General Ecology
BIOL3481 - 001

Instructor: Dr. Carmen G. Montaña Schalk
Email: montanascg@sfasu.edu (preferred form of contact)
Phone: 936-468-2322
Office: 123 Biology

Office Hours: M - W: 8:00 am – 11:00 am or by appointment

Class Meeting Time/Place
Lecture: Tuesdays - Thursdays 2:00 – 3:15pm Room: 225, Miller Science Building
Laboratory: Tuesdays 3:30 – 6:20 pm Room #134 Miller Science Building

COURSE DESCRIPTION
This course will introduce the basics biological processes at the level of organisms, populations, communities, and ecosystems. Lectures will consist of informal lectures by the instructor, but also student’s participation via in-class paper discussion. The discussion sections will consist of student-led and instructor-facilitated group discussions. Through lectures, readings and discussions, students will obtain an overview and achieve in depth knowledge of the field of ecology.

The laboratory portion of this course will provide applications to the major ecological principles covered in lecture. Upon completion, students will have a basic level of experience for experimental techniques in ecology labs. Additionally, students will enhance their technical writing (or scientific writing) skills and become familiar with basic data analysis in Microsoft applications. The mandatory laboratory portion of this class will reinforce, using a hands-on approach of the four major areas of ecological study (i.e., organism, population, community, and ecosystem).

COURSE CONTACT HOURS
BIOL3481 (General Ecology, 4 credit semester hours, 3 hours lecture, 3 hours lab/week). The Lecture and laboratory must be taken together. The course is designed for three hours per week (150 min/week) of lecture and three hours per week (170 min/week) of laboratory.

COURSE FORMAT
The professor will deliver lectures on Tuesdays and Thursdays. Every week, a student will give one 10-15-minute PowerPoint presentations focused on the research of an influential ecologist. The professor will assign the ecologist to each student at the beginning of the semester. In addition, there will be assigned readings through the semester that students are expected to read and come to class prepared for discussions. Each student will have the opportunity to lead a paper during a class session. The professor will assign the paper to each student.

NOTE: Part of your course grade will result from class participation via presentations and reading discussions. I strongly encourage the students to come to class prepared and participate via discussion.
PROGRAM LEARNING OUTCOMES (PLOs)
This course is designed to address the following Program Learning Outcomes (PLO’s), as given in the Bachelor of Biology Degree program:
PLO#1: The student will demonstrate a good knowledge base in biological concepts and be able to integrate knowledge with critical thinking skills to become problem solvers.
PLO#2: The student will clearly communicate scientific information. Provide clear structure and transitions; demonstrate scientific tone, language, and form.
PLO#3. The student shall be able to think scientifically; this includes critical thinking / reasoning and explaining biological principles as well as analyzing and interpreting quantitative data sets.

STUDENT LEARNING OUTCOMES
1. Demonstrate an understanding of ecological principles, concepts, classical and contemporary hypotheses dominating the field of ecology. (PLO’s 1 and 3).
2. Learn the basic biological processes at the level of whole organisms and higher (populations, communities, and ecosystems). (PLO’s 1, 2 and 3).
3. Identify methods for collecting and studying ecological communities through hands-on field and laboratory experience (PLO’s 1 and 3).
4. Demonstrate competency for understanding the importance of science and ecology to contemporary society, and the importance of Scientific field and how ecologists conduct research (PLOs 1, 2, and 3).
5. Develop skills for gathering, analyzing, and interpreting ecological data (PLO 1, 2 and 3).
6. Demonstrate competency in written and oral communication skills (PLO 2 and 3)

TEXT AND MATERIALS
[We will not follow the book slavishly, but you will need to keep up with required readings; and will find it a necessary and valuable reference work as well]

Lab: No Text Required – Lab Handouts will be provided every week.

COURSE REQUIREMENTS
ATTENDANCE is mandatory in lectures AND labs, and you will benefit greatly by attending. I will discuss information that is not writing in your PowerPoint slides and you will be responsible for knowing this material on the exams. See below for missed assignments policy. An abbreviate version of the lectures will be posted on D2L.

STUDENT RESOURCES: All students can have the ability do well in this course. A number of resources will help you do so.
1) An abbreviate version of the lectures will be posted on D2L. I highly recommend coming to lecture and taking notes.
2) Your book! It provides a chapter summary and review questions.
3) Attendance to office hours
COURSE STRUCTURE

1. **Lecture**: will cover the basics biological processes at the level of whole organisms and higher (populations, communities, and ecosystems). **Lecture attendance is mandatory, and prompt arrival is crucial.**

   *Lecture participation:* Students will participate via lecture discussions and presentations, etc. Questions/activities for participation points could be given at any time of any class, including right at the beginning of lectures, so it is crucial to arrive on time.

2. **Laboratory**: The mandatory laboratory portion of this class will reinforce, using a hands-on approach, the 4 major areas of ecological study (i.e., organismal, population, community, and ecosystem). For each area of ecology, we will conduct a complete scientific study following the specific steps of the scientific method and write a scientific report. You will be required to actively participate in each step for your grade.

COURSE CALENDAR

*Tentative Lecture Schedule*

<table>
<thead>
<tr>
<th>FALL 2023</th>
<th>WEEK OF</th>
<th>TOPIC</th>
<th>READINGS</th>
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<tbody>
<tr>
<td>AUG</td>
<td>29-31</td>
<td>Syllabus discussion Intro to Ecology, answering ecological questions, analyzing data</td>
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<tr>
<td>SEPT</td>
<td>5-7</td>
<td>Organisms and their Environment: Temperature, water energy, Physiological ecology</td>
<td>Paper #1</td>
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<td></td>
<td>12-14</td>
<td>Evolutionary ecology: Adaptations Natural selection, Speciation</td>
<td>Paper #2</td>
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<td></td>
<td>19-21</td>
<td>Evolutionary ecology: Sexual selection, Life history, social/behavioral interactions</td>
<td>Paper #3</td>
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<td></td>
<td>26</td>
<td>Population ecology: Distribution and abundance</td>
<td>Paper #3.3</td>
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<td>28</td>
<td><strong>EXAM # 1</strong></td>
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<td>OCT</td>
<td>3-5</td>
<td>Population ecology: Population growth models</td>
<td>Paper #5</td>
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<td>10-12</td>
<td>Population ecology: Life Tables</td>
<td>Paper #6</td>
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<td></td>
<td>17-19</td>
<td>Population ecology: Metapopulations and ecological corridors, Genetic small populations</td>
<td>Paper #7</td>
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<td>24-26</td>
<td>Community Ecology: Community properties, Ecological interactions</td>
<td>Paper #8</td>
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<td>31</td>
<td>Community Ecology: Competition, Predation, Keystone species, etc.</td>
<td>Paper #9</td>
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<td>Nov</td>
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<td><strong>EXAM #2</strong></td>
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<td>7-9</td>
<td>Community Ecology: Disturbance, succession and resilience Patterns of Biological Diversity</td>
<td>Paper #10</td>
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<td>14-16</td>
<td>Ecosystem Ecology: Energy flow and nutrient requirements, Productivity</td>
<td>Paper #11</td>
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<td>21-23</td>
<td><strong>THANKSGIVING BREAK</strong></td>
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<td>28-30</td>
<td>Ecosystem Ecology: Global Biochemical cycles Conservation Biology at multiple scales, threats to Biodiversity</td>
<td>Paper #12</td>
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<td>DEC</td>
<td>5</td>
<td>Conservation Biology: threats to Biodiversity (Continued…) CLASS EVALUATION AND DISCUSSION</td>
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<td>7</td>
<td><strong>EXAM #3</strong></td>
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<td></td>
<td>12</td>
<td><strong>FINAL EXAM (1-3)</strong></td>
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Grading Policy
Your percentage will be calculated out of 750 points for the class. Final grades will be assigned based on the following: A ≥ 90.0%; 90.0% > B ≥ 80.0%; 80.0% > C ≥ 70.0%; 70.0% > D ≥ 60.0%; 60.0% > F. There will be no curve and no individual extra credit.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
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<td>Lecture</td>
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<tr>
<td>Exams</td>
<td>300</td>
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<td>Final Exam</td>
<td>100</td>
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<tr>
<td>Participation: Ecologist presentations/paper readings &amp; discussion</td>
<td>50</td>
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<tr>
<td>Class quizzes/problems/homework</td>
<td>100</td>
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<tr>
<td>Laboratory</td>
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<tr>
<td>Laboratory activities (field and laboratory settings)</td>
<td>200</td>
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<td>Reports and pre-lab quizzes</td>
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<td></td>
<td>750pts</td>
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*NOTE:* The total points value is somewhat tentative. Because labs rely on outdoor activity, some adjustments may have to be made if there is difficulty completing them due to weather, animal activity, etc. Adjustments are at the discretion of Dr. Montañá.

Assignment Details
Lecture grading
All grades are final and will not be changed, except in the case of outright grading errors. We will not accept grade appeals in person -- appeals must be presented in writing, along with the student's work, within one week after the assignment was returned. After that time, appeals will be returned unread. The appeal must detail exactly what error was made: specify the question, give your answer and the answer on the key and explain why your answer is correct. We will evaluate your appeal and make a decision which is final so please craft your appeal carefully.

Exams (300pts)
There will be (3) lecture tests given throughout the semester. All tests will be held in class. The test questions will vary in format, but will likely range from short answers, short/long essay questions, true/false, graphical interpretation, and multiple choices. Rather than testing your ability to memorize definitions, the tests are designed to evaluate your conceptual understanding of the topic and your ability to apply that knowledge to a practical situation.

The lecture exams will cover lectures, text chapters, and any other assigned material (papers, presentation, readings, etc.) discussed in class. I will not provide exam reviews or review sessions. I hold onto all exams, and the exams can be viewed during office hours.

The best way to do well on the lecture exams is to begin studying early and asking questions about subjects that were not clear in class. Usually, my evaluation (i.e., grading) of any given test answer comes down to my determination of how well you understand the topic. Based on my evaluation, I assign a percentage to score your demonstrated level of understanding for each question.
On the exam days, please arrive 10 minutes early, put away books and notes before the exams are distributed, and do not wear hats or earbuds.

Final exam (100 pts)
The final exam is cumulative. It will cover lectures, text chapters, and any other assigned material discussed in class during the semester. More details will be provided by the professor. Note: Students earning a grade of letter “A” through all class activities do not need to take the final exam.

Lecture quizzes/problems/homework (100 pts)
There will be short in-class quizzes and they will cover 1) the material discussed from lectures, material from assigned papers, or material from the unit assignments. Lecture problems and/or homework will also be giving during the semester. Quizzes cannot be made up no matter what the reason for the absence.

Participation: Ecologist’s presentation/paper-reading & discussion participation (50 pts)
Ecologist presentation (20pts): Each student will give a 10-15 minutes powerpoint presentation focused on the research of an influential ecologist/conservation biologist. The presentation should focus and discuss their major research accomplishments and any important studies produced (i.e., peer reviewed publications) during their career. The presentation should focus on their original research studies and not review papers. I strongly encourage students to come see me before they begin preparing the presentation for guidance.

Paper readings & Discussion (30pts): throughout the semester, each student will have 10-15 minutes to lead a short discussion on short paper assigned by the professor. The entire class will read each paper as preparation for a short discussion (10 minutes) and be expected to participate fully in the discussions. Dr. Montaña will assign the papers to the students in advance so that they can prepare for the discussions. Most papers for the discussion are classic papers related to the topic discussed each week. Students are expected to come to class having read the assigned readings and prepare to discuss content and related concepts in a more superficial manner.

To facilitate discussion, each student is encouraged to bring in 1-2 typed questions that they will submit each class. The grade will be determined based on the frequency of their participation as well as thoughtfulness/utility of their contributions to class discussion.

Students’ discussion-participation will be recorded on a scale of 0 through 10 using the following guideline:
0-2 rarely, if ever, contributes;
3-4 occasional participation, but generally non-substantive, adding little new information;
5-6 occasional participation, but generally well thought out, useful contributions;
7-8 regular participation, sometimes useful, sometimes not;
9-10 regular participation, always useful.

Laboratory grading (Please refer to the Lab Syllabus for more details)
The labs will be held in the classroom (room 134) but also outdoor on SFA campus facilities. Be prepared to be outside and in the elements. This is an ecology lab and we will be getting our hands dirty.
There will be weekly reports based on each week lab activities. If the week lab is missed without substantial justification, the report cannot be accepted the following week.

**Prelab quizzes** will be taken at the **beginning of lab sessions**. Prelab quizzes will cover concepts (boldface words) and lab procedures for the day. You need to familiarize yourself with the day’s activities. **Missed lab quizzes CANNOT be made up!**

**Specifics for labs will be presented in the special lab syllabus.**

*Some lab activities will take place outdoor in terrestrial and water ecosystems. When outdoor, in the field, each student should dress appropriately, i.e., no sandals or flip-flops. Rather, each student should purchase an inexpensive pair of rubber boots, waters or hip waders. Boots, light long pants and long-sleeve shirts are ideal for fieldwork. When being outdoor, we are exposed to wild animals including snakes, ticks and chiggers, so proper attire is necessary.*

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**CLASS RULES**

1. **Communicating to your professor:** Email will be the primary means of communication for the course. So please, check your email often.
   - Any correspondence to your professor should follow the following format:
     - **Subject line:** BIdOL-3481/3081Lab
     - **to whom (Dr. or professor Montana),**
     - **Statement (xxxxxxxxxxxxxxxxxxxxxxxx)**
     - Thank you
     - Student’s name.

   The professor has the right of not answering emails to those students that fail to follow this format.

   **Note:** Do not contact me via D2L as I do not utilize that method for class communication.

   For any correspondence with Dr. Montana, please use her official university email: montanascg@sfasu.edu

2. **Attendance policy:** Attendance is mandatory and you will benefit greatly by attending. Unexcused absences from lecture and laboratory will affect your lab grade as you will not be allowed to make up quizzes, or participate in class discussion, or submit lab reports without participation in lab activities.

3. **Grades cannot be discussed via e-mail at any time** due to federal law. I will speak to you in person instead during my office hours. DO NOT involve a third-party who is not affiliated in an official capacity with SFASU (e.g., friend, roommate) in any matters pertaining to your enrollment in this course. Your instructor is legally prohibited from discussing most course/grade-related issues with third parties according to the Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99).

4. **Abbreviate lecture notes will be posted online on D2L:** I highly recommend coming to lecture and taking notes. Please note that abbreviate lectures notes will be available to students before the
class time (I recommend printing/downloading them). However, students tend to retain information better by writing it down. Taking photographs of the slides will not be permitted in class. Taking photographs of the slides will constitute as disruptive behavior (see policy below).

5. **Completing assignments:** It is your responsibility to complete assignments in a timely manner. I will not accept any late submissions on discussion questions.

6. **Entering class late:** Entering a lecture late can qualify as disruptive behavior when the student disturbs me during my lecture or disturbs the students around them while becoming situated. See below for more details.

7. **Missed Exams:** The only exception for missing the final in-class exam is if the absence is planned and approved by the instructor at least 15 days prior to the date of absence or upon receipt of a documented medical excuse or an excuse provided by the office of the Vice President for Academic Affairs. In this case an alternative date for the exam will be given.

8. **Disruptive behavior policy:** A student may be asked to leave the classroom for any behavior I find disruptive. A first offence will not be penalized; however, further offences may be penalized with a disciplinary action (see **Academic Integrity (4.1):** [see](https://www.sfasu.edu/docs/policies/10.4.pdf)

9. **Plagiarism policy:** A first offence will be penalized with a zero that cannot be dropped. A second offence will be penalized be penalized with a disciplinary action (see **Academic Integrity (4.1):** [see](https://www.sfasu.edu/docs/policies/10.4.pdf)

10. **Extra credit:** There will be NO PERSONAL extra credit or bonus point opportunities under any circumstance or for any reason. I reserve the right to assign class bonus points at any time.

**CLASS POLICIES**

**Conduct Policy:** *Usage of tobacco products is not permitted in this class.*

**Academic Integrity (4.1):** [see](https://www.sfasu.edu/docs/policies/10.4.pdf)

*The Code of Student Conduct and Academic Integrity* outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data,
laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.

Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.

**Withheld Grades Semester Grades Policy (5.5):** Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. For additional information, go to https://www.sfasu.edu/policies/course-grades-5.5.pdf.

**Students with Disabilities:** To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

**Acceptable Student Behavior:** Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.
**Responsible Use of Technology**: It is expected that all students will only use cell phones, PDAs, laptop computers, MP3 players and other technology outside of class time or when appropriate in class. Answering a cell phone, texting, listening to music or using a laptop computer for matters unrelated to the course may be grounds for dismissal from class or other penalties.

**Student Wellness and Well-Being** SFA values students’ overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

**On-campus Resources:**
**The Dean of Students Office** (Rusk Building, 3rd floor lobby)
[www.sfasu.edu/deanofstudents](http://www.sfasu.edu/deanofstudents)
936.468.7249
dos@sfasu.edu

**SFA Human Services Counseling Clinic** Human Services, Room 202
[www.sfasu.edu/humanservices/139.asp](http://www.sfasu.edu/humanservices/139.asp)
936.468.1041

**The Health and Wellness Hub** “The Hub”
Location: corner of E. College and Raguet St.

To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:
- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education
[www.sfasu.edu/thehub](http://www.sfasu.edu/thehub)
936.468.4008
thehub@sfasu.edu

**Crisis Resources:**
- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- johnCrisis Text Line: Text HELLO to 741-741
I, ______________________, SFA ID# __________________________ have read and agree with the information presented in this document “Syllabus for BIOL3481 General Ecology, Fall 2023”

Student’s Signature: ______________________

Date: ______________________________