

BIOL 2227 - Principles of Ecology

3 credits

In-Person Lecture: Monday, Wednesday, Friday 10:00-10:50; SERC 110AB

Professor

Dr. Jocelyn Behm, PhD (she/her)

jocelyn.behm@temple.edu

Virtual Office Hours

Monday, Wednesday, Friday after class 11-11:50am - <https://temple.zoom.us/j/93565685733>

TA

Timothy Swartz, MSc (he/they)

timothy.swartz@temple.edu

In-Person Office Hours

SERC Lobby - Wednesday 1-2pm

Virtual Office Hours

Friday 1-2pm - <https://temple.zoom.us/j/92471422865>

Communications

We will communicate by sending emails to the entire class through Canvas or to individual students via Temple email. To contact your professor or TA, please use email directly or through Canvas. Please allow 1-3 business days for an email response. *Contact the TA to review class lecture material and course notes.*

Course Prerequisites

Biology 1111 or 1911 with a grade of C- or better.

Course Description:

The purpose of this course is to provide an overview of ecology from the level of individual organisms to populations, communities, ecosystems, and the biosphere. It examines the physical, chemical, and biological components of ecological interactions, and includes terrestrial and aquatic ecosystems.

Learning Objectives

The primary goals of this class are to have students gain:

1. An understanding of the sub-disciplines in ecology, hierarchical processes, and emergent ecological patterns.
2. An understanding of basic ecological questions and methodology.
3. An ability to interpret and evaluate ecological data.
4. An ability to understand and evaluate advancements made through past and current ecological research.
5. An ability to synthesize course material and apply this knowledge to novel situations.
6. Knowledge of the relevance of ecological research to global change and social issues.

Course Approach

The course will be lecture-based, with short interactive activities, videos, and discussions to highlight central themes of the material. Lectures are presented as PowerPoint presentations based on material from the textbook and other relevant sources. Reading the textbook is required and an integral part of course grading assessment.

Textbook and Costs

Connect Access of Molles, Ecology, Concepts and Applications, 8th Ed. WCB/McGraw-Hill.

Only Connect Access to the digital text is required, the hardcopy is not. A photocopied version of the text may be purchased if desired, but it costs more. [Here is a video](#) that describes how to get access to the textbook through Canvas. **The cost of the Digital textbook (Smartbook) and Connect Access (Reading assignments) is \$113.**

Grades

Attendance to class is expected. Grades will be calculated based on four lecture tests (80%) and Connect Digital Text reading assignments (20%).

Exams

(20% each; 80% total)

There will be **four exams administered online through Canvas** to assess achievement of the Learning Objectives. Exams are multiple choice including questions on data interpretation.

Exams will focus on material covered during class.

- *No Final Exam:* There will not be a comprehensive final exam. The fourth exam will be on the final day of class and there will be no exam during finals.
- *Missed Exams:* **There are no make-up exams.** If you miss an exam, you will receive a zero. If you miss two exams, you will fail the course. In rare circumstances, one exam can be excused, but students must provide documentation of the excuse (see below).
- **Questions about exams will not be accepted one week after exam grades are posted.**

Missed Exams

There will be no make-up exams. Students can avoid being penalized for missed exams only if absences were excused in advance. Day-of absences will require a doctor's note, or other verifiable information, for approval communicated as soon as possible to the instructor.

Approved absences will only be granted in advance for activities that are university sanctioned or that would provide you with a significant opportunity for learning or professional development which is determined solely at the professor's discretion.

Online Reading Assignments

(20% total)

Reading the text is 20% of your grade. As you read through the Digital Text, questions are asked periodically to assess your comprehension. The questions asked are adaptive—the more you miss, the longer it takes to complete the reading. You will gain partial credit for reading assignments if you only complete some of the reading by the assigned due date. Missed readings completed after the assigned due date will help with test review, but they will not be graded.

- *It is best to start your readings early.*
- There are **no excused reading assignments**. Missed assignments are given a zero.

No Final Exam

There will not be a final exam.

Extra Credit

No extra credit will be accepted on an individual basis. Any extra credit opportunities will be assigned by the professor to the entire class and the assignment of extra credit will be solely at the professor's discretion.

Certificate in Sustainability

This course counts toward [Temple's Certificate of Sustainability](#).

Civility & Temple's Code of Conduct (COC)

Violations of the COC include, but are not limited to academic dishonesty, impropriety, plagiarism, cheating, and interfering with or disrupting the conduct of classes or any other normal activities of the University. Please avoid entering lectures late or leaving early. Enter and exit as unobtrusively as possible.

Using Technology in Class

Usage of phones is prohibited in class. You may take notes in class with laptops or other personal devices. While in class, you may not use these devices for personal activities. If you violate these rules, you will be asked to leave the classroom for the remainder of that lecture. ***Do not watch The Office while sitting in class.***

No unauthorized recording of lecture

Any recordings permitted in this class can only be used for the student's personal educational use. Students are not permitted to copy, publish, or redistribute audio or video recordings of any portion of the class session to individuals who are not students in the course or academic program without the express permission of the faculty member and of any students who are recorded. Distribution without permission may be a violation of educational privacy law known as FERPA as well as certain copyright laws. Any recordings made by the instructor or university of this course are the property of Temple University.

Technology specifications for this course

Computer access with internet for using Canvas, Connect, Digital Textbook and to take exams through Canvas. Resources are available for students who do not have the technology they need for class. Students with educational technology needs, including no computer or camera or insufficient Wifi-access, should submit a Student Technology Assistance Application located in TUPortal and linked from the Dean of Students Support and Resources webpage. The university will endeavor to meet needs, such as with a long-term loan of a laptop, a refurbished computer, or subsidized internet access. The [Affordable Connectivity Program](#) allows qualified households to receive a temporary monthly credit toward their internet service.

On-campus computer labs are available for student use. Note that there are technology resources available for students, including some software that is available for free download and other specialty software that may be available for remote access through ITS.

Disability Disclosure

I am happy to make accommodations for any student with a disability and strive for an instructional design that is universal to all learning styles. Temple University is committed to the inclusion of students with disabilities and provides accessible instruction, including accessible technology and instructional materials. Any student who has a need for accommodation based on the impact of a documented disability, including special accommodations for access to technology resources and electronic instructional materials required for the course, should contact the current instructor privately to discuss the specific situation by the end of the second week of classes or as soon as practical. If you have not done so already, please contact [Disability Resources and Services \(DRS\)](#) at 215-204-1280 in 100 Ritter Annex to learn more about the resources available to you and your responsibilities. I will work with DRS to coordinate reasonable accommodations for all students with documented disabilities. The current instructor will need to be presented with a DRS accommodation letter. I am aware that COVID-19 may result in a need for new or additional accommodations.

Student and Faculty Academic Rights and Responsibilities

Freedom to teach and freedom to learn are inseparable facets of academic freedom. The University has a policy on Student and [Faculty and Academic Rights and Responsibilities \(Policy #03.70.02\)](#).

Diversity and Inclusion

It is our intent that students—regardless of gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture—be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that the students bring to this class be viewed as a resource, strength, and benefit. Like all sciences, the historic principles of Ecology were built on research conducted by a small subset of privileged voices. Therefore, I acknowledge that it is possible that there may be both overt and covert biases in the material due to the lens with which it was written, even though the material is primarily of a scientific nature. If something was said in class (by anyone) that was or seemed exclusive, please let the professors know. I welcome you to contact me or submit anonymous feedback if you have any suggestions to improve the quality of the course or its materials as they relate to diversity & inclusion.

COVID-19

Temple University's motto is *Perseverance Conquers* and we will continue to meet the changing circumstances of the COVID pandemic with flexibility and resilience. Working together as a community to deliver a meaningful learning experience is a responsibility we all share.

Attendance and Your Health

To achieve course learning goals, students must attend and participate in classes. However, if you feel unwell or if you are under quarantine or in isolation because you have been exposed to COVID-19 or tested positive for it, you should not come to campus or attend in-person classes or activities. ***It is your responsibility to contact me to create a plan for participation*** and engagement in the course as soon as you can, and to plan to complete all assignments in a timely fashion, when illness delays their completion.

Vaccine: The best way to maintain a safe and focused learning environment is for everyone to get vaccinated. In accordance with the city of Temple University requires all faculty, staff, and students [to be fully vaccinated](#).

Masks: Temple encourages all members of the Temple community to make the best decision for themselves, taking into consideration all factors, including COVID-19 transmission levels, the indoor setting, and their own health, while respecting the decisions of others to protect themselves. If you are concerned about COVID-19, the best way to protect yourself is to wear a high-quality, well-fitting mask. The effectiveness of this type of one-way masking has been documented. When in doubt, we encourage you to put on a mask. Most importantly, we want to keep the vulnerable members of our community safe. ***Dr. Behm will continue to wear a mask when interacting in close proximity to you, you may choose to do the same.***

Class Conduct

It is also important to foster a respectful and productive learning environment that includes all students in our diverse community of learners. Our differences, some of which are outlined in the University's nondiscrimination statement, will add richness to this learning experience. Therefore, all opinions and experiences, no matter how different or controversial they may be perceived, must be respected in the tolerant spirit of academic discourse.

Treat your classmates and instructor with respect in all communication, class activities, and meetings. You are encouraged to comment, question, or critique an idea but you are not to attack an individual. Please consider that sarcasm, humor, and slang can be misconstrued in online interactions and generate unintended disruptions. Profanity should be avoided as should the use of all capital letters when composing responses in discussion threads, which can be construed as “shouting” online. Remember to be careful with your own and others’ privacy. In general, have your behavior mirror how you would like to be treated by others.

Student Support Services

The following academic support services are available to students:

[Student Success Center](#)

[University Libraries](#)

[Undergraduate Research Support](#)

[Career Center](#)

[Tuttleman Counseling Services](#)

[Disability Resources and Services](#)

If you are experiencing food insecurity or financial struggles, Temple provides resources and support. Notably, the [Temple University Cherry Pantry](#) and the [Temple University Emergency Student Aid Program](#) are in operation as well as a variety of resources from the [Division of Student Affairs](#).

How to do well in this class

- Come to lecture, stay awake, pay attention, take notes.
- Come prepared for class by doing the reading assignments for the chapter *before* it is discussed in lecture.
- Plan to study at least two hours outside of class for every hour of lecture.
- Be active in class - take notes, ask questions, engage in discussions.
- Do the reading assignments.
- Review, re-write and outline your notes as soon as possible following each lecture so you know what you do and do not understand.
- Meet with your TA as soon as possible to go over course material that you do not understand. Prepare ahead of these meetings with a plan of what you want to go over and learn.
- Study with classmates using Zoom or starting a study group in person.
- Stay organized and make a schedule of important dates. Outlook has a calendar, Canvas has a calendar, [you can customize and print a calendar here.](#)
- Use resources that are available to you on campus to help you learn.

Preliminary Schedule: Presence at class meetings is expected. Lecture topics may vary from this schedule. ***Exam dates and Reading due dates will not change.*** Lecture notes are posted on Canvas. Please check Canvas and your TU e-mail account regularly for messages & schedule changes.

Date	Lecture Topic	Reading Assignment	Important Dates
18-Jan	Introduction to Ecology	Chap. 1	
20-Jan	Life on Land	Chap. 2	
23-Jan	Life in Water	Chap. 3	
25-Jan	Population Genetics, Natural Selection	Chap. 4	
27-Jan	Population Genetics, Natural Selection		
30-Jan	Temperature Relations	Chap. 5	Last Day to Drop/Add Class
1-Feb	Water Relations	Chap. 6	
3-Feb	Water Relations		
6-Feb	Energy and Nutrient Relations	Chap. 7	Chapters 1-7 Readings Due
8-Feb	Energy and Nutrient Relations		
10-Feb	NO LECTURE		EXAM #1: Chapters 1-7
13-Feb	Social Relations	Chap. 8	
15-Feb	Social Relations		
17-Feb	Population Distribution	Chap. 9	
20-Feb	Abundance		
22-Feb	Population Dynamics	Chap. 10	
24-Feb	Population Dynamics		
27-Feb	Population Growth	Chap. 11	
1-March	Population Growth		
3-March	Guest Lecture		
6-March	Spring Break No Class		
8-March			
10-March			
13-March	Life Histories	Chap. 12	Chapters 8-12 Readings Due
15-March	Life Histories		
17-March	NO LECTURE		EXAM # 2: Chapters 8-12

Date	Lecture Topic	Reading Assignment	Important Dates
20-March	Introduction to species interactions	13	
22-March	Competition		
24-March	Parasitism, Herbivory, Predation	14	
27-March	Parasitism, Herbivory, Predation		
29-March	Mutualism	15	
31-March	Abundance, Diversity	16	
3-April	Food Webs, Community Structure	17	Chapters 13-17 Readings Due
5-April	Food Webs, Community Structure		
7-April	NO LECTURE		EXAM #3: Chapters 13-17
10-April	Primary Production, Energy Flow	18	
12-April	Nutrient Cycling, Retention	19	
14-April	Succession, Stability	20	
17-April	Succession, Stability		
19-April	Landscape Ecology	21	
21-April	Landscape Ecology		
24-April	Geographic Ecology	22	
26-April	Global Ecology	23	Chapters 18-23 Readings Due
28-April	Global Ecology		
1-May	NO LECTURE		EXAM #4: Chapters 18-23