



Fundamentals of Environmental Science

ES-103 Fundamentals of Environmental Science Spring 2024

Instructor	Dr. Ingrid Luffman
E-mail	il44@evansville.edu
Course Meeting Days and Time	Monday/Wednesday 9:30 - 10:45 AM
Required Experiential Learning Dates	none
Office Hours	Monday/Wednesday 11 AM - 12 PM

Catalog Description:

Introduces interdisciplinary nature of problems relating to the human environment, including social, political, and economic aspects.

Credit Hour Policy Statement:

This class meets the federal credit hour policy of 1 hour of class with an expected 2 hours of additional student work outside of class each week for approximately 15 weeks for each hour of credit, or a total of 45-75 total hours for each credit.

General Education Requirements:

This course meets the General Education requirements for Outcome 8 Overlay D Social Responsibility-Environmental.

Course Learning Objectives:

Environmental Science is a course designed to help the student gain knowledge in a wide array of fundamental principles related to the workings and interconnectedness of Earth's diverse environment.

1. Analyze sources, data, and literature related to environmental science utilizing the scientific method and peer review.
2. Trace the path of energy and nutrients through ecosystems and the biosphere.
3. Explain how biological organization principals influence ecosystem function and change.
4. Determine how environmental conditions impact biodiversity and species evolution on land and in aquatic habitats.
5. Evaluate the evidence of how the Earth's climate is changing, causes, and describe possible consequences.

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6. Summarize how human population has changed over time, influences ecosystems, and has changed the face of the planet.
7. Connect the roles of urbanization, economic principals, and sustainability of human activities to changes in the environment.
8. Outline how the global need for food/nutrition is linked to agriculture, disease, affluence, and technology.
9. Using the principals of toxicology, evaluate the ways pollutants impact air, water, and land-based resources and systems.
10. Classify how Earth resources, both renewable and nonrenewable, are extracted and utilized for energy production or manufacturing, and managed in the waste stream.
11. Interpret environmental policy and laws both in the United States and globally.

Methods of Instructions:

We will use a novel approach to learning this semester both in format and content presentation. This class is designed so you, the student, can learn environmental science through a topic based online text. Each Unit is a Theme or “big idea” that includes topics you have already heard about, like Climate change or are related to something you use every day, such as your cell phone or drinking bottled water. The concepts are then broken down into the key learning objectives in Environmental Science in a way that helps you build understanding. The environment is a highly connected system and learning science in this way helps you see those links and form a deeper understanding of the concepts and most importantly, how to apply them.

You will be responsible for dedicating time outside of class, the recommendation is at least 2 hr a week, to learn the material.

On campus—Class time on campus each week will be focused on extending the concepts covered in the online text. Each class will have a content review and concept exploration portion. Case studies, discussions, student presentations, scientific readings, and hands-on learning activities will be used to expand understanding of the current concepts. Listening to each other, interpreting evidence, and asking questions are essential to this process.

Online—This course is designed so you can complete reading and study work online. Our “textbook” is all online and based on big ideas to help you see the relevancy of the material as you learn. Students are expected to dedicate time to prepare for the class meeting—such as reading, taking notes, and completing interactive activities as assigned prior to class meetings. Proper preparation for weekly classes is required so the student can actively participate in discussions, work within a group, and ask questions about the material.



Textbooks and Required Reading:

Text: Why Environmental Science?

ISBN: 978-1-266-47581-8

These learning materials include access to McGraw-Hill Connect, which provides the following: e-book, Interactive Reading questions, homework, and other resources for learning the material provided in the course.

Technology Must Haves include 1) Computer (PC/laptop/Surface preferred): tablet or iPad are ok for notes—a phone is not sufficient; and 2) Reliable internet access.

Course Schedule:

Week	Topic and Module	Assignments
It's just a plastic bottle of water?		
1: Jan 15-19	Intro to class Module 1: Where Does Bottled Water Come From?	Simulation - Stormwater walk
2: Jan 22-26	Module 2: Process of Science	Lab – Pillbug Preference
3: Jan 29-Feb 2	Module 3: Toxicology	Unit Quiz
Climate Change		
4: Feb 5-9	Module 1: What Influences Our Climate? Module 2: What Impacts the Levels of Greenhouse Gases?	NAGT Activity - climate
5: Feb 12-16	Module 3: What Are the Consequences of Climate Change?	Activity – Ocean acidification Activity – Effects of climate change
6: Feb 19-23	Module 4: Is it Too Late to Stop Climate Change?	Activity – Wind power Unit Quiz
7: Feb 26-29	Mid-term Exam	
Ecological Footprint— There's Only One Earth		
8: Mar 11-15	Module 1: Sustainability	Activity – Resource Consumption and Conservation
9: Mar 18-22	Module 2: Human Population Module 3: Agriculture Earth's Harvest	Activity - Human Population Activity – Smart Growth
10: Mar 25-29	Module 4: Air Pollution	Activity – Vehicle Emissions Unit Quiz
Cell Phones		
11: Apr 1-5	Module 1: Geology of Earth	NAGT activity – Mining Decisions
12: Apr 8-12	Module 2: Waste	Activity – Food and Ag Lifecycle Field activity – Water quality testing
13: Apr 15-19	Module 3: Applications of Environmental Science	Activity - Econ and Law Unit Quiz
14: Apr 22-25	Final Exam and Presentations	

Grading Criteria:

Students will complete weekly online activities designed to complement and reinforce course content. Hands on activities will occur generally during class time and will include discussion, simulations, in class activities, and field trips to the Harlaxton grounds. Quizzes follow each unit. Students will complete individual or group research on an environmental science topic of their choosing and present it to the class.

Connect online assignments (course website)	20%
Unit quizzes (online)	15%



In-class activities and discussions	15%
Midterm Exam	15%
Presentation	20%
Final Exam	15%
TOTAL	100%

Withdrawal and Attendance policies:

Harlaxton College expects regular class attendance by all students. Students are considered sufficiently mature to appreciate the necessity of regular and punctual attendance, to accept this personal responsibility and to accept the consequences of failure to attend. When absences occur due to emergency or medical reasons, students are expected to notify their instructors of the absence prior to class or to seek the assistance of the College nurse or a member of the Student Experience Team for help in notifying instructors.

Instructors have the authority to grant excused absences for medical, psychological, or personal reasons upon review of appropriate documentation and professional recommendation supporting such a request. In the event of long-term illness, reasonable accommodations will be made to allow a student to complete a course. In these cases, the Dean will need to approve the long-term nature of the accommodation.

The Dean of Harlaxton College has the authority to grant excused absences for medical, psychological, or personal reasons.

Each instructor is expected to maintain an attendance policy in keeping with the nature of the Harlaxton program and may consider it in evaluating performance in their courses.

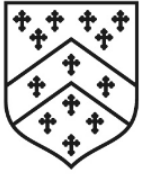
Policy Governing Unexcused Absences:

Harlaxton College operates an attendance policy that is binding on all faculty and students. The number of unexcused absences that are allowed before incurring a penalty is related to the number of times a class meets each week. For courses which meet three times a week, students are allowed a maximum of three unexcused absences during the semester without attracting penalty points. For courses meeting twice a week two such absences are permitted, and for courses meeting once a week a single absence is allowed. Additional unexcused absences will attract a grade penalty.

The grade penalty for unexcused absences is a third-letter grade (A- to B+).

Policy Governing Excused Absences.

- Excused absences are not given to facilitate student travel independent of College-sponsored travel.
- Students may be permitted to miss class because of participation in academic field trips.
- Instructors must co-ordinate and confirm academic fieldtrips with the Dean, prior to the commencement of the Semester to ensure their inclusion in the Semester timetable.



- Where authorization for an academic fieldtrip is requested after the commencement of the semester, the request must be submitted to the Dean.

The following information is required:

- Purpose and brief description of the official Harlaxton event or academic fieldtrip.
- Dates, location, and times (as applicable).
- Alphabetical list of students involved [Last Name/First Name] along with their student identification number.

If approval is granted:

- Instructors affected will be notified at least one week prior to the class period during which absence is anticipated, or as soon as possible.
- Missed class time due to student participation is to be considered an excused absence.
- The grade of a student may not be lowered in any class due to excused absences.
- It is the student's responsibility - to take the initiative by consulting with their instructors before the absence occurs, and - to do what is required by the instructor to make up all missed assignments and/or examinations.
- Instructors are required to assist students in these occasional situations of excused absences.

Honor Code:

All students at the University of Evansville agree to the University honor code: *I will neither give nor receive unauthorized aid, nor will I tolerate an environment that condones the use of unauthorized aid.*

AI may be used only with prior permission or direction by the instructor.

- All work submitted in this course must be your own.
- The use of generative AI composition tools, such as those offered by ChatGPT, Google Bard etc. is prohibited in this course except for specific assignments and subject to the instructor's guidelines.
- Work generated by such tools without proper attribution is plagiarism and, thereby, a breach of the University's Plagiarism and Academic Honesty policy.

Disability Policy:

It is the policy and practice of the University of Evansville to make reasonable accommodations for students with properly documented disabilities. Students should contact Disability Services within the Office of Counseling Services by calling 812-488-2663 to seek services or accommodations for disabilities. Written notification to faculty from Disability Services is required for academic accommodations.

The University of Evansville Disability Services office will share the request for academic accommodations with the Academic Support team at Harlaxton College. Staff members at



Harlaxton will meet individually with students to discuss needs and provide additional information related to examinations or other assessments.

Students from partner institutions should provide the appropriate letter of accommodation from their institution to the Academic Support team at Harlaxton College.

Non-Discrimination Statement

The University of Evansville expects all members of its community to treat each other with respect and civility. Harassing behaviors directed towards any member of our community will not be tolerated. As part of its commitment to non-discrimination, the University specifically prohibits harassment based on any other characteristics set forth in its nondiscrimination statement as follows: including race, color, gender, gender identity and expression, sexual orientation, creed or religion, national origin, age, disability, veteran status and all federally protected groups/classes. Any form of harassment undermines the mission of the University and negatively impacts the University community as a whole.



Prohibited Conduct and Confidentiality

The University of Evansville is committed to fostering an atmosphere free from harassment and discrimination. This commitment includes identifying problems that may lead to sexual harassment and misconduct, as well as other forms of harassment and discrimination, by creating an atmosphere in which the entire University community is sensitive to preventing prohibited conduct. Additionally, the University is committed to providing support and resources to individuals who have experienced prohibited conduct. This commitment includes effectively responding when a student, visitor, guest or program participant is the victim of prohibited conduct.

All campus employees, students, and guests are required to abide by the Title IX and Other Sexual Harassment and Misconduct Policy, the Harassment and Discrimination Policy, and the Consensual Sexual or Romantic Relationships Between Employees and Students Policy. Violation of these policies could result in disciplinary action, up to and including expulsion for students and termination for employees.

Faculty members at the University of Evansville are considered “Responsible Employees” under the applicable federal guidelines and the University’s policies. This means that I am unable to offer you confidentiality if you report any incidence of prohibited conduct to me as defined by Title IX statute. If I am made aware of a violation, I am required to report any known information to the Office of Institutional Equity.

You may choose to report the violation yourself the following ways:

Email: · Annie Sills, Assistant Director of Institutional Equity and Title IX Coordinator:
cs175@evansville.edu ·

Keith Gehlhausen, Executive Director of HR and Institutional Equity: kg77@evansville.edu ·

Title IX: titleix@evansville.edu

Phone: 812-288-5261

Online: <https://www.evansville.edu/safety/report.cfm>

You may also choose to speak with a Confidential Resource. Confidential Resources are required to maintain confidentiality and cannot report violations to the Office of Institutional Equity:

University of Evansville

- Counseling Services: counselingservices@evansville.edu, 812-488-2633
- Health Center Professionals: healthcenter@evansville.edu, 812-488-2033
- University Chaplain: chaplain@evansville.edu, 812-488-5262



Harlaxton College

- College Nurse: Lesley Selby, RGN, +44 01476 403027, lseyby@harlaxton.ac.uk
- Counselling Services: counselling@harlaxton.ac.uk