrs. cr.  
**Internship in English**  
 Practical experience using writing skills in a professional environment. All internships must conform with MSSU institutional policy regarding the number of hours work per credit and contractual agreements with cooperating facility. Three-hour internships may be repeated. Prerequisites: Eng 101 and 102 or Eng 111; Advanced standing with a GPA of 3.0, and approval of a departmental committee.

Eng 495 (F) 3 hrs. cr.  
**Senior Seminar** (Writing Intensive)  
 Intensive study of one or more literary authors, genres, and/or historical periods, culminating in a substantial research paper. Topic open. Prerequisite for English majors: Eng 202. For senior English majors or for others by permission of department head.

Eng 498 (Demand) 3 hrs. cr.  
**Advanced Topics in English**  
 For advanced English majors or by permission of department head. Topic open. Prerequisite: Eng 101 and 102 or Eng 111.

Eng 499 (Demand) 1-3 hrs. cr.  
**Independent Study**  
 Individually directed study in selected areas for advanced English majors. Prerequisite: Eng 101 and 102 or Eng 111; a GPA of 3.0 in English. Enrollment must be approved by adviser, department head, and school dean.



**Faculty** Fletcher- Director, W. Black, M. Kennedy

MSSU offers a four-year Bachelor of Science degree in Environmental Health. Environmental Health is the science of protecting the human environment. Career opportunities include professional positions with health departments, environmental protection agencies, and corporate occupational health and safety divisions. The program is fully accredited by the National Environmental Health Science and Protection Accreditation Council (NEHSPAC).

## Bachelor of Science with a Major in Environmental Health

Major Code 1299

	Semester Hours
<b>Core Requirements (p. 32) 51*</b> .....	<b>39</b>
<b>Biology &amp; Environmental Health Core</b> .....	<b>44</b>
Bio 101 General Biology	
OR	
Bio 121 Human Anatomy & Physiology I . . . . .	4
Bio 231 General & Medical Microbiology . . . . .	5
Bio 290 Research & Statistical Methods . . . . .	3
EH 311 Soil Morphology & Sewage Systems . . . . .	3
EH 370 Environmental Health . . . . .	3
EH 371 Toxicology . . . . .	3
EH 372 Environmental Regulations . . . . .	3
EH 376 Environmental Protection . . . . .	3

EH 377 Food Safety . . . . .	3
EH 378 Occupational Health & Safety . . . . .	3
EH 380 Epidemiology . . . . .	3
EH 450 Internship in Environmental Health . . . . .	5
EH 481 Environmental Risk Management . . . . .	3

### Mathematics and Physical Science . . . . . 25

Math 140 College Algebra & Trigonometry . . . . .	5
Chem 101 General Chemistry I . . . . .	5
Chem 102 General Chemistry II . . . . .	5
Chem 300 Introduction to Modern Organic Chemistry	
OR	
Chem 301 Organic Chemistry I . . . . .	5
Phys 151 Elementary College Physics I . . . . .	5

### College Computer Requirement . . . . . 3

Bio 303 Computer Applications in Biology	
OR	
EH 304 Geographic Information Systems . . . . .	3

### Environmental Health Electives . . . . . 13

Select from the following\*\*\*:

Bio 221 Human Anatomy & Physiology II . . . . .	5
OR	
Bio 301 Human Physiology . . . . .	4
Bio 240 Radiation Biology . . . . .	3
Bio 361 Parasitology . . . . .	4
Bio 442 Pathogenic Bacteriology. . . . .	5
Bio 481 Aquatic Ecology . . . . .	4
Chem 201 Analytical Chemistry . . . . .	5
EH 201 Hazardous Materials. . . . .	3
EH 298 Topics in Environmental Health. . . . .	1-5
EH 300 Environmental Geology . . . . .	3
EH 304 Geographic Information Systems . . . . .	3
EH 312 Environmental Biology . . . . .	4
EH 352 International Environmental Health . . . . .	3
EH 373 Solid Waste Management. . . . .	1
EH 375 Disease Vector Control. . . . .	2
EH 450 Internship in Environmental Health . . . . .	1-3
EH 498 Advanced Topics in Environmental Health . . . . .	1-5
EH 499 Problems in Environmental Health . . . . .	1-3
IntS 302 World Environmental Issues . . . . .	3
MIDS 402 Future Environments: Sustainability . . . . .	3
PSc 421 Public Administration . . . . .	3
OR	
MSSU approved transfer courses	
<b>Total Minimum Hours</b> . . . . .	<b>124</b>

\*Required courses in biology, chemistry, mathematics, and physics satisfy major requirements and 12 hrs. of the Core Curriculum.

\*\*Must include at least 40 hours of upper division.

\*\*\* Coursework not listed as an elective will be evaluated on a case-by-case basis as to its application for an environmental health professional or toward graduate education.

Majors satisfy the Writing Intensive (WI) requirement by completing Eng 101 and 102 (or their equivalent) and three WI classes in environmental health, biology, or a supporting area. See MSSU Catalog page 32 for Writing Intensive requirements. Math 130 + Math 112 is equivalent to Math 140.

**Suggested Order of Study**

**Bachelor of Science Degree**  
Major Code 1299  
**Environmental Health Major**

**Freshman Year**

1st Semester		Hours
Course		
Bio 101	General Biology	4
CORE	[Area 4 – Am. Cultural Study]	3
CORE	[Eng 101 Comp I]	3
CORE	[Kine 101 Physical Activity]	1
CORE	[Psy 120 College Orientation]	1
Math 140	College Algebra & Trigonometry	5
		<b>17</b>

**2nd Semester**

Chem 101	General Chemistry I	5
CORE	[Eng 102 Comp II]	3
CORE	[Humanities and Fine Arts]	3
Phy 151	Elem College Physics	5
		<b>16</b>

**Sophomore Year**

1st Semester		Hours
CORE	[Area 4 – Am Cultural Study]	3
Bio 231	Gen/Med Microbiology	5
Chem 102	General Chemistry II	5
CORE	[Comm 100 Oral Communication]	3
		<b>16</b>

**2nd Semester**

Chem 300 OR	Chem 301 Organic Chemistry	5
EH 370	Environmental Health	3
CORE	[Area 4 – Am Cultural Study]	3
CORE	[Behavioral Science]	3
CORE	[Kine 103 Lifetime Wellness]	2
		<b>16</b>

**Junior Year**

1st Semester		Hours
EH 311	Soil Morphology & Sewage System	3
EH Elective(s)		4
EH 372	Environmental Regulations	3
EH 376	Environmental Protection	3
EH 304	Geographic Information Systems	3
		<b>16</b>

**2nd Semester**

EH 371	Toxicology	3
EH 377	Food Safety	3
EH 378	Occupational Health & Safety	3
CORE	[Area 4 – Am Cultural Study]	3
CORE	[Humanities and Fine Arts]	3
		<b>15</b>

**Senior Year**

1st Semester		Hours
EH	Electives	6
Bio 290	Research & Statistical Methods	3
CORE	[Humanities and Fine Arts]	3
CORE	[International Cultural Study]	3
		<b>15</b>

**2nd Semester**

EH 481	Environmental Risk Management	3
EH 380	Epidemiology	3

EH Electives		7
EH 450	Internship in Environmental Health	5
		<b>15</b>
<b>Total Hours</b>		<b>125</b>

Program must satisfy Writing Intensive (WI) requirements page 32.

**For additional information contact:**

Mr. Mike Fletcher  
Office: Reynolds Hall 320  
Phone: 417.625.9765  
Email: fletcher-m@mssu.edu

**For program accreditation information contact:**

National Environmental Health Science and Protection Accreditation Committee, atres@aehap.org or 503.235.6831

**Course Descriptions**

EH 201 (F, Even) 3 hrs. cr.  
**Hazardous Materials and Waste Management**

Knowledge will be gained in the proper storage, handling, and disposals of hazardous materials and hazardous waste. All students who successfully complete this course will be awarded Hazardous Waste Operations and Emergency Response (HAZWOPER) certificates. Prerequisites: Biology 101 or 121 and Chem 101.

EH 298 (Demand) 1-5 hrs. cr.  
**Topics in Environmental Health**

Designed to give instruction in some discipline of environment health not covered in other courses. Prerequisites to be determined by department.

EH 300 (S, Odd) 3 hrs. cr.  
**Environmental Geology**

Introduction to our relationship to the earth's environment. Limitations of natural resources and future projections are considered along with man's demands on the environment. Oil spills, surface mining, waste disposal, ground water and other problems of a geologic nature are reviewed. Natural environmental hazards, such as volcanoes, earthquakes, subsidence, mass movements and floods are examined. Prerequisite: Physics 151. *(Cross-listed in geology.)*

EH 304 (F, Odd) 3 hrs. cr.  
**Geographic Information Systems**

Explores the expanding use of Geographic Information Systems (GIS) in ecology, environmental health, and related fields. Satisfies the computer literacy requirement for biology and environmental health majors. Lecture and laboratory scheduled equivalent to 3 credits. Prerequisite: Bio 101 or 121. *(Cross-listed in biology.)*

EH 311 (F, Odd) 3 hrs. cr.  
**Soil Morphology and Sewage Systems**

Concepts, methods, and practices useful to the environmental health professional for soil morphology and site assessment leading to the proper design of residential sewage treatment systems. Two hours of lecture and two hours of field and/or laboratory activities are required per week. Prerequisites: Chem 101, Bio 101, or 121.

EH 312 (F or Summer) 4 hrs. cr.  
**Environmental Biology** *(Writing Intensive)*

Environmental factors and their interactions with living organisms. Emphasis on human ecology and wise natural resource utilization. Three lectures, one two hour lab per week. Prerequisite: Bio 101 or 121. *(Cross-listed in biology.)*

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## 90 / Environmental Health, Foreign Languages

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EH 352 (Demand) 3 hrs. cr.  
**International Environmental Health**

International Environmental Health is an in-depth study of environmental health issues in countries other than the United States of America. The approach of this course is to select a country to be studied and review the pertinent environmental health issues. Environmental health issues common to many countries, as well as issues that are unique to the selected country will be studied. The environmental health issues of the selected country will be studied in the classroom and followed up with an extended field trip usually lasting about two weeks. Prerequisites: EH 312.

EH 370 (S) 3 hrs. cr.  
**Environmental Health**

A survey of contemporary environmental health problems and protection measures, including public health disease prevention and environmental health hazard mitigation. Three lectures per week. Prerequisite: Bio 101 or 121. (Cross-listed in biology.)

EH 371 (S, Even) 3 hrs. cr.  
**Toxicology**

An introduction to the principles and mechanisms of toxicants that threaten the health of humans. Three hours of class per week. Prerequisites: Bio 101 or 121 and Chem 101.

EH 372 (F,Odd) 3 hrs. cr.  
**Environmental Regulations**

A study of the regulations needed by environmental health professionals that work in the fields of environmental protection, environmental compliance, or public health and safety. Three hours of lecture per week. Prerequisite: Bio 101 or Bio 121 or Chem 101.

EH 373 (F, Even) 1 hr. cr.  
**Solid Waste Management**

Introduction to the problems and potential solutions related to the generation, disposal, recycling, reuse, and prevention of solid wastes. Emphasis will be on solid waste management for a sustainable society. Prerequisite: Bio 101 or Bio 121 and Chem 101.

EH 375 (F, Even) 2 hrs. cr.  
**Disease Vector Control**

Identification and control of organisms that serve as reservoirs and vectors of diseases to humans. Two hrs. per week. Prerequisite: Bio 101 or Bio 121 and Chem 101.

EH 376 (F, Odd) 3 hrs. cr.  
**Environmental Protection**

Concepts, methods, and practices useful to the environmental health professional for water quality management, water treatment, wastewater treatment, stormwater management, solid waste management, hazardous waste treatment, bioremediation, and air quality management for the protection of the environment and the public health. Two hrs. of lecture, two hrs. of lab/field work per week. Prerequisites: Bio 101 or Bio 121 and Chem 101.

EH 377 (S, Even) 3 hrs. cr.  
**Food Safety**

The concepts, methods, practices, and regulations that help ensure a safe food supply. This information is useful for the environmental health professional working as a health agency regulator or as a quality control agent in the food industry. Two hrs. of lecture, two hrs. of lab/field work per week. Prerequisites: Bio 101 or Bio 121 and Chem 101.

EH 378 (S, Even) 3 hrs. cr.  
**Occupational Health and Safety**

An introduction to the concepts, principles, and methods generally employed by industrial health and safety officers in the performance of their duties. Prerequisite: Chem 101 and Bio 101 or Bio 121.

EH 380 (S, Odd) 3 hrs. cr.  
**Epidemiology**

Introduction to the concepts, principles, and methods generally useful in the surveillance and investigation of communicable disease outbreaks. Prerequisite: Bio 101 or Bio 121. (Cross listed in biology.)

EH 450 (F, S or Summer) 1-8 hrs. cr.  
**Internship in Environmental Health**

Experience in actual observation and work at health facilities, health regulation agencies, and/or industrial plants where environmental health is a viable concern. Periodic meetings between the Missouri Southern coordinator, the cooperating institution, and the student will be required. The student should not be employed in any job that will prevent full-time, maximum concentration on the academic internship. Prerequisite: Junior or senior standing in environmental health or biology curricula.

EH 481 (S, Even) 3 hrs. cr.  
**Environmental Risk Management (Writing Intensive)**

The concepts, principles, methods, and techniques useful to the environmental health professional in risk assessment, risk management, and risk communications for the protection of the environment, the public safety, and the public health. A capstone course for the major. Three hours of class per week. Prerequisite: Junior or Senior standing as an EH major.

EH 498 (Demand) 1-5 hrs. cr.  
**Special Topics in Environmental Health**

Designed to give instruction in some discipline of environment health not covered in other courses. For upper division majors. Prerequisites to be determined by department.

EH 499 (Demand) 1-3 hrs. cr.  
**Problems in Environmental Health**

Individual work under the supervision of a staff member with the credit and hours to be arranged. Problems may be undertaken in any field of environmental health with adequate preparation and the consent of the supervising instructor, coordinator, department head, and school dean. Prerequisites: Minimum GPA of 3.0 in 20 hours of environmental health and/or biology.



## FOREIGN LANGUAGES & LITERATURES

Webster Hall 352, 417.625.9580

**Faculty** Moorman - Head, Cramer, Chang, Edwards, Hou, Karmanova, Mejia, Mere, Parker, Sartori, Suro, Weber

The foreign language section of the Department of Communication and Foreign Languages offers the Bachelor of Arts degree with majors in French, German, and Spanish. Minors in Chinese, French, German, Japanese, Russian, and Spanish are available. The Department also offers the Bachelor of Science in Education degree in French, German, or Spanish, with the chosen language as a single teaching field or as one of two teaching fields.

For the degrees in French or German, there is a residency requirement of at least one month of study or work in a French- or German-speaking country or participation in a French or German immersion program. For the degrees in Spanish such residency or immersion is strongly advised. Opportunities for such programs exist through University-sponsored programs here and abroad, through the University's membership in the International Student Exchange Program (ISEP) and through internships. The faculty provide close guidance to students in planning such