TEXAS A&M UNIVERSITY
SAN ANTONIO

BIOL 3407-001 Ecology

Biology Program, Department of Natural Sciences

Instructor information

Instructor: J. Rodolfo Valdez Barillas (Call me Dr. Valdez)

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Office hours: WF 11:00 a.m.- 1:00 p.m. Sci. & Tech. 311L or by appointment via Microsoft Teams

Class meeting format: F2F MW 3:30 to 4:45 am at Classroom Hall Building Room 102

Course Description

This course provides a solid background in ecology and introduces the student to the scientific study of organisms and their environment. We will address the basic abiotic and biotic components involved in the function and evolution of ecosystems, different ecological models, and the mechanisms that drive ecosystem changes through time. The course will incorporate classic concepts in ecology and introduce the students to current theoretical and applied aspects of ecology, from a global scale to the organismal level.

Course Objectives

1. Develop an appreciation of the past and modern scope of scientific inquiry in Ecology through lectures and assignments.
2. Understand the mechanisms behind the interaction between organisms (from bacteria to plants and animals) and their environment.
3. Understand how scientists conduct studies in ecology, including techniques, methods, and equipment used to address different ecological questions.
4. Learn about the many theoretical and applied aspects of ecology globally, and in Southern Texas, particularly Bexar County.
5. Understand the importance of ecology as a tool to study current environmental issues.
6. Understand the effects of ecological processes on our lives and all living systems.

Recommended resources

Ecology 5th Edition by Bowman & Hacker ISBN: 9781605359212
Print ISBN: 9781605359212, 1605359211
eText ISBN: 9781605359236, 1605359238

Ecology 4th Edition by Bowman. Hacker & Cain ISBN 978-1-60535-618-1

Textbook companion website (4th edition): http://ecology 4e.sinauer.com
The idea behind this website is to provide the student with resources for reviewing, learning key terms, working with data from actual experiments, and using simulations to explore model systems. It also allows students to assess their knowledge by providing practice quizzes, flashcards, and recommended readings for each book chapter.

Course Policies

Attendance: You are required to attend **every class**.

Participation: I expect that you will review the course material for the week and review material from previous lectures, so you come to class ready with questions.

Communication: All communication and inquiries to the instructor should be via e-mail: jvaldezb@tamusa.edu. This e-mail is for communication only. I will not accept assignments via e-mail unless I have granted accommodations. Please **submit all assignments through Blackboard or in class as required by the instructor.**

Course Changes: This course syllabus and lecture schedule are subject to change at any time; however, I will notify any changes through announcements in Blackboard or during lectures.

Makeup Exams: Makeup Exams are granted at the instructor's discretion. Make-up exams require you to communicate your absence in written form, or no later than 24 hours after your absence. I prefer an acceptable doctor's note or excuse.

Late assignment submission: I will deduct 10% of the assignment's possible points for each day after the due date.

Course Evaluation

Exams: The Exam format will include multiple-choice, true/false questions

- Exams are closed book, and most questions will come from or be like the quiz questions.
- The Exam may include figures, tables, diagrams, or articles that will be provided on the day of the Exam.
- Each exam will include the material covered during the lecture before the day of the Exam.
- Once you start, you have 50 minutes to complete your Exam.

iClickers: This will be provided by the instructor during class and used to record attendance, allow the students to participate in polls during lectures, and take in-class quizzes. These activities may be included as in-class assignments.

Quizzes: Quizzes will be available weekly

- Regular quizzes will be available via Blackboard and completed outside of lecture time. You will be given 5 days to complete the quiz and submit it. I will post quizzes on Thursday at 11:59 pm, and the Due date will be the following Tuesday at 11:59 pm.

- You can take your quiz three times, and the highest quiz score will go in your grade book.
- You will answer one question at a time, and no backtracking will be possible. The number of questions may range from 5-10.
- The length of the quiz may range from five to 10 minutes.

A**ssignments:** This may include a scientific article summary and critiques, **or** in-class activities

- Please read the instructions provided when writing the article summary and critique.
- Depending on the assignment, the submission may be during or after the lecture.
- I may provide an assignment that will be submitted on the same day. I may provide group or individual assignments.

Extra credit: To earn Extra credit (10 points) you may search for and submit a news article or participate in an activity related to Ecology outside of lecture time.

- **News articles (5 pts)**: I will provide instructions for you to submit a news article in a folder titled Ecology News. You need to briefly describe why you chose the article and what the article is about, as well as include the link or PDF file. The article you select should be on a topic in Ecology covered during the weeks before the due date. You only need to post once to earn 1 point. Five Ecology News folders will become available during a specific period.

- **Ecology activities (5-10pts):** You may earn extra credit for every hour you participate in the activities listed below. To earn the credit, you will post a one-page summary of the activity in the folder titled Ecology activities:
  - Attending volunteering and community service events related to ecology
  - Conducting undergraduate research or helping undergraduate researchers
  - Attending a Biology Seminar
  - Visiting a Park or Natural Area

GRADING (Number of quizzes and assignments may be adjusted based on student course load)

Instruction	Assessment	Cumulative pts
Lecture	Exams (3+final) **100pts/each**	**400**
	Quizzes (11) **10pts/each**	**110**
	In-Class Assignments (6) **5pts each**	**30**
	Total Points	**540**

A = 90 – 100 points

B = 80 – 89.9 points

C = 70 – 79.9 points

D = 60 – 69.9 points

F = <59.9 points

Calculation of Final Grades: The extra credit earned is added to the 590 points when calculating your final grade over 100. Final Grade (% 100) = 70% lecture and 30% Lab

BIOL 3407 Ecology Lecture Fall 2025 Schedule

Wk	Date	Topic	Quizzes/ Assignments
1	01/21/2025	Syllabus, Introduction to Ecology	
2	01/26/2025	Introduction to Ecology	
	01/28/2025	Physical environment 1	Quiz 1
3	02/02/2025	Physical environment 2	
	02/04/2025	Biosphere and Environment	Quiz 2
4	02/09/2025	Energy Flow and Heterotrophs	
	02/11/2025	Energy Flow and Autotrophs	Quiz 3
5	02/16/2025	**Exam 1**	
	02/18/2025	Energy Flow and Autotrophs	
6	02/23/2025	Production and Decomposition 1	
	02/25/2025	Production and Decomposition 2	Quiz 4
7	03/02/2025	Biogeochemistry & Nutrient Cycling 1	
	03/04/2025	Biogeochemistry & Nutrient Cycling 2	Quiz 5
8	03/09/2025	Spring Break	
	03/11/2025		
9	03/16/2025	Evolution	
	03/18/2025	Life History	Quiz 6
10	03/23/2025	**Exam 2**	
	03/25/2025	Population Distribution	
11	03/30/2025	Population growth and dynamics	
	04/01/2025	Competition	Quiz 7
12	04/06/2025	Predator-prey and herbivore-plant adaptations	
	04/08/2025	Symbiotic interactions	Quiz 8
13	04/13/2025	Nature of Communities	
	04/15/2025	Change in communities	Quiz 9
14	04/25/2025	**Exam 3**	
	04/27/2025	Relevance of Species Diversity and Biogeography	
15	05/04/2025	Conservation biology	
	05/06/2025	Landscape & Ecosystem Management	Quiz 10
16		**Final Cumulative Exam (Same room)**	

This schedule is subject to change. Any changes will be addressed in class and via Blackboard by Dr. Valdez