

Tohono O'odham Community College



Syllabus

BIO 109N: Natural History of the Southwest

Course Information

Course Prefix/Number: Bio 109N Semester: Fall 2016 Class Days/Times: M-W 12:30-3:15 Field trip to: Kitt Peak (October 5) Arizona-Sonoran Desert Museum (TBA)	Credit Hours: 4 (3 lec; 3 lab periods) Course Title: Natural History of the Southwest Room: Main Building, MB22
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Instructor Information:

Name: Adrian Quijada, Ph.D.

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Office hours: by appt.

Course Description: Study of the common plants and animals of the southwest. Includes their distribution, adaptation, behavior and ecology. Also includes physical geography and geological principles of the region.

Student Learning Outcomes (SLOs) :

After completion of the course students will be able to

1. Apply basic geological principles to interpret the physical setting of the Southwest.
2. Apply meteorological and biological principles to describe the formation of the major biotic communities in the Southwest.
3. Describe major desert adaptations and the process of natural selection.
4. Identify common plants and animals of the Southwest.
5. Demonstrate skills necessary for life-long learning of natural history, including conducting scientific research

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Course Structure:

This course is the integrated version of the course where the lecture and labs are taught simultaneously. Since this a field-based course, many of the labs will consist of in-class field trips as well as one all-day out of class field trip. The lecture portion of this course consists of eleven units with one to two PowerPoint lectures, a study guide and a quiz. In addition, there will be assigned readings, films, in-class activities, and discussions. This course includes two projects: an individual field research project and a class project which involves the creation of a short interpretive program or display. The course also includes four identification quizzes on the names of common plants and animals of the Sonoran Desert.

Course Assessment:

Course assessment consists of eleven lecture quizzes, four identification quizzes, discussions, short written assignments, informal in-class assessments, laboratory reports, an independent research project and a class research project. The individual research project consists of a research proposal, field work, a paper and a class presentation. The class project is the creation of an interpretive naturalist presentation or display which blends culture, science and art and will be presented or displayed at both TOCC and the Arizona-Sonoran Desert Museum. Study guides will be available to help you prepare for quizzes. In accordance with my teaching philosophy in which I believe student learning occurs primarily through hands-on, real world application of course materials, quizzes comprise 50% or less of the final grade (although they are still an important aspect of course assessment and your grade). In order to facilitate on-going faculty-student feedback and provide formative assessment, many class projects are divided into smaller intermediate steps such as topic choice, project proposals, and rough drafts. I welcome student feedback about the course anytime. I will also provide students an opportunity to give me feedback on their course experience through an anonymous mid-course and final course evaluation.

Texts and Materials:

A Natural History of the Southwest by Arizona-Desert Museum.

Web Resources:

- *TOCC Plant Atlas* (<http://www.tocc.edu/plants>)
- *Desert Ecology of Tucson* website by Brad Fiero: (<http://wc.pima.edu/~bfiero/tucsonecology/index.htm>)

Evaluation	Points	Percent of Total Points
Attendance	240 points	24%
Identification Quizzes	100 points	10%
Reflections, Videos	220	16%
Field Trips	160	22%
Independent Research Project	130 points	28%
Total	1000 points	100%

Himdag Cultural Component:

The theme of this course is the O'odham Ni'oki (the language) and T-ki:dag (our home, the land). We

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explore and connect more deeply with T-ki:dag by learning about the plants and animals of the Sonoran desert including their habitat. We learn and reinforce O'odham Ni'oki by learning the names of plants and animals both in O'odham and in English. During this course, the students will also have an opportunity to compare and contrast the O'odham way of knowing and scientific methodology using both a traditional story and material on Science presented in a PowerPoint. They will also learn about indigenous taxonomy, traditional ecological knowledge and principles of ethnobiology which incorporates language, culture and biology. They will apply their knowledge of the the Himdag and natural history through the creation of an interpretive naturalist program or product which blends culture, science and art.

Policies and expectations-

Course Policies Requirements: (1) **Attend class regularly;** (2) Complete in-class and out-of-class assignments and submit to the instructor; (3) Attend all field trips; (4) Take all exams (5) Complete all class projects & presentations.

Attendance: You are expected to arrive to class on time and actively participate each class period. Quizzes and exams are given out at the beginning of class time. Field trips and class activities begin at the start of class and may be missed if you do not arrive to class on time. Because exams, labwork and/or other assignments potentially occur every class period, points potentially will be lost each class period missed. If you miss all or a portion of a class, then you are solely responsible for obtaining missed class material from fellow students. Complete attendance is mandatory during student project presentations; otherwise presentation points will be forfeited. Four consecutive, unexcused absences may result in withdrawal. You may request to be excused from class for religious observances and practices, for illness, for travel or for personal or family emergency. If you will be absent or have been absent, please notify the instructor as soon as possible.

Make-up policy: Missed exams can be made up within two days of the exam date. Late assignments that can be made up will be accepted but will be penalized 25%. Laboratories and field trips cannot be made up. At the instructor's discretion, extra credit opportunities and optional activities may be provided.

Academic Integrity: Violations of scholastic ethics are considered serious offenses by Tohono O'odham Community College, the Student Services Department, and by your instructor. Students may consult the TOCC Student Handbook sections on student code of conduct, on scholastic ethics and on the grade appeal procedure. Copies are available at Tohono O'odham Community College. All work done for this class must be your own. While you may discuss assignments with other class members, the final written project must clearly be your own. You may use work from books and other materials if it is properly cited. Copying from a book without proper reference or from a person under any circumstances will result in an "F" for the assignment, and at the instructor's discretion, possibly an "F" for the course.

ADA Compliance:

Tohono O'odham Community College strives to comply with the provisions of the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. If you have a learning problem, physical disability, or medical illness that requires you to have any special arrangements, please inform your instructor at the beginning of the semester so your academic performance will not suffer because of the disability or handicap.

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Classroom Behavior:

- Because of insurance limitations, non-registered visitors are not allowed at class sessions or on field trips.
- Possession of drugs, alcohol or firearms on college property is illegal.
- Food and beverages are allowed in classrooms.
- Pets, telephones, pagers and other electronic devices that distract students are not allowed in classrooms. *Phone use during class will result in removal from the class for the rest of the period.*
- Students creating disturbances that interfere with the conduct of the class or the learning of others will be asked to leave.

Course Feedback:

All assignments, written papers and quizzes will be graded and returned to the students one week after the assignment is due. E-mail and phone messages will be returned within two days. A student or the instructor may request a student conference at any time during the semester. A mid-semester grade report will be provided to each student by October 15th.

Instructor Withdrawals:

Students who have missed four consecutive classes, not submitted any assignments nor taken any quizzes by the 45th day census report, due on October 1st, 2014 are assumed NOT to be participating in the class and will be withdrawn. Students may withdraw from class at any time during the first 2/3 of the semester without instructor permission and without incurring any grade penalty. Please be sure to **withdraw yourself by October 31st, 2014 if you do not expect to complete the class**, otherwise you may receive an "F" grade.

Incomplete (I) grade:

"I" grades are not awarded automatically. The student must request an "I" from the instructor who will judge the student's ability to complete the course on his or her own. Generally the student must have completed over 80% of the course requirements with at least a "C" grade. An "I" requires a written contract between the student and the instructor listing work to be completed as well as how and when the work will be done. If the work is not completed within the contract period, the "I" grade automatically reverts to an "F." "I" grades will not be re-evaluated during the final two weeks of the semester when class activities are normally at their most intense.

Special Withdrawal (Y) grade:

The "Y" grade is an administrative withdrawal given at the instructor's option when no other grade is deemed appropriate. Your instructor must file a form stating the specific rationale for awarding this grade. "Y" grades are discouraged since they often affect students negatively. Your instructor will not award a "Y" grade without a strong reason.

Final Grades: Students will receive a grade transcript from the college mailed to the address given with registration materials at the end of the semester when all grades have been recorded.

SPECIAL NOTE TO STUDENT:

For privacy and security reasons, instructors are advised **NOT** to give grades over the telephone. Grades will only be emailed with written permission from the student.

Your instructor will make every attempt to follow the above procedures and schedules, but they may be changed in the event of extenuating circumstances.

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Students submitting assignments through the mail or by email are advised to make copies for their own protection.

If you move during the semester, please file a change of address form with the Student Services Office, and inform your instructor.

Course Outline & Schedule:

Topic	Schedule
I. Natural History and the Scientific Method	August Week 2
II. Physical Geography of the Southwest	August Week 3
A. Formation	September Week 1
1. Geological principles	
2. Geological history of the southwest	September Week 2 Guest Lecturer Dan Aiken (Field Trip to Kitt Peak)
B. Climate	September Week 3
III. Biotic Communities of the Southwest	September Week 4
FIELD TRIP: Arizona-Sonora Desert Museum	October Week 1
A. The four deserts	
B. Other biotic communities	October Week 2
IV. Desert Adaptations	
A. Natural selection as a mechanism	
B. Plants	
C. Animals	
V. Common Plants and Animals	October Week 3
A. Interrelationships	
B. Identification and natural history of selected species	October Week 4
1. Plants	
2. Invertebrates	
3. Fish, amphibians, reptiles	
4. Birds	
5. Mammals	
VI Student Presentation of Individual Projects	November Week 4 December Week 1

FINALS

DISCLAIMER: This syllabus is designed to evolve and change throughout the semester based on class progress and interests. You will be notified of any changes as they occur.