



BIOL 3407-002 Ecology

Biology Program, Department of Natural Sciences

Instructor information

Instructor: Daniel Guerra

Office: SciTech 311 (Adjunct Desks)

E-mail: dguerra@tamus.edu

Office hours: TR 12:30-2:00 pm; R 3:30-4:30 pm in SciTech 311 or by appointment

Class meeting format: F2F TR 2:00 to 3:15 pm at Central Academic Building 223

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: dguerra@tamusa.edu. This e-mail is for communication only. I will not accept assignments via e-mail unless prior clearance has been given. 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, and short answer questions.

- Exams are closed book. Questions will resemble 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.

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:
 - Conducting independent, supervised undergraduate research
 - Assisting undergraduate or graduate researchers
 - Attending a Biology Seminar
 - Contributing to citizen science (eBird, iNaturalist)

GRADING (Number of quizzes and assignments may be adjusted)

| Instruction | Assessment | Cumulative pts | |
|-------------|--|----------------|--|
| Lecture | Exams (3+final) 100pts/each | 400 | A = 90 – 100 points |
| | Quizzes (11) 10pts/each | 110 | B = 80 – 89.9 points |
| | In-Class Assignments (6) 5pts each | 60 | C = 70 – 79.9 points |
| | Total Points | 570 | 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 3407-002 Ecology Lecture Spring 2026 Schedule

| Wk | Date | Topic | Quizzes/ Assignments |
|----|------------|--------------------------------------|----------------------|
| 1 | 01/20/2026 | Syllabus, Introduction to Ecology | |
| | 01/22/2026 | Introduction to Ecology | Quiz 0 |
| 2 | 01/27/2026 | Applications of Ecology | |
| | 01/29/2026 | Physical environment 1 | Quiz 1 |
| 3 | 02/03/2026 | Physical environment 2 | |
| | 02/05/2026 | Biosphere and Environment | Quiz 2 |
| 4 | 02/10/2026 | Energy Flow and Heterotrophs | |
| | 02/12/2026 | Energy Flow and Autotrophs | Quiz 3 |
| 5 | 02/17/2026 | Exam 1 | |
| | 02/19/2026 | Energy Flow and Autotrophs | |
| 6 | 02/24/2026 | Production and Decomposition 1 | |
| | 02/26/2026 | Production and Decomposition 2 | Quiz 4 |
| 7 | 03/03/2026 | Biogeochemistry & Nutrient Cycling 1 | |
| | 03/05/2026 | Biogeochemistry & Nutrient Cycling 2 | Quiz 5 |

Week 8 SPRING BREAK – NO CLASS

| | | | |
|----|------------|---|---------|
| 9 | 03/17/2026 | Evolution | |
| | 03/19/2026 | Life History | Quiz 6 |
| 10 | 03/24/2026 | Population Distribution | |
| | 03/26/2026 | Population growth and dynamics | Quiz 7 |
| 11 | 03/31/2026 | Exam 2 | |
| | 04/02/2026 | Competition | |
| 12 | 04/07/2026 | Predator-prey and herbivore-plant adaptations | |
| | 04/09/2026 | Symbiotic interactions | Quiz 8 |
| 13 | 04/14/2026 | Nature and Change of Communities | |
| | 04/16/2026 | Species Diversity | Quiz 9 |
| 14 | 04/21/2026 | Biogeography | |
| | 04/23/2026 | Conservation biology | Quiz 10 |
| 15 | 04/28/2026 | Landscape & Ecosystem Management | |
| | 04/30/2026 | Exam 3 | |
| 16 | 05/05/2026 | Reading Day – No Class | |
| | 05/6-12/26 | FINALS | |

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

IMPORTANT POLICIES AND RESOURCES

University Email Policy and Course Communications: All correspondence between professors and students must occur via University email accounts. You must have your Jaguar email account ready and working. If it is not working, contact the help desk at helpdesk@tamusa.edu or at 210-784-HELP (4357). If you don't hear back within 48 hours, contact them again. They have many requests during the first part of the semester, so you may need to follow up with them.

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 at the [website](#) 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 academic accommodations with Disability Support Services and their instructors as soon as possible.

Academic Learning Center: All currently enrolled students at Texas A&M University-San Antonio can utilize the Academic Learning Center for subject-area tutoring. 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. Online tutoring is also available for after hours and weekend assistance.

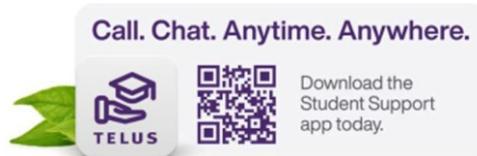
While tutoring hours may change based on tutor schedules and availability, the current tutoring hours for MATH in the ALC are as follows:

| | Appointments available | Walk in Tutoring – No appointment needed |
|-----------|-------------------------------|---|
| MONDAY | 8 am – 6 pm | 9 am – 5 pm |
| TUESDAY | 8 am – 6 pm | 9 am – 5 pm |
| WEDNESDAY | 8 am – 6 pm | 9 am – 5 pm |
| THURSDAY | 8 am – 6 pm | 9 am – 5 pm |
| FRIDAY | 8 am – 5 pm | 11 am – 4 pm |

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, visit our website, call 210-784-1331 or visit Madla 120 between the hours of 8:00 AM and 5:00 PM.

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 24/7/365 by calling the SCC at 210-784-1331 or through the TELUS student support App.*

The TELUS Student Support App provides a variety of mental health resources to including 24/7/365 support for in the moment distress, crisis support, 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 system. 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](#). 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 prior to 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.

Jaguar Writing, Language, and Digital Composing Center (WLDCC): The Jaguar Writing Center provides writing support to graduate and undergraduate students in all three colleges as well as faculty and staff. Writing 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. The Writing Center offers face-to-face, synchronous online, and asynchronous digital appointments. Students can schedule appointments with the Writing Center in JagWire under the Student Services tab. Click on "Writing, Language, and Digital Composing Center" to make your appointment. Students wanting to work in realtime with a tutor can schedule an "Online Appointment." Students wishing to receive asynchronous, written feedback from a tutor can schedule an "eTutoring" appointment. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our [website](#). The Writing Center can also be reached by emailing writingcenter@tamusa.edu.

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 report](#) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to direct you to available resources. A food pantry is available on campus; click [here](#) for hours and contact information.

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to visit the Office of Military Affairs for any question involving federal or state VA Education Benefits. Visit the Patriots' Casa building, 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 wide variety 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 course

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, 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 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 accommodations to pregnant students as would be provided to a student with a temporary medical condition 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. Young Jaguars can support parenting students with daycare if students meet this criteria: (1) must be enrolled in classes at Texas A&M-San Antonio in the current semester, (2) must be Pell eligible or a single parent, (3) child(ren) must be aged 3 to 12-years-old, and (4) child(ren) must be enrolled in Pre-K-3 through 6th grade. For more information, please contact Young Jaguars at youngjaguars@tamusa.edu or call (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, 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 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, 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, 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](#) or visit the resources available in the [OSRR website](#)

Important Spring 2026 Dates:

| Dates | Event |
|------------------|---|
| January 13 | Tuition & Fee Payments deadline |
| January 19 | Martin Luther King, Jr. – No Classes |
| January 20 | First day of class |
| February 4 | Census date |
| March 23-March 6 | Midterm grading period |
| March 9-March 14 | Spring Break |
| April 3 | Study Day – No classes |
| April 17 | Last day to drop with an automatic “W” |
| May 1 | Last day to drop a course or withdraw from the University |
| May 4 | Last day of classes |
| May 5 | Study Day – No classes |
| May 6-May 12 | Final exams |
| May 19 | Commencement |

The complete [academic calendar](#) is available online

No Use of Generative AI Permitted

This course (BIOL 3407-002) assumes that all work submitted by students will be generated by the students themselves, working individually or in groups. Students should not have another person/entity do the writing of any portion of an assignment for them, which includes hiring a person or a company to write assignments and/or using artificial intelligence (AI) tools like ChatGPT. Use of any AI-generated content in this course qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.