

# Principles of Ecology BIOL 203-02

Fall 2024  
MWF 10:30 to 11:20

## 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.

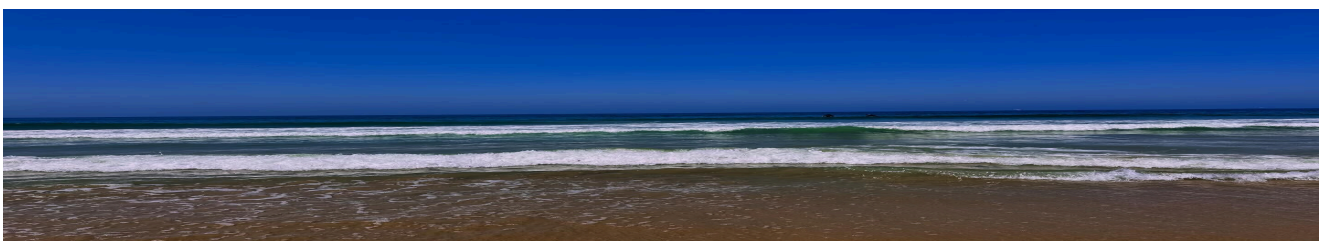
The course will highlight the importance of natural selection and evolutionary principles in understanding these interactions. You'll see how ecologists use the scientific method to answer questions about ecological systems. We will also introduce you to quantitative tools like mathematical models, statistics, 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:** Monday's 12-1pm, Tuesday's and Thursdays 2-3:30pm  
**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  
**Top hat Account:** Join Code 295589





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## 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.

## Writing Exercise

Each lecture will begin with a individual writing assignment. I will pose a question about the current topic and you will neatly handwrite your answer on piece a paper. This paper will be given to me after 5 minutes and I will choose one answer randomly to read to the rest of class. We will discuss briefly. This exercise is worth 2 points and if you are late to class, there will be no make up. But you only are required 20 of these assignments and there are 28 opportunities and up to 10 additional bonus points.

## Quizzes

There will be 10 online quizzes due on Sunday nights related to the chapters we have already discussed. They will be multiple choice, open book and you can repeat the quiz once to get a better grade. They are worth 20 points each.

## 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 36%.

## Homework

There will be 4 individual assignments that require the use of R to analyze data. Each of these projects are worth 100 points. Please see a rubric on the grading.

## Group Paper and Discussion

Every two weeks we will discuss a classic paper that I will assign. You will work in groups and dissect a section of the paper that I assign to you. You will be required to read the whole paper, answer assigned questions, search for relevant current article that cites the article and as a group present your interpretation of your assigned section with relevancy to current literature, . This will be a total of 6 papers.

Table 1: Course Assignments and point values

Assignments	Quantity	Points	Total Points	Notes
Writing Exercise-In Class	25	2	50	Bonus possible (no more than 10 extra points)
Group paper/Discussion	6	25	150	
Homework R Scenarios	4	100	400	
Quizzes	10	20	200	
Exams	4	75-150	450	Each test will be worth more with the final exam being worth the most
<b>Total</b>			<b>1250</b>	

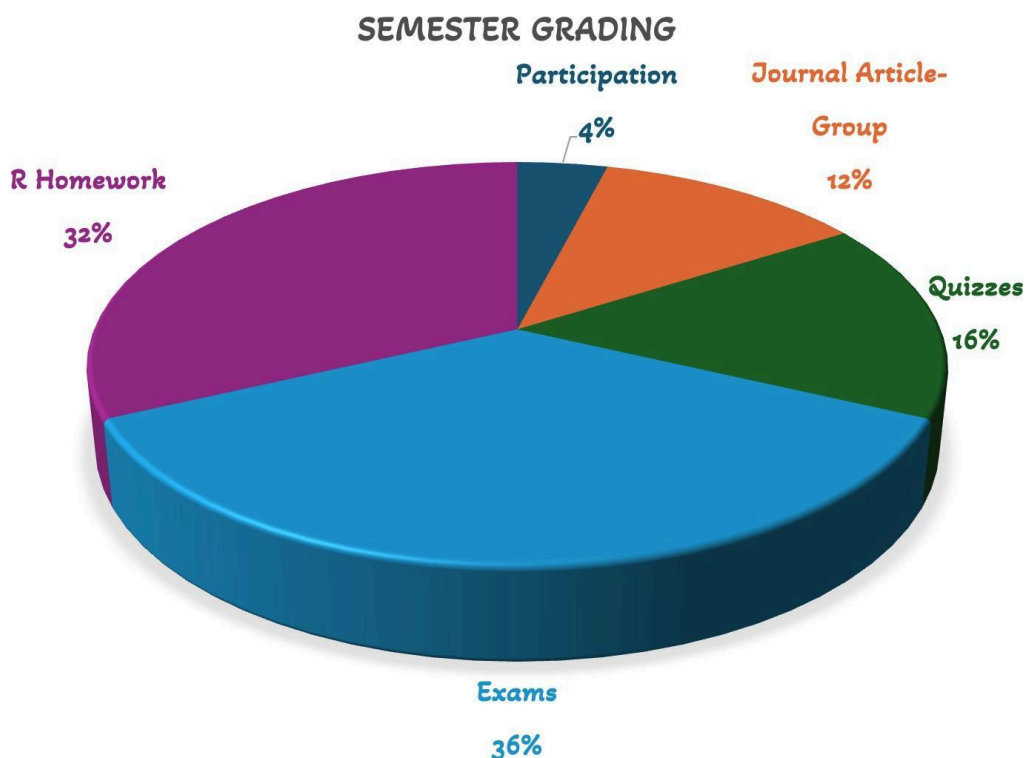


Figure 1: Grades

Table 2: Exams-Divided between Multiple Choice (MC), Short Answers (SA) and Essays. Chapters covered in exams are approximate and are subjected to change

<b>Exam</b>	<b>Points</b>	<b>Date</b>	<b>Chapters</b>	<b>MC</b>	<b>SA</b>	<b>Essay</b>
<b>Exam #1</b>	75	25-Sep	Chap1-4, Chap9-11	70%	30%	0%
<b>Exam #2</b>	100	25-Oct	Chap12-Chap15	50%	30%	20%
<b>Exam #3</b>	125	21-Nov	Chap15-Chap19	40%	40%	20%
<b>Exam #4</b>	150	TBD	Chap5, Chap20- Chap22	40%	40%	20%

# Course Schedule

Day	Date	Topics/Activity	Relevant Resources	Assignment Due Dates
Monday	26-Aug	Intro to Course	Syllabus, Classic Lit, lecture format	<b>Intro Question</b>
Wednesday	28-Aug	Chapter 1	Group Assignment 1 on classic lit	<b>Intro Question</b>
Friday	30-Aug	Begin Chapter 2	Group Assignment on classic lit	
Monday	2-Sep	Labor Day	No class	<b>Quiz #1 Due</b>
Wednesday	4-Sep	Chapter 2-3		
Friday	6-Sep	Chapter 3 & Paper Discussion	Group Assignment on classic lit	<b>Introduction to R Due</b>
Monday	9-Sep	Chapter 3-4		<b>Quiz #2 Due</b>
Wednesday	11-Sep	Chapter 4	Group Assignment #2	
Friday	13-Sep	Intro to R Assignment - finish chapter 4		
Monday	16-Sep	Unit 3 - Populations		<b>Quiz #3 Due</b>
Wednesday	18-Sep	Chapter 9 & 10		
Friday	20-Sep	Chapter 9 & 10	Paper Discussion	<b>Paper Worksheet/Reflection</b>
Monday	23-Sep	Chapter 9 & 10		<b>Quiz #4</b>
Wednesday	25-Sep	Exam Review	Group Assignment #3	
Friday	27-Sep	<b>Exam #1</b>		
Monday	30-Sep	Chapter 12		
Wednesday	2-Oct	Chapter 12		
Friday	4-Oct	Chapter 13	Paper Discussion	<b>Paper-Worksheet/Reflection</b>
Monday	7-Oct	Chapter 14		<b>R Assignment #2 Due</b>
Wednesday	9-Oct	Chapter 14	Group Assignment #4	
Friday	11-Oct	Chapter 15		
Monday	14-Oct	No class		<b>Quiz #6</b>
Wednesday	16-Oct	Chapter 16		
Friday	18-Oct	Chapter 16	Paper Discussion	<b>Paper-Worksheet/Reflection</b>
Monday	21-Oct	Chapter 16-17		

Wednesday	23-Oct	Chapter 17	Group Assignment #5	Quiz #7
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Day	Date	Topics/Activity	Relevant Resources	Assignment Due Dates
Friday	25-Oct	<b>Exam #2</b>		
Monday	28-Oct	Chapter 17		
Wednesday	30-Oct	Chapter 18		
Friday	1-Nov	Chapter 19	Paper Discussion	<b>Paper-Worksheet/Reflection</b>
Monday	4-Nov	Chapter 19		<b>R Assignment #3 Due</b>
Wednesday	6-Nov	Chapter 5		
Friday	15-Nov	Chapter 20		
Monday	18-Nov	Chapter 20		<b>Quiz #9</b>
Wednesday	20-Nov	Chapter 21	Group Assignment #6	
Friday	21-Nov	<b>Exam #3</b>		
Monday	25-Nov	TBA		<b>Quiz #10</b>
Wednesday	26-Nov	No class		
Friday	28-Nov	No class		
Monday	2-Dec	Chapter 21	<b>Final R Assignment Due</b>	
Wednesday	4-Dec	Chapter 22	Final Group Assignment Discussion	<b>Paper Worksheet/Reflection</b>
Friday	6-Dec	Chapter 22		
Monday	9-Dec	Last day of class - Exam Review		
TBD	TBD	<b>Exam #4</b>	Final Exam Week	<b>Will include MC from previous exams</b>

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## **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 will coordinate reasonable accommodations for persons with documented physical, emotional, or cognitive 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. Please contact the Office of Accessibility Services for questions related to access and accommodations: [access@geneseo.edu](mailto:access@geneseo.edu), 585-245-5112, [www.geneseo.edu/accessibility-office](http://www.geneseo.edu/accessibility-office).

### **Reporting bias-related incidents**

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 experience an incident of bias, we encourage you to reach out to the Chief Diversity Officer ([routenberg@geneseo.edu](mailto:routenberg@geneseo.edu)), Director of Multicultural Affairs ([charcum@geneseo.edu](mailto:charcum@geneseo.edu)), and/or our University Police Department. 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.

### **Other resources**

Additional resources are available to support your academic success and well-being, including academic support services, library research help, computer and technology support, food security support, and emergency funding. See the “Student success resources” and “Well-being and mental health” pages in the Brightspace course orientation module for more information about these services.