



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: Scheduled by e-mail appointment, to be conducted via WebEx or in person

Class meeting format: F2F Monday, Wednesday, Friday **2:00 to 2:50 pm at Sci. & Tech. 173**

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 the classic concepts of ecology and will introduce the students into current theoretical and applied aspects of ecology, from a global scale to the organismal level.

Course Objectives

1. Develop and appreciation of past and modern scope of scientific inquiry in the field of 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 at a global scale and in Southern Texas, particularly Bexar County.
5. Understand the importance of ecology as a tool to study current environmental issues.
6. Provide a clear understanding of the effect that ecological processes have on our daily lives and all living system in our planet.



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, flashcard 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 granted an accommodation. Please **submit all assignment through blackboard**.

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

Make up Exams: Make up Exams are granted upon instructor's discretion. Make up exam require you to communicate your absence in written form or no later than 24hrs from your absence. I prefer an acceptable doctor's note or excuse.

Late assignments: for each day passed the due date, I will deduct 10% of the total possible points.

Course Evaluation

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

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

Quizzes: Quizzes will be available weekly

- Regular quizzes will be available via blackboard and completed outside of lecture time. You will have 5 days to complete the quiz and submitted before the Due date and time. I will post quizzes on a Friday at 11:59pm and Due date will be the following Wednesday at 11:59pm.
- You can take your quiz three times the highest score will go in your gradebook.
- You will answer one questions one at time and no backtracking will be possible. The number of questions may range from 5-10 questions.
- Length of quiz may range from five to 10 minutes.

Assignments: This may include a scientific article summary and critiques or in class activities

- Please read instructions provided on how to write an article summary and critique.
- Depending on the assignment, submission may be during lecture or after lecture.
- I may provide class assignment that you will need to submit the same day. I may provide group or individually individual assignments.

Extra credit: To earn extra credit (5 points) you will need to a news article or participate in a volunteering event outside of lecture time.

- I will provide instructions and you will submit the news article in a folder titles Ecology News. You need to write a brief summary of what the articles is about and provide a link. The article you select should include topic in Ecology covered during the week. You only need one posting, and for every posting, you will earn 1 point. Five Ecology News folders will become available for posting your news during a specific period. You may not post articles for past or future weeks.
- Volunteering and community Service (five extra credit points): You will have the chance to earn up to 10 extra credit points for volunteering at any conservation organization or helping with the undergraduate research projects. If interested come talk to me please. 1 hour of service = one extra credit points. Additional credit opportunities will be provided

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
	Assignments (3) 10pts each	30
	Total	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 540 total point when calculating your final grade over 100 points

BIOL 3407-001 Ecology Lecture Spring 2023 Schedule

Wk.	Date	Topic	Chapter	Quizzes/ Assignments
	1/17/2024	Introduction to Ecology	1	
	1/19/2024	Applications of Ecology	2	Quiz 1
2	1/22/2024	Physical environment 1	2	Assignment 1
	1/24/2024	Physical environment 2	2	
	1/26/2024	Physical environment 2		Quiz 2
3	1/29/2024	Biosphere and environment 1	3	
	1/31/2024	Biosphere and environment 2	3	
	2/02/2024	Energy flow and food webs 1	4	Quiz 3
4	2/05/2024	Exam 1		
	2/07/2024	Energy flow and food webs 2	4	
	2/09/2024	Energy flow and food webs 3	4	
5	2/12/2024	Production and decomposition 1	20	
	2/14/2024	Production and decomposition 2	20	
	2/16/2024	Biogeochemistry & Nutrient cycling 1	22	Quiz 4
6	2/19/2024	Biogeochemistry & Nutrient cycling 2	22	
	2/21/2024	Evolution 1	6	
	2/23/2024	Evolution 2	6	Quiz 5
7	2/26/2024	Life History 1	7	Assignment 2
	2/28/2024	Life History 2	7	
	3/01/2024	Population Distribution	8	Quiz 6
8	3/04/2024	Exam 2		
	3/06/2024	Population growth	9	
	3/08/2024	Population dynamics	10	
9				
10	3/18/2024	Competition 1	11	
	3/20/2024	Competition 2	12	
	3/22/2024	Predator-Prey models	12	Quiz 7
11	4/01/2024	Predator-Prey herbivore-plant adaptations	13	
	4/03/2024	Parasitism	13	
	4/05/2024	Mutualism and Commensalism	13	Quiz 8
12	4/08/2024	Nature of communities 1	14	
	4/10/2024	Nature of communities 2	14	
	4/12/2024	Change in communities	15	Quiz 9
13	4/15/2024	Exam 3		
	4/17/2024	Biogeography 1	22	
	4/19/2024	Biogeography 2	22	
14	4/22/2024	Conservation biology 2	23	Assignment 3
	4/22/2024	Landscape and ecology	24	
	4/26/2024	Ecosystem management	24	Quiz 10
16	12/09-15	Final Cumulative Exam		



IMPORTANT POLICIES AND RESOURCES

Academic Accommodations for Persons 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, please contact Disability Support Services in the Central Academic Building, Suite 210, or at (210) 784-1335 or visit <https://www.tamusa.edu/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 and their instructors 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/or 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.

Crisis support is available 24/7 by calling the SCC at 210-784-1331 (after-hours select option '2'). For more information and self-help resources, please visit www.tamusa.edu/studentcounseling

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/campus-information/safety/university-police-department/documents/emergency-operations-plan.pdf> and <https://www.tamusa.edu/about-us/campus-information/safety/university-police-department/documents/emergency-action-plan.pdf>

Download the SafeZone App 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 the first week of class. Any student receiving federal financial aid who does not attend 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://bit.ly/WLDCCenter>.

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 contact the Dean of Students (DOS@tamusa.edu) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to provide any resources they may possess.

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to communicate, in advance if possible, and special circumstances (e.g., upcoming deployment, drill requirements, disability accommodations). You are also encouraged to visit the Patriots’ Casa in-person room 202, or to 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 tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work 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, equality of 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 within our state, nation, and world. All decisions and actions involving students and employees should 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, gender identity, gender expression, or pregnancy/parenting status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the appropriate offices within their respective units.

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, 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 or sexual violence, or other related 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 reasonable accommodations to pregnant students that would be provided to a student with a temporary medical condition and that are 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.

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, 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 student 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, University Catalog and to comply with them, as well as 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 an environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notification.

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. Behaviors that infringe 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](#).

Use of Generative AI Permitted Under Some Circumstances or With Explicit Permission

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 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.

NOTE: Guidance for how to cite AI-generators, like ChatGPT, can be found here <https://apastyle.apa.org/blog/how-to-cite-chatgpt>

Important Dates:

January 16	First day of class
March 11-17	Spring Break – No classes
March 29	Study Day – No classes
April 13	Last day to drop with an automatic "W"
April 20	Last day to drop a course or withdraw from the University
April 29	Last day of classes
April 30	Study Day – No classes
May 1-7	Final exams

The complete academic calendar is available online:

<https://www.tamusa.edu/academics/academic-calendar/index.html>