

**Biology 2227 – Principles of Ecology
Spring 2017**

Instructors: Dr. Uloma Opara-Osuoha *will instruct Jan 18 – Mar 3*
Dr. Matthew Helmus *will instruct Mar 6 – April 28*

Class Meetings: Monday, Wednesday, Friday 11:00 am - 11:50 pm; Beury 160

Course Prerequisites: Biology 1111 and 2112 with a grade of C or better.

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Questions concerning course material and content should be directed to the teaching assistant.

Teaching Assistant: Alanna Durkin – Bio-Life 313
Office Hours: Tuesdays & Wednesdays 12-1:30PM or by appointment

Instructor Meeting only by Appointment: Dr. Opara-Osuoha – Bio-Life 352A
Dr. Helmus – SERC 538

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.

Digital Text: Connect Access of Molles, M.C. Jr. 2015. Ecology, Concepts and Applications, 7th Ed. WCB/McGraw-Hill. Only the digital text is required, the hardcopy is not. A photocopied version of the text may be purchased if desired.

Grades: Attendance to class is expected. Grades will be calculated based on four lecture tests (80%), online quizzes (10%), and E-Text reading assignments (10%).

Tests: (20% each; 80% total): There will be four written lecture tests to assess achievement of the Learning Objectives. Tests will be multiple choice including questions on data interpretation. Tests will focus both on material covered during class and from the textbook readings.

Quizzes: (10% total): Regular quizzes will be given online through the Connect Website. Approximate quiz dates are noted in the syllabus. Students will generally be given several days to complete the quiz, but quizzes must be completed independently by each student. Quizzes will focus on material covered during class and from the textbook readings.

Online Reading Assignments: (10% total): Reading the text is required. As you read through the E-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.*

No Final Exam: There will not be a final exam.

No Extra Credit: No extra credit will be given.

Missed Quizzes and Tests: There will be no make-up quizzes or tests. For each student, the lowest quiz grade will be dropped from grade totals. Missed quizzes will receive a zero. Students can avoid being penalized for missed tests 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. Questions about quiz or test grading should be directed to the Teaching Assistant and will not be accepted more than 1 week after answers are made available to students.

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 (e.g., updating your Myspace page with new Vines). The Teaching Assistant sits in the back of class and if you are found violating these rules you will receive a warning. If you violate these rules a second time, you will be dropped from the course.

Disability Disclosure: We are happy to make accommodations for any student with a disability and we 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. The process for requesting access and accommodations for this course is: (1) Advise the current instructor of the need for access or accommodations; (2) Contact Disability Resources and Services to request accommodations; (3) DRS will consult with me as needed about essential components of the program; (4) Present me with a DRS accommodation letter.

Preliminary Schedule: Presence at class meetings is expected. Lecture topics will vary from this schedule. Updates will be posted on Connect and Blackboard. Please check Connect, Blackboard and your TU e-mail account regularly for messages & schedule changes.

Dr. Opara-Osuoha will instruct Jan 18 – Mar 3

Week	Date	Available Online	Lecture Topic	Reading Assignment
1	18-Jan		Introduction to Ecology	Chap. 1
1	20-Jan		Life on Land	Chap. 2
2	23-Jan	Quiz 1	Life in Water	Chap. 3
2	25-Jan		Population Genetics, Natural Selection	Chap. 4
2	27-Jan		Population Genetics, Natural Selection	Chap. 5
3	30-Jan	Quiz 2	Temperature Relations Last day to add or drop	Chap. 6
3	1-Feb		Water Relations	
3	3-Feb		Water Relations	Chap. 7
4	6-Feb		Energy and Nutrient Relations	
4	8-Feb		Energy and Nutrient Relations	
4	10-Feb		EXAM # 1	Chap. 8
5	13-Feb	Quiz 3	Social Relations	
5	15-Feb		Social Relations	Chap. 9
5	17-Feb		Population Distribution, Abundance	
6	20-Feb	Quiz 4	Population Distribution, Abundance	Chap. 10
6	22-Feb		Population Dynamics	
6	24-Feb		Population Dynamics	Chap. 11
7	27-Feb		Population Growth	Chap. 12
7	1-Mar		Life Histories	
7	3-Mar		EXAM # 2	Chap. 13

Dr. Helmus will instruct Mar 6 – April 28

Week	Date	Available Online	Lecture Topic	Reading Assignment
8	6-Mar		Introduction to Species Interactions	
8	8-Mar		Competition Interactions	
8	10-Mar		Competition	Chap. 14
9	13-Mar		Spring Break	
9	13-Mar		Spring Break	
9	13-Mar		Spring Break	
10	20-Mar	Quiz 5	Parasitism	
10	22-Mar		Predation; Last Day to Withdraw	Chap. 15
10	24-Mar		Predation; Mutualism	Chap. 16
11	27-Mar	Quiz 6	Mutualism, Abundance, Diversity	
11	29-Mar		Abundance, Diversity	Chap. 17
11	31-Mar		Food Webs, Community Structure	
12	3-Apr		Food Webs, Community Structure	
12	5-Apr		EXAM # 3	Chap. 18
12	7-Apr		Primary Production, Energy Flow	Chap. 19
13	10-Apr		Nutrient Cycling, Retention	Chap. 20
13	12-Apr	Quiz 7	Succession, Stability	
13	14-Apr		Succession, Stability	Chap. 21
14	17-Apr		Landscape Ecology	
14	19-Apr	Quiz 8	Landscape Ecology	Chap. 22
14	21-Apr		Geographic Ecology	
15	24-Apr		Geographic Ecology	Chap. 23
15	26-Apr		Global Ecology	
15	28-Apr		EXAM # 4	
16			NO FINAL EXAM	