
George Mason University
College of Science

EVPP 377 / BIOL 377 – APPLIED ECOLOGY

Fall 2022 – 3 credits

INSTRUCTOR:	Dr. Stephanie Schmidt email: sschmi11@gmu.edu
DATES AND TIMES:	Tuesdays and Thursdays 12:00 PM – 1:15 PM (face to face, synchronous lectures)
LOCATION:	East Building Rm 201
OFFICE HOURS:	1) Tuesday 1:30 – 2:30 PM outside Panera (Fairfax Campus) 2) Friday 12:00 – 1:00 PM outside Panera 3) Email me and propose a time at least 24 hours in advance

Course Description

Note: This course assumes that students have a general understanding of environmental science, ecology or biology. 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 this environment. We will assess anthropogenic impacts on environments, impact of ecosystems on society, and what can be done to make those interactions mutually beneficial through assessment, management, mitigation, and (if time is provided) public policies.

Course Objectives

- 1) Identify and explain core fundamental principles of applied ecology
- 2) Learn how human impact on the environment can be studied, managed, and mitigated
- 3) Apply critical thinking about the interpretation of ecological data
- 4) Practice comprehensive reading skills of scientific literature and ability to analyze the application of the scientific method
- 5) Convey to a non-scientist, in both written and verbal forms, basic ecological principles and how they relate to real-world environmental issues

Course Communication and Privacy

Per university policy, students are required to use a @gmu.edu email address to communicate with me (sschmil1@gmu.edu) via email. Please read/respond to emails within 24 hours.

Please check your email the morning and night of class meeting days (T/R) for updates.

When sending emails, please use the subject “377 - [subject here]” (e.g., “377 – request to meet”). If you have an urgent concern such as issues with submitting an assignment, please [flag the email as high importance](#) and write “urgent” in the subject line.

The use of Blackboard is required for this class. You can log in using your GMU username and password at <http://mymason.gmu.edu>. I will use Blackboard to post lecture slides, grades, homework assignments, etc. **Messages sent to multiple students will respect your privacy.**

It is your responsibility if you miss any updates due to a failure to follow these guidelines.

Course Expectations

To fully excel in this class, you should possess the following materials/skills/behaviors:

Technology: access to and familiarity using a computer you can bring to class; access to Mason email, Blackboard, video software, and word processor; [use of proper Netiquette](#)

Academic honesty: George Mason University requires all members of its community to be honest in all their endeavors. As a member of the Mason community, students pledge on their honor to neither give nor receive unauthorized aid while working or completing assignments and examinations (Do Your Own Work). **Similarly, students pledge not to reuse assignments from previous classes without explicit authorization from the instructor.** Any individual, including me, who becomes aware of a violation of the Mason Honor Code is bound by honor to take corrective action. For more information, visit the Mason Honor Code website.

No sale of course content: ALL class content is the property of GMU. It may not be duplicated in any format or used for commercial purposes without instructor permission.

Course Responsibilities: You are expected to come to each class period as attendance will be taken. You are responsible for submitting each assignment and completing each test/quiz that is given. Please get in touch with me if you are struggling or reach out to the GMU counseling services, outlined on page 6 (<http://caps.gmu.edu>).

Accessing Course Content. All course materials will be available through Blackboard (e.g., syllabus, videos, readings, lectures, references, rubrics), and you will submit assignments to Blackboard (not email). Make sure to subscribe to discussion posts to receive updates.

It is your responsibility to use to stay on top of materials and assignments by using Blackboard.

Course Structure and Organization

Class Activities

Classes will include lectures, discussion, videos, group and individual exercises, videos, quizzes, and exams. Some activities may require computer use. **Students are required to attend class for full participation credit and to receive credit for in-class exercises and related assignments.**

If you are unable to make class, please email me at least 1 hour ahead of time and propose an alternative way to receive credit for that day.

Some classes may include activities on/off campus that will be arranged at least 24 hours in advance. If you have any concerns with transportation and/or proximal before- or after- class commitments, please work with me and other students to coordinate transportation.

Outside of class, students will be responsible for readings and assignments including Blackboard discussion posts, short responses, and longer write-ups outside of class. **Any assignment not on the syllabus will be explained with clear expectations at least 48 hours before the due date.**

Course Schedule

The *tentative* course schedule is shown below with course dates, topics, and assignments. Dates and topics are subject to change; an up-to-date schedule will be on Blackboard.

Week	Days / Dates	Topic	Assignments / Due Dates (11:59 PM)
1	T, Th 8/23, 8/25	Introduction; to course; why applied ecology? Population/environmental change; scientific method	
2	T, Th 8/30, 9/1	Scientific method; ecological systems; biogeochemical cycles; eutrophication; data collection approaches	Assignment 1 due 9/1
3	T, Th 9/06, 9/08	Climate change	
4	T, Th 9/13, 9/15	Invasive species	Assignment 2 due 9/13
5	T, Th 9/20, 9/22	Habitat loss; Conservation biology; Landscape ecology	Literature Review Topic Due 9/20
6	T, Th 9/27, 9/29	Review; MIDTERM 1	Assignment 3 due 9/27
7	T, Th 10/4, 10/6	Stream and watershed ecology; ecological indicators	Assignment 4 due 10/4
8	-- Th -- 10/13	Restoration ecology	Lit Review Paper Summary Due 10/13
9	T, Th 10/18, 10/20	Wetland ecology and delineation	Assignment 5 due 10/18
10	T, Th 10/25, 10/27	Overharvesting; forest ecology/management	Literature Review Outline Due 10/25
11	T, Th 11/01, 11/03	Review 2; MIDTERM 2	Assignment 6 due 11/01
12	T, Th 11/08, 11/10	Fisheries ecology/management	Literature Review Draft Due 11/08
13	T, Th 11/15, 11/17	Agriculture; pest management	Assignment 7 due 11/15
14	T -- 11/22 --	Impact assessment	Peer Review of 2 Lit Reviews Due 11/22
15	T, Th 11/29, 12/01	Bioremediation	Assignment 8 due 11/29
16	T, Th 12/06, 12/08	Review; Final Exam 12/8, 10:30 AM – 1:15 PM	Literature Review + Video Due 12/05 Response to 2 lit review videos due 12/10
17	TBD 12/12 – 12/16	(No meeting) Optional field trip TBD	Extra Credit Assignment 9 Due 12/12

Grading and Assignments

Class participation / in-class exercises	90 pts	15%
Homework	75 pts	12.5%
Quizzes	45 pts	7.5%
Literature Review	120 pts	20%
Midterm Exams	150 pts	25%
Final Exam	120 pts	20%
Extra Credit (Field Trip, assignment, etc)	18 pts	3%
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	600 pts	100%

A+: 97.50% – 100+% **B+:** 87.50% – 89.50% **C+:** 77.50% – 79.49% **D:** 64.50% – 69.49%

A: 92.50% – 97.49% **B:** 82.50% – 87.49% **C:** 72.50% – 77.49% **F:** < 64.50%

A-: 89.50% – 92.49% **B-:** 79.50% – 82.49% **C-:** 69.50% - 72.49%

The total grade for this course will be based on the following assignments and assessments:

Class Participation. You are expected to attend each class and be engaged in class lectures, discussions, and any in-class / assigned activities. Presence at each meeting day (28 meetings) will give you an automatic 56 out of 90 points. Participation will be recorded using Kahoot quizzes or Blackboard surveys **at the beginning of class**. The remaining 24 points will come from engagement (i.e., paying attention; actively completing in-class exercises), discussion participation, and in-class / out-of-class assignments not on the Syllabus that may include Blackboard posts.

Homework. Homework assignments will be based on scientific journal articles related to course content; out of 8 assignments, you will respond to short answer questions for 5/8 assignments (8 pts each), and you will write one- to two-page summaries of articles for 3/8 assignments (11.67 pts each). Guidelines will be discussed in class. Homework will be due on Blackboard at 11:59 PM on the evening of due dates noted in the schedule, which are subject to change. **Deadlines will be strictly enforced.** You will have **one assignment with a no-questions-asked 48 hour grace period.** Late submissions are accepted for up to one week; 10% of the grade is subtracted for each rounded-up day late.

Quizzes. Short closed-book pop quizzes will be given throughout the course. These will be timed, but not be cumulative, and made up of multiple choice, short answer, fill in the blank, matching, definitions, and True/False. General questions about reading assignments or in-class readings/videos will be fair game. A curve will be assigned depending on overall scores.

Literature Review: topic, draft, final, video. Each student will be required to write a *literature review* on an assigned but personally interesting topic related to applied ecology. Furthermore, students will record a 3 to 5 minute presentation on their literature review topic and post it to Blackboard. Further instructions will be given, but students should work to identify a topic of interest for which there is scientific research to analyze, synthesize, and evaluate. Papers will be due the week of the final exam.

Exams. Students' understanding of the lecture material will be tested in two midterm exams and one final exam. The lecture exams will be open note and consist of multiple assessment styles (e.g., multiple choice, fill-in-the-blank, true/false questions, essays). The final lecture exam is comprehensive (cover all the material from the entire semester). All the exam material will be straight from lecture or fall on ideas taught in lecture.

Make-up exams are not given unless arranged in advance.

Academic Integrity

What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task using novel ideas. When you rely on someone else's work in an aspect of the performance of that task, you will give full credit in the proper, accepted form.

Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification.

It is expected that students adhere to the George Mason University Honor Code as it relates to integrity regarding coursework and grades. The Honor Code reads as follows: "To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the University Community have set forth this: Student members of the George Mason University community pledge not to cheat, plagiarize, steal and/or lie in matters related to academic work." More information about the Honor Code, including definitions of cheating, lying, and plagiarism, can be found at the Office of Academic Integrity website at <http://oai.gmu.edu>. However, please note that **plagiarism includes the following:**

- 1) Presenting as one's own work the words, work, or opinions of someone else—including yourself (*self plagiarism*)—without proper acknowledgment.
- 2) Borrowing the sequence of ideas, arrangement of material, or pattern of thought of someone else, including personal work, without proper acknowledgment.

The University has made software available to the faculty to use for scanning student submissions and it will be used in this class. Contact me if you have any uncertainty regarding the use of other sources before you submit any written assignment.

Disability Accommodations

If you have a documented learning disability or other condition that may affect academic performance you should: 1) **make sure this documentation is on file with Disability Services** (SUB I, Rm. 4205; 993-2474; <http://ds.gmu.edu>) to determine the accommodations you need; and 2) **talk with me to discuss your accommodation needs.**

COVID-19 Accommodations

The COVID-19 pandemic has changed all of our lives. Many of us are balancing multiple responsibilities like school work, child/family care, and jobs. These stacked responsibilities can create scheduling difficulties. Some of us still don't have the capacity to do our work efficiently. And the heightened vigilance surrounding not getting sick creates an emotional and physical burden on our everyday lives. I want to stress that self-care and your health should be your top priority. I will try to build flexibility in the class.

- 1) While lectures may not be recorded, you will have access to lecture slides on Blackboard.
- 2) While attendance is required, you can make up attendance in a myriad of ways— it is up to you to offer up an alternative.

The class will build on itself, and it will be easy to get behind. If you fall behind, stay in communication with me and work with me and I will help you catch up. The only thing I ask of you is to not abuse this sympathy for our collective shared circumstance. Let's work together and support each other so that we can learn as much as possible given the current circumstances.

Mental Health:

Diminished mental health, including significant stress, mood changes, excessive worry, or problems with eating and/or sleeping can interfere with optimal academic performance. The source of symptoms might be strictly related to your course work; if so, please speak with me. However, problems with relationships, family worries, loss, or a personal struggle or crisis can also contribute to decreased academic performance and I recognize that. Getting help is a smart and courageous thing to do -- for yourself *and* for those who care about you.

Counseling and Physiological Services (CAPS) (<http://caps.gmu.edu>) provides mental health services to support the academic success of students. Their free and confidential psychological services include group counseling, skills-based workshops, case management, crisis consultations, time-limited individual counseling as well as faculty and staff consultation. They also have great online resources under the Well-Being tab. CAPS is operating during the COVID-19 pandemic and providing confidential resources and online telehealth meetings.

In the event I suspect you need additional support, I will express my concerns and the reasons for them, and remind you of these resources that might be helpful to you. It is not my intention to know the details of what might be bothering you, but simply to let you know I am concerned and that help, if needed, is available

F2F Safety Requirements

While face masks are no longer required in class and cannot be required to be worn, please be respectful of your individual classmate's choices to mask or not mask. If you choose to wear a mask, aim to wear an appropriate facemask that covers your nose and mouth at all times. If you require accommodations for high-risk housemates/family, COVID quarantining/isolation, or other health-related issues, please do not hesitate to email me.

All students taking courses with a face-to-face component are required to follow the university's public health and safety precautions and procedures outlined on the university Safe Return to Campus webpage (<https://www2.gmu.edu/safe-return-campus>); the University's COVID Safety Plan notes the updated policies as of March 2022.

Students are encouraged but not required to complete the Mason COVID Health Check daily. The COVID Health Check system uses a color code system and students will receive either a Green, Yellow, or Red email response. Only students who receive a "green" notification are permitted to attend courses with a face-to-face component. **If you suspect that you are sick or have been directed to self-isolate, please quarantine or get testing.**

Notice of mandatory reporting of sexual assault, interpersonal violence, and stalking

As a faculty member, I am designated as a "Responsible Employee," and must report all disclosures of sexual assault, interpersonal violence, and stalking to Mason's Title IX Coordinator per University Policy 1202. If you wish to speak with someone confidentially, please contact one of Mason's confidential resources, such as Student Support and Advocacy Center (SSAC) at 703-380-1434 or Counseling and Psychological Services (CAPS) at 703-993-2380. You may also seek assistance from Mason's Title IX Coordinator by calling 703-993-8730, or emailing titleix@gmu.edu. George Mason University is committed to providing a learning, living and working environment that is free from discrimination and a campus that is free of sexual misconduct and other acts of interpersonal violence in order to promote community well-being and student success. We encourage students who believe that they have been sexually harassed, assaulted or subjected to sexual misconduct to seek assistance and support. University Policy 1202: Sexual Harassment and Misconduct speaks to the specifics of Mason's process, the resources, and the options available to students.