

EVPP 377: Applied Ecology

Fall 2025

Section 001:

Mondays and Wednesdays 10:30-11:45 am
Angel Cabrera Global Center Room 1306B (In-person)

Section 002:

Mondays and Wednesdays 1:30-2:45 am
East Building Room 134 (In-person)

3 Credits

Instructor: Dr. Emily E. Conway

Office: 3048 David King Hall

E-mail: ECONWAY6@GMU.EDU

Office Hours: in-person or virtual by appointment

Course Description:

This course will introduce you to ecosystem concepts and their applications to natural and managed ecosystems through discussion of the environment, ecological processes, and human interaction with and management of the environment. We will assess anthropogenic impacts on ecosystems and the environment, the interplay between ecological systems and society, and what can be done to make those interactions mutually beneficial through assessment, management, mitigation, and (if time is provided) public policies.

Learning Outcomes:

These learning outcomes are designed to help students master the fundamental concepts of the field of ecology and its applications. By the end of this course students will be able to:

- Identify and explain core fundamental principles of applied ecology
- Describe and discuss how the human impact on the environment can be defined as well as studied, managed, and mitigated

- Apply critical thinking about the interpretation of ecological data
- Practice their comprehensive reading skills of scientific literature and their ability to analyze the application of the scientific method in scientific literature

Assigned and Optional Readings:

Course materials include articles from the primary literature and occasionally from other media sources. All readings will be posted on Canvas.

Textbook (optional):

Applied Ecology. 2017. Goodenough, Anne and Hart, Adam. Oxford University Press. 432 pages. ISBN: 9780198723288.

Course Structure:

Lectures: Each week lectures will center on the topics outlined in the course schedule. The **lectures will be the main learning content of the course**, and I will endeavor to post the lecture slides prior to the start of each class. However, please note that this may not always happen, and that portions of the lecture slides may be missing information that can be filled in during lecture. **Attendance is required** and will count towards your final grade. However, if you are unable to attend a lecture, or if you need accommodations, please contact me as soon as possible.

Group Work: Beginning Week 2, at the end of class each Wednesday you will work in groups of 3-4 to generate a short summary of what we discussed during the previous lectures. These summaries should be no more than 2-4 sentences. Additionally, together you will discuss and identify the muddiest point(s) from each lecture you are summarizing. In other words, you will identify the topic(s) or concept(s) that were the most confusing or which you felt needed more explanation from the previous lectures. **One (1) member of your group will post your group summary and list of muddiest points on Canvas** by the end of class or no later than the end of that day.

Homework Assignments: **During the semester each student will complete three (3) homework assignments.** For these assignments, students read a provided scientific paper from within the field of Applied Ecology and analyze how the authors applied the scientific method. Detailed instructions will be provided.

Exams: There will be **two midterm exams and a final exam**. The exams will all be **in person and open book**, but each must be completed independently. Exam questions may be pulled from all class materials including lectures, assigned

readings, and discussions. The questions on each exam will include material covered in the course up to the previous class period (i.e., the final exam is not comprehensive). Exam questions are not designed to trick you but provide you with the opportunity to demonstrate your learning.

Late Work Policy

There will be a 24-hour grace period on all assignment due dates. If assignments are submitted 2-7 days late, there will be a 25% reduction in points earned. If assignments are submitted more than 7 days late, there will be a 50% reduction in points earned. Please try your best to submit all assignments on or before the due date to avoid penalty but turning in your work late is better than not turning it in at all.

If you need an extension for any assignment, you must contact me at least 24 hours in advance of the due date to request one.

Grading:

Points:

Attendance	140 points (5 points/class, 28 class meetings)
Homework	60 points (3 assignments, 20 points each)
Group Work	130 points (13 lecture summaries, 10 points each)
Midterm Exam 1	100 points
Midterm Exam 2	100 points
Final Exam	120 points

Total	650 points
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Grading Policies: Grades will be awarded using the following grade cut-offs: 100-98 = A+; 98-93 = A; 92-90 = A-; 89-87 = B+; 86-83 = B; 82-79 = B-; 78-77 = C+; 76-70 = C; 69-60 = D; ≤ 59 = F.

Course Schedule:

Week	Date	Lecture Topic	Homework	Group Work
Part 1: Fundamentals of Ecology and Overview of Applied Ecology				
1	Monday 8/25	Introduction to course & Overview of Applied Ecology		
1	Wednesday 8/27	Crash Course: Fundamentals of Ecology		
2	Monday 9/01	Labor Day: No Classes (University Closed)		
2	Wednesday 9/03	Ecological Systems & Biogeochemical Cycles		Lecture Summary & Muddiest Points Due @ 11:59 pm
Part 2: Monitoring				
3	Monday 9/08	Ecological Surveying & Monitoring		
3	Wednesday 9/10	Ecological Surveying & Monitoring		Lecture Summary & Muddiest Points Due @ 11:59 pm
4	Monday 9/15	Ecological Indicators	Homework Assignment #1 Due @ 11:59 pm	
4	Wednesday 9/17	Ecological Indicators		Lecture Summary & Muddiest Points Due @ 11:59 pm
5	Monday 9/22	Exam 1		
Part 3: Managing				

5	Wednesday 9/24	Landscape Ecology		Lecture Summary & Muddiest Points Due @ 11:59 pm
6	Monday 9/29	Landscape Ecology		
6	Wednesday 10/01	Invasive Species		Lecture Summary & Muddiest Points Due @ 11:59 pm
7	Monday 10/06	Invasive Species Management		
7	Wednesday 10/08	Pest Management		Lecture Summary & Muddiest Points Due @ 11:59 pm
8	Monday 10/13	Fall Break: Classes Do Not Meet		
8	Wednesday 10/15	Remediation Ecology		Lecture Summary & Muddiest Points Due @ 11:59 pm
9	Monday 10/20	Ecological Impact Assessments	Homework Assignment #2 Due @ 11:59 pm	
9	Wednesday 10/22	Ecological Impact Assessments		Lecture Summary & Muddiest Points Due @ 11:59 pm
10	Monday 10/27	Exam 2		
Part 4: Conserving				

10	Wednesday 10/29	Principles of Conservation: Overview of the field		Lecture Summary & Muddiest Points Due @ 11:59 pm
11	Monday 11/03	Principles of Conservation: Threats to biodiversity		
11	Wednesday 11/05	Principles of Conservation: Endangered Species Act		Lecture Summary & Muddiest Points Due @ 11:59 pm
12	Monday 11/10	Approaches to Conservation: <i>In</i> vs <i>Ex situ</i> Conservation		
12	Wednesday 11/12	Approaches to Conservation: Reintroduction and Rewilding		Lecture Summary & Muddiest Points Due @ 11:59 pm
13	Monday 11/17	Restoration Ecology	Homework Assignment #3 Due @ 11:59 pm	
13	Wednesday 11/19	Ecosystem Based Management		Lecture Summary & Muddiest Points Due @ 11:59 pm
14	Monday 11/24	Ecosystem Based Management		
14	Wednesday 11/26	Thanksgiving Recess: No Classes (University Closed)		
15	Monday 12/01	Climate Change Adaptation		

15	Wednesday 12/03	Climate Change Adaptation		Lecture Summary & Muddiest Points Due @ 11:59 pm
16	Monday 12/08	Careers in Applied Ecology		
Reading Day Tuesday 12/09				
Section 001: Final Exam Wednesday 12/10 10:30 – 1:15 pm				
Section 002: Final Exam Wednesday 12/10 1:30 – 4:15 pm				

Additional GMU Policies:

Academic Standards

Academic Standards exist to promote authentic scholarship, support the institution's goal of maintaining high standards of academic excellence, and encourage continued ethical behavior of faculty and students to cultivate an educational community which values integrity and produces graduates who carry this commitment forward into professional practice.

As members of the George Mason University community, we are committed to fostering an environment of trust, respect, and scholarly excellence. Our academic standards are the foundation of this commitment, guiding our behavior and interactions within this academic community. The practices for implementing these standards adapt to modern practices, disciplinary contexts, and technological advancements. Our standards are embodied in our courses, policies, and scholarship, and are upheld in the following principles:

- **Honesty:** Providing accurate information in all academic endeavors, including communications, assignments, and examinations.
- **Acknowledgement:** Giving proper credit for all contributions to one's work. This involves the use of accurate citations and references for any ideas, words, or materials created by others in the style appropriate to the discipline. It also

includes acknowledging shared authorship in group projects, co-authored pieces, and project reports.

- **Uniqueness of Work:** Ensuring that all submitted work is the result of one's own effort and is original, including free from self-plagiarism. This principle extends to written assignments, code, presentations, exams, and all other forms of academic work.

Violations of these standards—including but not limited to plagiarism, fabrication, and cheating—are taken seriously and will be addressed in accordance with university policies. The process for reporting, investigating, and adjudicating violations is [outlined in the university's procedures](#). Consequences of violations may include academic sanctions, disciplinary actions, and other measures necessary to uphold the integrity of our academic community.

The principles outlined in these academic standards reflect our collective commitment to upholding the highest standards of honesty, acknowledgement, and uniqueness of work. By adhering to these principles, we ensure the continued excellence and integrity of George Mason University's academic community.

Student responsibility: Students are responsible for understanding how these general expectations regarding academic standards apply to each course, assignment, or exam they participate in; students should ask their instructor for clarification on any aspect that is not clear to them.

Use of AI Tools

The effective use of Artificial Intelligence (AI) tools is an increasingly important skill that students will likely need to be familiar with beyond the university setting. As such their use may sometimes be allowed in course assignments if:

- Instructor permission is obtained in advance and
- That use is properly documented and credited. For example, text generated using ChatGPT-3 should include a citation such as: "Chat-GPT-3. (YYYY, Month DD of query). "Text of your query." Generated using OpenAI. <https://chat.openai.com/>" Material generated using other tools should follow a similar citation convention.
- That use adheres to George Mason University AI Guidelines (<https://www.gmu.edu/ai-guidelines/ai-guidelines>)

The use of generative AI tools is not permitted in this course for the following activities:

- Impersonating you in classroom contexts, such as by using the tool to compose discussion board prompts assigned to you or content that you put into a Zoom chat.
- Completing group work that your group has assigned to you, unless it is mutually agreed upon that you may utilize the tool.
- Writing a draft of a writing assignment.
- Writing entire sentences, paragraphs or papers to complete class assignments.

AI tools can be helpful when generating ideas, identifying sources, synthesizing text, and helping you to understand what are important concepts within a topic of interest. However, it is critical that students use their own critical thinking skills to guide, verify, and craft their work products – not AI.

Accommodations for Students with Disabilities

Disability Services at George Mason University is committed to upholding the letter and spirit of the laws that ensure equal treatment of people with disabilities. Under the administration of University Life, Disability Services implements and coordinates reasonable accommodations and disability-related services that afford equal access to university programs and activities. Students can begin the registration process with Disability Services at any time during their enrollment at George Mason University. If you are seeking accommodations, please visit <https://ds.gmu.edu/> for detailed information about the Disability Services registration process. Disability Services is located in Student Union Building I (SUB I), Suite 2500. Email: ods@gmu.edu. Phone: (703) 993-2474.

Student responsibility: Students are responsible for registering with Disability Services and communicating about their approved accommodations with their instructor *in advance* of any relevant class meeting, assignment, or exam.

FERPA and Use of GMU Email Addresses for Course Communication

The [Family Educational Rights and Privacy Act \(FERPA\)](#) governs the disclosure of [education records for eligible students](#) and is an essential aspect of any course. **Students must use their GMU email account** to receive important University information, including communications related to this class. Instructors will not respond to messages sent from or send messages regarding course content to a non-GMU email address.

Student responsibility: Students are responsible for checking their GMU email regularly for course-related information, and/or ensuring that GMU email messages are forwarded to an account they do check.

Title IX Resources and Required Reporting

As a part of George Mason University's commitment to providing a safe and non-discriminatory learning, living, and working environment for all members of the University community, the University does not discriminate on the basis of sex or gender in any of its education or employment programs and activities. Accordingly, **all non-confidential employees, including your faculty member, have a legal requirement to report to the Title IX Coordinator, all relevant details obtained directly or indirectly about any incident of Prohibited Conduct** (such as sexual harassment, sexual assault, gender-based stalking, dating/domestic violence). Upon notifying the Title IX Coordinator of possible Prohibited Conduct, the Title IX Coordinator will assess the report and determine if outreach is required. If outreach is required, the individual the report is about (the "Complainant") will receive a communication, likely in the form of an email, offering that person the option to meet with a representative of the Title IX office.

For more information about non-confidential employees, resources, and Prohibited Conduct, please see [University Policy 1202: Sexual and Gender-Based Misconduct and Other Forms of Interpersonal Violence](#). Questions regarding Title IX can be directed to the Title IX Coordinator via email to TitleIX@gmu.edu, by phone at 703-993-8730, or in person on the Fairfax campus in Aquia 373.

*** Please note, as a faculty member I am a mandatory reporter and must report all disclosures ***

Student opportunity: If you prefer to speak to someone **confidentially**, please contact one of Mason's confidential employees in Student Support and Advocacy ([SSAC](#)), Counseling and Psychological Services ([CAPS](#)), Student Health Services ([SHS](#)), and/or the [Office of the University Ombudsperson](#).