

Principles of Ecology

BIO 4451

Lecture: MWF 8:00-8:50 CAV 100

Lab: M-R 2:00-4:50 CAV 018

Instructor Information

Dr. Nicholas J. Negovetich

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Office Hours: MW 9:00-10:45am; T 8:00-8:45 and 10:00-10:45am; R 8:00-10:45am; F 10:00-10:45am;
other times by appointment

Course Description

Examination of basic ecological concepts and principles of ecosystem and biogeochemical cycles, with particular emphasis on the organization and energetics of individuals, populations, and communities in aquatic and terrestrial environments.

Learning Outcomes

1. Students will gain a basic understanding of ecology
 - Students will be able to define terms, explain concepts, and describe theories
2. Students will learn to apply course material to improve thinking, problem solving, and decisions
 - Students will be able to use concepts and theories to explain patterns in nature
3. Students will learn appropriate methods for collecting, analyzing, and interpreting numerical information
 - Students will be able to collect and analyze data to explain patterns in nature

Text

Ecology: Evolution, Application, Integration, by David T. Krohne, Oxford University Press

Course Format

This course will consist of a lecture portion and a laboratory portion. The laboratory portion will serve as an extension of the class. Material covered during the lab will be included on the lecture exams. All handouts will be placed on BlackBoard. See Course Delivery section for more information.

Attendance

Attendance is expected for the lecture portion of the course. Arriving late and leaving early may result in one percentage point deduction from the final course grade for each occurrence if the students significantly disrupt the class. You are responsible for all material presented in lecture. Instructor notes will NOT be provided. **Attendance in the lab portion of the course is required.** Missing one laboratory exercise will result in a 25 percentage point deduction from the final lab grade. Two absences will result in a 0% for the lab grade.

Homework and Assignments

Homework for the lecture may be assigned throughout the semester. While not difficult, the student is expected to complete the homework and submit it to the instructor by the due date given in class or lab. A *paper clip or staple* must be used for multi-page answer sheets. Assignments may not be accepted if they are late or missing a staple or paperclip.

Quizzes and Exams

The lecture will consist of a several quizzes, three one-hour exams, and a comprehensive final exam. The quizzes (~10-20 minutes in length and online) will serve as a model on which the format of the remaining exams will be based. A time limit is placed on the quizzes to prevent students from looking up each question in their notes. However, students can take the quiz up to 3 times and the highest score

will be recorded. You are responsible for reviewing the graded quizzes and exams. If an error is suspected, then for exams the instructor must be notified within one week from the day the exam was returned; for quizzes, the instructor must be notified within one week after the quiz key was made available. The lowest quiz grade will not be included in the final course grade. The grade on the final exam may replace the lowest one-hour exam grade.

Quizzes must be completed by the due date in order to receive full credit. Missed quizzes can be taken prior to the key becoming available at a 10% penalty. The quiz keys will be made available when every student has taken the quiz or 2 days prior to the lecture exam that include the material on the quiz, whichever comes first. Quizzes not completed when the key becomes available will receive a zero.

Make-up Exams and Lab Exercises

I understand that special circumstances beyond one's control can result in the inability to attend lab or class when an exam is given. For these circumstances, a make-up exam or lab may be scheduled provided that I was notified prior to the exam/lab (scheduled absence). Make-up exams and labs must be completed within 1 week of the absence.

Lab Policies

For each lab activity, there may be a short write-up or homework assignment. Quizzes will be given at the start of each lab and will cover information from the previous week's material and the current week's lab. Because the quiz will cover new material, the lab handouts will be posted on Blackboard prior to the lab. *Each student is required to print and bring a copy of the handout to lab.* Failure to do so will result in a deduction of the lab grade. **Attendance in lab is required.** Bring a pencil and calculator to every lab. Several of the labs involve collecting data outdoors. Dress accordingly.

Point Breakdown

The course consists of a lecture (80% of the course grade) and laboratory portion (20% of the course grade).

Final grades will be assigned as follows: A=100-90%, B=89-80%, C=79-70%, D=69-60%, F=59% or lower. Standard rounding methods will be used. The percentage breakdown for each portion of the course is listed below.

Section of Course	Main Assignment	Percentage of Section
Lecture (80%)	Homework	5%
	Quizzes	10%
	Exams (Exam 1: 20%; Exams 2 & 3: 25% each)	70%
	Final Exam	15%
Laboratory (20%)	Participation	20%
	Assignments	20%
	Quizzes	60%

Religious Holy Day

A student who intends to observe a religious holy day during the semester should make that intention known in writing to the instructor during the first week of the semester and one week prior to the absence. If this submission is completed, a student who is absent from classes for the observance of a religious holy day shall be allowed to take missed exams or assignments scheduled for that day in accordance with syllabus policy.

Academic Dishonesty

Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits as presented in the [University's Statement of Academic Integrity](#). Students are responsible for understanding the Academic Honor Code, which is contained in the [University Catalog](#) and [Student Handbook](#). Any form of cheating or plagiarism in this course will result in a zero on the assignment or

exam for all involved. Working with others is encouraged, but each person is responsible for their own work. Allowing others access to your work potentially involves you in cheating. If you have any question about what constitutes plagiarism or cheating, then please contact the instructor. Further information regarding academic dishonesty and university policy may be found in the Student handbook.

Special Accommodations

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation. Student Disability Services is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student's responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu or telephone (325-942-2047) For more information about the application process and requirements, visit the [Student Disability Services website](#).

Title IX at Angelo State University

The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU's Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form. If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345. For more information about Title IX in general you may visit www.angelo.edu/title-ix.

Technology in the Classroom

Tablets and laptops can be used for taking notes, but it is strongly advised that all notes be taken by hand. I also permit recorders for those who want to record my lecture. However, cell phones are not permitted to be used once class begins because they may serve as a distraction to those around you. Failure to comply will result in dismissal from the class and a 1% deduction in the final course grade.

Calculators

Several topics in ecology are mathematical in nature. A scientific calculator is required and must be brought to every lecture and laboratory meeting. **No cell phone calculators are allowed.** Calculators cannot be shared during quizzes or examinations.

Information about COVID-19

Please refer to [ASU's COVID-19 \(Coronavirus\) Updates](#) web page for current information about campus guidelines and safety standards as they relate to the COVID-19 pandemic.

Course Delivery in the COVID-19 Era

This course is scheduled to meet face-to-face, but this could change based on the current COVID-19 situation in San Angelo. If the university requires a student to isolate or quarantine, then I will do my best to ensure that the student receives the information presented during lecture provided that they have an official university accommodation provided to me by Student Services.

Lectures will be live streamed on YouTube. You can subscribe to my channel (Dr. Nick Negovetich) to be notified when I go live. The lectures will then become available under our course playlist (URL link will be posted on Blackboard). Attendance will be recorded sometime during the class starting on the second class day. You can attend in-person or virtually during the live stream. Perfect attendance leading up to each lecture exam will earn the student 5 extra credit points on the exam. For each unexcused absence, the number of extra credit points on the exam will be reduced by 1. This is to encourage attendance and participation during our lecture. Attendance and the chance for extra credit will restart after each lecture exam. This attendance policy will not apply to the Final Exam because the chance for extra credit on the final is tied to participation rate on the IDEA evaluation. More information regarding the IDEA evaluation will be posted when the evaluation becomes available.

Lectures will consist of powerpoint lectures (instead of chalk-talk lectures) with diagrams and math problems on the chalkboard. Powerpoints *will not* be provided. Instead, I will provide sufficient time for you to copy the information on each slide. Cameras are not permitted during lecture; audio recordings are OK.

Class Schedule

This schedule is tentative and subject to change

Week of	Topic	Chapter	Notes
08/23/20	Introduction, Science of Ecology	1	
08/30/20	Adaptation and Evolution	2	
09/06/20	Adaptation and Evolution	2	September 6 – No Class
09/13/20	Adaptations to Physical Environment	3	
09/20/20	Adaptations to Physical Environment	3	Exam #1 (Friday)
09/27/20	Ecology of Intraspecific Variation	4, 5, 7	
10/04/20	Ecology of Intraspecific Variation	4, 5, 7	
10/11/20	Demography and Population Growth	8	
10/18/20	Demography and Population Growth	8	Exam #2 (Friday)
10/25/20	Population Regulation	9	
11/01/20	Life History Strategies	10	
11/08/20	Life History Strategies	10	
11/15/20	Competition	11	Exam #3 (Friday)
11/22/20	Competition	11	November 22 – Drop Date THANKSGIVING WEEK
11/29/20	Community Structure and Succession; Review/Questions	13, 14	
12/06/20	Final Exam: Monday, December 6, 8:00-10:00 (CAV 100)		

Lab Schedule

This schedule is tentative and subject to change

Week	Lab Topic
08/23/20	Lab Introduction, Plant Natural History*
08/30/20	Data Collection, Presentation, and Analysis*
09/06/20	LABOR DAY – NO LAB
09/13/20	Population Genetics: The Hardy-Weinberg Equations
09/20/20	Biodiversity: The Calculations
09/27/20	Biodiversity: The Interpretation
10/04/20	Population Size Estimates: Mark and Recapture – Field Work*
10/11/20	Population Size Estimates: Mark and Recapture – Data Analysis
10/18/20	Spatial Relations of Plants – Field Work*
10/25/20	Spatial Relation of Plants – Data Analysis
11/01/20	Demography; Allelopathy: Introduction
11/08/20	Community Similarity; Allelopathy: Setup
11/15/20	Allelopathy: Data Collection and Analysis Wind Dispersed Diaspore Introduction
11/22/20	THANKSGIVING WEEK – NO LAB
11/29/20	Wind Dispersed Diaspores*

* = Outdoor lab activity. Dress appropriately

BRING A CALCULATOR AND PENCIL TO ALL LABS