

Principles of Ecology

BIOL 203

Fall 2025

Course Overview

In this Ecology course, you will learn about the interactions between organisms and their environments. We aim to uncover the processes that influence the distribution and abundance of life on Earth. We'll examine ecology at various levels, from individual organisms to populations, communities, and ecosystems.

The course will highlight the importance of natural selection and evolutionary principles in understanding these interactions. You'll see how ecologists use the scientific method to answer questions about ecological systems. We will also introduce you to quantitative tools like mathematical models, statistics, and data visualization to help interpret ecological data. Additionally, we'll discuss how ecological principles can be applied to address environmental and conservation issues.

Instructor

Name: Wendy A Owens Rios

Email: wowens@geneseo.edu

Office Hours: Wednesdays 3pm-4pm; Thursdays 12:45pm-1:45pm, Friday's 8:00am-9:15am

Office: ISC 139B

Course Requirements

Computer: Mac or PC

Software: Microsoft Office (Geneseo provides for free), R and RStudio

Textbook: *Ecology* (6th ed) by Bowman & Hacker. ISBN: 9780197614044

Learning Outcomes

Upon completion of this course, successful students will be able to:

- Explain how ecological patterns and ecological interactions contribute to evolutionary outcomes
- Apply knowledge of ecological processes and develop models to explain ecological patterns and make predictions
- Visualize, analyze, and interpret data to document ecological patterns and test hypotheses
- Apply knowledge of ecological concepts to predict impacts of human activities on ecosystems and biodiversity
- Synthesize ecological knowledge to evaluate the value of healthy ecosystems and the sustainability of human activities
- Productively collaborate in a group to solve problems and communicate scientific information and results effectively.

Grading

Grading will be based on several types of assignments including quizzes and exams. Most of your grade will be based on assignments such as group work in class and R assignments. Quizzes will be online and will be a preview to your exams. Most of the material presented is supported by your textbook. Studying your textbook and its associated materials will help you be successful.

Table 1: Course Assignments & Exams with associated Percentages

Assignments	Quantity	Percent of total	Notes
In-Class Exercises	TBD	10%	No Make ups
Group paper/Discussion	4	15%	Papers -TBA
Homework R Scenarios	3	15%	Submit .RMD file alongside Knitted File
Quizzes	12	10%	Can drop 2 lowest quizzes
Exams	4	40%	Exam 1-75 pts, Exam 2-100, Exam 3-125, Exam 4-150 points
Final Project	1	10%	TBD-Presentation during Final Exam Period

In-Class Activities

In class activities will be assigned randomly throughout the semester to help you understand the subject matter better. These will be handwritten assignments that will be uploaded to Brightspace by the end of the class period. These assignments will only be allowed to complete in class. If you miss a class due to any reason, there will not be a make-up. **These are worth 10% of your grade.**

Group Paper and Discussion

There will be 4 classic ecology papers that you will read and analyze. There will be group worksheet that will be handwritten and uploaded to Brightspace. The second part of the assignment will be a Presentation on a new article that cited the classic paper. Each group will choose a different paper. More details to come. **This worth 15% of your final grade.**

R-Assignments

There will be 3 R assignments. The first assignment we will start in class to help everyone get on the same page with R. The last two assignments will be related to the topics we will be discussing. Assignment due dates are **TBD. These are worth 15% of your final Grade**

Quizzes

There will be **12 online quizzes** due on Sunday nights related to the chapters we have already discussed. They will be multiple choice, open book. There is **only one** attempt allowed but no time limit. They are worth **20 points each**. You will get to drop your lowest two quizzes. **These are worth 10% of your final grade.**

Quiz	Due Dates
Quiz 1	Sunday, August 31, 2025
Quiz 2	Sunday, September 7, 2025
Quiz 3	Sunday, September 21, 2025
Quiz 4	Sunday, September 28, 2025
Quiz 5	Sunday, October 5, 2025
Quiz 6	Sunday, October 12, 2025
Quiz 7	Sunday, October 26, 2025
Quiz 8	Sunday, November 2, 2025
Quiz 9	Sunday, November 9, 2025
Quiz 10	Sunday, November 16, 2025
Quiz 11	Sunday, November 23, 2025
Quiz 12	Sunday, November 30, 2025

Exams

There will be **4 exams** with each progressively worth more points. The first exam will be 75 points, second exam 100 pts, third exam 125 points, and final exam 150 pts. Also, of note the exams are worth approximately. **Overall Exams are worth 40% of your final grade**

Exam	Points	Date	Chapters	MC	SA	Essay
Exam #1	75	Monday-Sept 15th	1-4	70%	30%	0%
Exam #2	100	Friday -Oct 17th	6, 9-12	50%	30%	20%
Exam #3	125	Monday Nov10th	13-17	40%	40%	20%
Exam #4	150	Last day of Class	19, 5,20-22	40%	40%	20%

Final Project

We will take the last few chapters of the book and create a final group project/presentation. More to come later in the semester.

Letter Grade Equivalent

A	>93%
A-	90-92.9%
B+	87.0-89.9
B	83.0-86.9
B-	80.0-82.9
C+	77.0-79.9
C	73.0-76.9
C-	70.0-72.9
D	>65.0
E	<64.9

Course Schedule

All dates subject to change. Pay attention to Brightspace announcements and Emails.

Dates	Chapters covered
Monday, August 25, 2025	Introduction/Review-chapter 1
Wednesday, August 27, 2025	Chapter 2 & Group Presentations
Friday, August 29, 2025	Chapter 2 -Videos
Monday, September 1, 2025	NO CLASS
Wednesday, September 3, 2025	Chapter 3-Terrestrial Biomes
Friday, September 5, 2025	Introduction to R
Monday, September 8, 2025	Chapter 4
Wednesday, September 10, 2025	Chapter 4
Friday, September 12, 2025	Journal Article exercise #1
Monday, September 15, 2025	Exam #1
Wednesday, September 17, 2025	Chapter 6 & new mini presentation
Friday, September 19, 2025	Chapter 9
Monday, September 22, 2025	Chapter 9
Wednesday, September 24, 2025	Chapter 9
Friday, September 26, 2025	R assignment 2-intro/new Journal Assignment #2
Monday, September 29, 2025	Chapter 10
Wednesday, October 1, 2025	Chapter 10
Friday, October 3, 2025	Chapter 11-Journal Presentation
Monday, October 6, 2025	Chapter 11
Wednesday, October 8, 2025	Chapter 12
Friday, October 10, 2025	Chapter 12
Monday, October 13, 2025	NO CLASS-Fall Break
Wednesday, October 15, 2025	Review/Intro journal assignment #3
Friday, October 17, 2025	Exam #2
Monday, October 20, 2025	Chapter 13
Wednesday, October 22, 2025	Chapter 13-14
Friday, October 24, 2025	Chapter 14-Journal Article-presentation
Monday, October 27, 2025	Chapter 15- R Assignment 3 Introduction
Wednesday, October 29, 2025	Chapter 15-16
Friday, October 31, 2025	Chapter 16
Monday, November 3, 2025	Chapter 17
Wednesday, November 5, 2025	Chapter 17
Friday, November 7, 2025	Review/Intro journal assignment #4
Monday, November 10, 2025	Exam #3
Wednesday, November 12, 2025	Chapter 19
Friday, November 14, 2025	Chapter 19-Journal Presentations
Monday, November 17, 2025	Chapter 5 & 20
Wednesday, November 19, 2025	Chapter 20
Friday, November 21, 2025	Chapter 21
Monday, November 24, 2025	Chapter 21
Thanksgiving Break	Thanksgiving
Monday, December 1, 2025	Chapter 22/Intro to final project
Wednesday, December 3, 2025	Chapter 22
Friday, December 5, 2025	Exam #4
Monday, December 8, 2025	Work on final project-Last day of Classes
Tuesday, December 16, 2025	Final Exam Period 9:30am

Attendance Policy

Attendance is strongly encouraged and if you need to miss class it will be essential to communicate with me as needed. Any **in-class assignments** given out during the class session will **not** be made-up. **Exam Make-ups** need to be arranged ahead of time or if you are sick on the day of the exam, please communicate as soon as it is possible to schedule a make up exam.

Artificial Intelligence (AI)

AI tools are tools and should be treated as such. I will encourage you to handwrite your notes, worksheets and brainstorming assignments. I will require these notes to be uploaded with any assignments. AI can be used to help you figure out the R assignments and help you write better but should not be used to do your entire assignment.

Student success resources at SUNY Geneseo

Accessibility and accommodations

SUNY Geneseo is dedicated to providing an equitable and inclusive educational experience for all students. [The Office of Accessibility Services](#) (OAS) will coordinate reasonable accommodations for persons with disabilities to ensure equal access to academic programs, activities, and services at Geneseo. Students with approved accommodations may submit a [Semester Request](#) to renew their academic accommodations. Please visit the OAS website for information on the process for [requesting](#) academic accommodations. Questions? Contact the OAS by email, phone, or in-person:

Office of Accessibility Services
Erwin Hall 22
(585) 245-5112

[Email the Office of Accessibility Services](#)

Academic Integrity and Plagiarism

Geneseo's Milne Library offers an online tutorial to help students understand how to paraphrase, quote, cite outside sources, and use AI properly. The tutorial is meant to educate about the importance of using original ideas and language, and how to incorporate paraphrases and quotes into writing. [Access the Plagiarism Tutorial using this link.](#)

Academic dishonesty includes cheating, knowingly providing false information, plagiarizing, and any other form of academic misrepresentation. College policies and procedures regarding academic dishonesty are [available online](#).

Technology Support

[CIT provides a range of technology support resources.](#) For assistance with your computer or mobile device, visit the CIT HelpDesk in Fraser. Geneseo students, faculty and staff have free access to the entire [LinkedIn Learning training library](#) (over 7,500 courses, including tutorials for software, digital tools, web development, programming, and design) through Geneseo's site license.

Getting Help with Brightspace

CIT has developed a number of videos and resources that can help you learn how to use our learning management system, Brightspace. All students are automatically enrolled in "[Geneseo's Introduction to Brightspace for Students](#)" [course](#), a course intended to introduce learners to Brightspace and review its basic functionality. Following successful completion of this course, learners will receive a digital certificate of completion that can be provided to faculty members, upon request. There is also the [Student Guide for Brightspace at Geneseo](#) self-help article, which includes links to video tutorials for common tasks. For *technical assistance* with Brightspace, please [email the Brightspace Support Team](#). For questions about a course and its content, please contact the instructor directly.

Religious Observations and Class Attendance

New York State Education Law 224-a stipulates that "any student in an institution of higher education who is

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unable, because of [their] religious beliefs, to attend classes on a particular day or days shall, because of such absence on the particular day or days, be excused from any examination or any study or work requirements” (see [General Classroom Policies for more information](#)). SUNY Geneseo has a commitment to inclusion and belonging, and I want to stress my respect for the diverse identities and faith traditions of students in my class. If you anticipate an absence due to religious observations, please contact me as soon as possible in advance to discuss your needs and arrange make up plans. The New York State Department of Civil Service maintains a [calendar of major religious observations](#).

Military Obligations and Class Attendance

Federal and New York State law requires institutions of higher education to provide an excused leave of absence from classes without penalty to students enrolled in the National Guard or armed forces reserves who are called to active duty. If you are called to active military duty and need to miss classes, please let me know and consult as soon as possible with the Dean of Students.

Bias-Related Incidents

“We are here to listen, to learn, to teach, to debate, to change, to grow. We should all be safe to pursue these goals at SUNY Geneseo while being who we are. Together, we commit ourselves to pluralism, cultivating a community that respects difference and promotes a sense of inclusion and belonging.”

As this excerpt from our Community Commitment to Diversity, Equity, and Inclusion states, here at SUNY Geneseo, we want to provide a space where everyone feels welcome to learn and grow in their identities as well as in their role as students, faculty, and staff. If in the unfortunate instance you witness or experience an incident of bias, we encourage you to reach out to the [Chief Diversity Officer](#), [Director of Multicultural Affairs](#), and/or our University Police Department. You may also choose to report it through the [bias-related incident reporting form](#). In trying to create an environment that facilitates growth through diverse thoughts and ideas, reporting incidents of bias - including threats, vandalism, and microaggressive behaviors - can help bring a better understanding of our campus climate as well as provide opportunities for learning and restoring harm.

PERSONAL HEALTH, WELL-BEING, and BASIC NEEDS

Well-Being

Prioritizing well-being can support the achievement of academic goals and alleviate stress. Eating nutritious foods, getting enough sleep, exercising, avoiding drugs and alcohol, maintaining healthy relationships, and building in time to relax all help promote a healthy lifestyle and general well-being. Your health and wellbeing are foundational to your ability to learn, and if you find that you are feeling unwell (physically or mentally) and it is impacting your ability to complete your coursework, please reach out. In a similar way, I will occasionally ask for some patience and flexibility on your part.

If I am slow responding to an email, if I take some time to grade an assignment, or if I am a bit late posting course materials, please be patient (and feel free to send me a ‘nudge’; I will not be offended). You will never suffer any disadvantage in the course because of delays on my part. Remember that we are all in this together.

Basic Needs Statement

In order to foster a sense of belonging and connection, a state of financial, mental, emotional and physical stability must be achieved. If you are facing food insecurity, displacement, an emergency, crisis, or health-related or medical expense, you are not alone. Concerns about academic performance, health situations, family health and wellness (including the loss of a loved one), interpersonal relationships and commitments, and other factors can contribute to stress. Students are strongly encouraged to communicate their needs to faculty and staff and seek support if they are experiencing unmanageable stress or are having difficulties with daily functioning. The Dean of Students (585-245-5706) can assist and provide direction to [appropriate campus resources](#). For more information, visit the [Dean of Students Office website](#).

Mental Health

As a student, you may experience a range of challenges that can impact your mental health and thus impact your learning; common examples include increased anxiety, shifts in mood, strained relationships, difficulties related to substance use, trouble concentrating, and lack of motivation, among many others. These experiences may reduce your ability to participate fully in daily activities and affect your academic performance.

SUNY Geneseo offers free, confidential counseling for students through Student Health and Counseling, and seeking support for your mental health can be key to your success at college. You can learn more about the [various mental health services available on campus online](#). To request a counseling appointment, please [complete the online form](#).

Guidelines for Attendance and Public Health

SUNY Geneseo is a residential liberal arts college where we all learn together in a shared space. This classroom community is vital for engaging in discussions, solving problems, and answering questions together. Learning is an active process, and it requires engagement - on my part and yours. I promise to create an interactive and collaborative classroom space, and in return I expect you to attend and engage in the activities.

It's possible that some of you may get sick over the course of the semester. Because we want you to be successful and because we value your contribution to the course, we expect you to prioritize attendance. If you are not feeling well and your symptoms do not allow you to attend class, stay home (except to go to the health center), rest, and take care of yourself. You can find more [guidelines from the Center for Disease Control](#) for precautions when sick which cover flu, COVID, and other illnesses.

I expect you to communicate with me directly about your absences. I can support you to keep up with class if you are out for an illness, but I need you to take responsibility for being transparent and clear in letting me know when you are out and why. Although I can work with you on keeping up, you may miss some course content and extended absences may impact your ability to realize your full potential in this class. For extended absences (i.e., more than a couple of days of classes), you should contact the Dean of Students who can assist with reaching out to your faculty.

Food Security for SUNY Geneseo Students

SUNY Geneseo is committed to supporting students who are experiencing food insecurity. If you're unfamiliar with the phrase "food insecurity," you can learn more at the following link on Feeding America's website: [Understanding Food Insecurity](#).

Knights' Harvest Pantry, our on-campus food pantry, is a collaborative initiative supported by Campus Auxiliary Services (CAS) and facilitated by trained student volunteers. The program is advised by the Assistant Director of Student Volunteerism and Community Engagement in partnership with the Geneseo Opportunities for Leadership Development (GOLD) program.

Students who are in need can confidentially request a bag of food and basic hygiene supplies through [our website](#). These bags typically include non-perishable items and, when available, fresh fruits, vegetables, meat, and dairy products. Pickups take place at the GOLD Leadership Center in MacVittie College Union, Room 114.

We are committed to protecting student privacy and promoting dignity, while also working to destigmatize food insecurity on our campus. If Knights' Harvest Pantry does not fully meet your needs or if you'd prefer to discuss your situation privately, please reach out to Cheyenne DeMarco, Assistant Director of Student Volunteerism and Community Engagement, at cdemarco@geneseo.edu for a one-on-one consultation.

Please note that Knights' Harvest Pantry is closed during official SUNY breaks, including Fall Break, Winter Intersession, Spring Break, and summer between semesters. During these times, students are encouraged to access the [Geneseo-Groveland Emergency Food Pantry](#), located at 31 Center Street, Geneseo, NY 14454. For updates on pantry hours, events, and additional support opportunities, follow us on Instagram or Facebook: [@knightsharvestgeneseo](#). For questions or support, contact Cheyenne DeMarco at cdemarco@geneseo.edu or (585) 245-5893.

Emergency Funding

The college has three sources of emergency funding for students experiencing short-term financial crises. The [Camiolo Student Emergency Loan Fund \(SELF\)](#) provides short-term loans to students for situations both temporary and beyond their control. The SELF was established with the expectation that students who use the fund seek to "pay it forward" as soon as they are able by contributing to the fund so other students can be helped, too. While there is not a legal obligation, the donors hope that student loan recipients respect and honor the value of community and helping others in their time of crisis. The [One Knight Student Aid Emergency Fund](#) assists Geneseo students who are facing financial emergencies mainly related to the COVID-19 pandemic. The fund offers grants (one-time award) depending on a student's documented financial need. For those students expecting a refund from financial aid, a Temple Hill loan of up to \$500 can be offered prior to the approved loan dispersal. If you are experiencing financial hardship, please contact the Dean of Students (585-245-5706), who can assist and provide direction to appropriate campus resources.