



BIOL 3407-001 Ecology

Biology Program, Department of Natural Sciences

Instructor information

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

Office: Science & Technology Building (Sci. & Tech) 311L

E-mail: jvaldezb@tamusa.edu

Office hours: TR 11:00-1:30 pm in Sci. & Tech. 311L or by appointment via Microsoft Teams

Class meeting format: F2F TR 9:30 to 10:45 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://ecology4e.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. Makeup 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.

Assignments: 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	08/26/2025	Syllabus, Introduction to Ecology	
	08/28/2025	Introduction to Ecology	Quiz 0
2	09/02/2025	Applications of Ecology	
	09/04/2025	Physical environment 1	Quiz 1
3	09/09/2025	Physical environment 2	
	09/11/2025	Biosphere and Environment	Quiz 2
4	09/16/2025	Energy Flow and Heterotrophs	
	09/18/2025	Energy Flow and Autotrophs	Quiz 3
5	09/23/2025	Exam 1	
	09/25/2025	Energy Flow and Autotrophs	
6	09/30/2025	Production and Decomposition 1	
	10/02/2025	Production and Decomposition 2	Quiz 4
7	10/07/2025	Biogeochemistry & Nutrient Cycling 1	
	10/09/2025	Biogeochemistry & Nutrient Cycling 2	Quiz 5
8	10/14/2025	Evolution	
	10/16/2025	Life History	Quiz 6
9	10/21/2025	Population Distribution	
	10/23/2025	Population growth and dynamics	Quiz 7
10	10/28/2025	Exam 2	
	10/30/2025	Competition	
11	11/04/2025	Predator-prey and herbivore-plant adaptations	
	11/06/2025	Symbiotic interactions	Quiz 8
12	11/11/2025	Nature of Communities	
	11/13/2025	Change in communities	Quiz 9
13	11/18/2025	Relevance of Species Diversity	
	11/20/2025	Biogeography	Quiz 10
14	11/25/2025	Exam 3	
	11/27/2025	Thanksgiving -No class	
15	12/02/2025	Conservation biology	
	12/04/2025	Landscape & Ecosystem Management	Quiz 11
16	12/6-12/2025	Final Cumulative Exam (Same room)	

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

IMPORTANT POLICIES AND RESOURCES

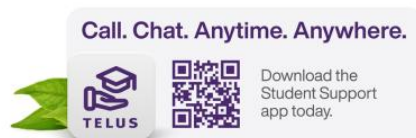
Academic Accommodations for Individuals with Disabilities: Texas A&M University-San Antonio is committed to providing all students with reasonable access to learning opportunities and accommodations in accordance with The Americans with Disabilities Act, as amended, and Section 504 of the Rehabilitation Act. If you experience barriers to your education due to a disability or think you may have a disability, Disability Support Services is located in the Central Academic Building, Suite 210. You can also contact us via phone at (210) 784-1335, visit us <https://www.tamusa.edu/Disability-Support-Services/index.html> or email us at dss@tamusa.edu. Disabilities may include, but are not limited to, attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability-related needs with Disability Support Services as soon as possible.

Academic Learning Center: The Academic Learning Center provides free course-based tutoring to all currently enrolled students at Texas A&M University-San Antonio. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the *Tools* section of Blackboard. You can contact the Academic Learning Center by emailing tutoring@tamusa.edu, calling (210) 784-1307, or visiting the Central Academic Building, room 202.

Counseling/Mental Health Resources: As a college student, there may be times when personal stressors interfere with your academic performance and negatively impact your daily functioning. If you are experiencing emotional difficulties or mental health concerns, support is available to you through the Student Counseling Center (SCC). To schedule an appointment, call 210-784-1331 or visit Madla 120. All mental health services provided by the SCC are **free and confidential** (as the law allows). The Student Counseling Center provides brief individual and group therapy, crisis intervention, consultation, case management, and prevention services. For more information on SCC services, visit <http://tamusa.edu/studentcounseling>

Crisis support is available 24/7 by calling the SCC at 210-784-1331.

Additionally, the TELUS Student Support App provides a variety of mental health resources to including support for in-the-moment distress, an anonymous peer-to-peer support network, mental health screenings, podcasts, and articles to improve your mental wellbeing.



Emergency Preparedness: JagE Alert is Texas A&M University-San Antonio's mass notification. In the event of an emergency, such as inclement weather, students, staff and faculty, who are registered, will have the option to receive a text message, email with instructions and updates. To register or update your information visit: <https://tamusa.bbcportal.com>

More information about Emergency Operations Plan and the Emergency Action Plan can be found here: <https://www.tamusa.edu/about-us/emergency-management/>

Download the SafeZone App (<https://safezoneapp.com/>) for emergencies or call (210) 784-1911. Non-Emergency (210) 784-1900.

Financial Aid and Verification of Attendance: According to the following federal regulation, 34 CFR 668.21: U.S. Department of Education (DoE) Title IV regulation, a student can only receive Title IV funds based on Title IV eligibility criteria which include class attendance. If Title IV funds are disbursed to ineligible students (including students who fail to begin attendance), the institution must return these funds to the U.S. DoE within 30 days of becoming aware that the student will not or has not begun attendance. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended by the published Census Date (the first week of class). Any student receiving federal financial aid who does not attend before

the published Census Date (the first week of class) will have their aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester may also need to return a portion of their federal aid.

Writing, Language, and Digital Composing Center: The Writing, Language, and Digital Composing Center supports graduate and undergraduate students in all three colleges as well as faculty and staff. Tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. Our language tutors support students enrolled in Spanish courses and students composing in Spanish for any assignment. Our digital studio tutors support students working on digital projects such as eportfolios, class presentations, or other digital multimedia projects. Students can schedule appointments through JagWire under the Student Services tab. Click on "Writing, Language, and Digital Composing Center" to make your appointment. The Center offers face-to-face, synchronous online, and asynchronous digital appointments. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our website at <https://www.tamusa.edu/academics>.

Meeting Basic Needs: Any student who has difficulty affording groceries or accessing sufficient food to eat every day or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to submit a CARE referral (<https://www.tamusa.edu/university-policies/Student-Rights-and-Responsibilities/file-a-report.html>) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to direct you to available resources.

Office Hours: All faculty with teaching assignments should include regularly scheduled office hours on each syllabus in addition to "by appointment." Please review your appointment letter for the number of weekly office hours you are expected to set. Regularly scheduled office hours should also be posted outside your office door (where applicable).

Military Affairs: Veterans and active-duty military personnel are welcome and encouraged to visit the Office of Military Affairs for any questions involving federal or state VA Education Benefits. Visit the Patriots' Casa building, room 202, or contact the Office of Military Affairs with any questions at military.va@tamusa.edu or (210)784-1397.

Religious Observances: Texas A&M University-San Antonio recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their traditions. Under the policy, students are provided with an opportunity to make up any examination, study, or coursework requirements that may be missed due to a religious observance, provided they notify their instructors before the end of the second week of classes for regular session classes.

The Six-Drop Rule: Students are subject to the requirements of Senate Bill (SB) 1231, passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not affect the student's GPA. However, course drops that exceed the maximum allowed by SB 1231 will be treated as "F" grades and will impact the student's GPA.

Statement of Harassment and Discrimination: Texas A&M University-San Antonio is committed to the fundamental principles of academic freedom, equal opportunity, and human dignity. To fulfill its multiple missions as an institution of higher learning, A&M-San Antonio encourages a climate that values and nurtures collegiality and the uniqueness of the individual on our campus and within our state, nation, and world. All decisions and actions involving students and employees are to be based on applicable law and individual merit. Texas A&M University-San Antonio, in accordance with applicable federal and state law, prohibits discrimination, including harassment, on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, or pregnancy/parenting status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the University's Civil Rights Officer at 210-784-2061 or titleix@tamusa.edu. Texas A&M University-San Antonio faculty are committed to providing a safe learning environment for all students and for the university as a whole. If you have experienced any form of sex- or gender-based discrimination or harassment, including sexual assault, sexual harassment, domestic or dating violence, or stalking based on sex, know that help and support are available. A&M-San Antonio's Title IX Coordinator can

support those impacted by such conduct in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. The university strongly encourages all students to report any such incidents to the Title IX Coordinator. Please be aware that all A&M-San Antonio employees (other than those designated as confidential resources, such as counselors and trained victim advocates) are required to report information about such discrimination and harassment to the university. This means that if you tell a faculty member about a situation of sexual harassment, sexual violence, or other related sex-based misconduct, the faculty member must share that information with the university's Title IX Coordinator (titleix@tamusa.edu, 210-784-2061, CAB 439K). If you wish to speak to a confidential employee who does not have this reporting requirement, you can contact the Student Counseling Center at (210) 784-1331 or visit them in Madla 120.

Pregnant/Parenting Students: Texas A&M-San Antonio does not require a pregnant or parenting student, solely because of that status or issues related to that status, to (1) take a leave of absence or withdraw from their degree or certificate program; (2) limit the student's studies; (3) participate in an alternative program; (4) change the student's major, degree, or certificate program; or (5) refrain from joining or cease participating in any course, activity, or program at the University. The university will provide such reasonable modifications to pregnant students as would be provided to a student with a temporary medical condition that is related to the health and safety of the student and the student's unborn child. These could include maintaining a safe distance from substances, areas, and activities known to be hazardous to pregnant individuals and their unborn child; excused absences because of illness or medical appointments; modified due dates for assignments; rescheduled tests/exams; taking a leave of absence; and being provided access to instructional materials and video recordings of lectures for excused absences, if these would be provided to any other student with an excused absence. Pregnant/parenting students are encouraged to contact the Title IX Coordinator with any questions or concerns related to their status (titleix@tamusa.edu; 210-784-2061; CAB 439K). Texas A&M-San Antonio has also designated the Title IX Coordinator as the liaison officer for current or incoming students who are the parent or guardian of a child younger than 18 years of age. The Title IX Coordinator can provide students with information regarding support services and other resources.

Young Jaguars: can support parenting students with daycare who meet this criteria: Must be enrolled in classes at TAMUSA in the current semester. Must be Pell eligible or a single parent. They serve children ages 3 to 12 years old. Children must be enrolled in Pre-K-3 through 6th grade. youngjaguars@tamusa.edu (210) 784-2636

Students' Rights and Responsibilities: The following statement of students' rights and responsibilities is intended to reflect the philosophical base upon which University Student Rules are built. This philosophy acknowledges the existence of both rights and responsibilities, which is inherent to an individual not only as a student at Texas A&M University-San Antonio but also as a citizen of this country.

Students' Rights

1. A student shall have the right to participate in a free exchange of ideas, and there shall be no University rule or administrative rule that in any way abridges the rights of freedom of speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.
2. Each student shall have the right to participate in all areas and activities of the University, free from any form of discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, gender identity, gender expression, and pregnancy/parenting or veteran status in accordance with applicable federal and state laws.
3. A student has the right to personal privacy except as otherwise provided by law, and this will be observed by students and University authorities alike.
4. Each student subject to disciplinary action arising from violations of university rules shall be assured a fundamentally fair process.

Students' Responsibilities

1. A student has the responsibility to respect the rights and property of others, including other students, the faculty, and administration.
2. A student has the responsibility to be fully acquainted with the published University Student Rules found in the Student Handbook, [Student Code of Conduct](#), on our website, and University Catalog, and to comply with them, as well as with federal, state, and local laws.
3. A student has the responsibility to recognize that student actions reflect upon the individuals involved and upon the entire University community.
4. A student has the responsibility to recognize the University's obligation to provide a safe environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notifications.

We expect that students will behave in a manner that is dignified, respectful, and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation, or disability.

Conduct that infringes on the rights of another individual will not be tolerated.

Students are expected to exhibit a high level of honesty and integrity in their pursuit of higher education. Students engaging in an act that violates the standards of academic integrity will find themselves facing academic and/or disciplinary sanctions. Academic misconduct is any act, or attempt, which gives an unfair advantage to the student. Additionally, any behavior specifically prohibited by a faculty member in the course syllabus or class discussion may be considered as academic misconduct. For more information on academic misconduct policies and procedures, please review the Student Code of Conduct (<https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/documents/Student-Handbook-2022-23.pdf>) or visit the resources available in the OSRR website

(<https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/academic-integrity.html>).

There are situations and contexts within this course where you may be asked to use artificial intelligence (AI) tools to explore how they can be used. Outside of those circumstances, you should not use AI tools to generate content (text, video, audio, images) that will end up in any student work (assignments, activities, discussion responses, etc.) that is part of your evaluation in this course. Any student work submitted using AI tools should clearly indicate with attribution what work is the student's work and what part is generated by the AI. In such cases, no more than 25% of the student's work should be generated by AI. If any part of this is confusing or uncertain, students should reach out to their instructor for clarification before submitting work for grading. Use of AI-generated content without the instructor's permission and/or proper attribution in this course qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.

Use of artificial intelligence (AI) tools, including ChatGPT, is permitted in this course for students who wish to use them. To adhere to our scholarly values, students must cite any AI-generated material that informed their work (this includes in-text citations and/or use of quotations, and in your reference list). Using an AI tool to generate content without proper attribution qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.

<https://apastyle.apa.org/blog/how-to-cite-chatgpt>

Important Dates: Fall 2025 Regular 16-Week Session

August 25	First day of class
September 1	Labor Day Holiday – No classes
September 10	Census Date
November 14	Last day to drop with an automatic "W"
November 25	Last day to withdraw from the University
November 26	Study Day – No classes
November 27-29	Thanksgiving Holiday – No classes

December 4	Last day of classes
December 5	Study Day – No classes
December 6-12	Final exams
December 16	Commencement

The complete academic calendar is available online: <https://www.tamusa.edu/academics/academic-calendar/index.html>

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