

# Tohono O'odham Community College



## Syllabus: **BIO 105N: Environmental Biology**

“In this new millennium it is more important to defend the rights of the Mother Earth to guarantee human rights.”  
Evo Morales

### Course Information

Course Prefix/Number: Bio 105N	Credit Hours: 4 (3 lec; 3 lab periods)
Semester: Spring 2018	Course Title: Environmental Biology
Class Days/Times: MW 12:30 to 3:15 p.m.	Room: GSK5

#### Instructor Information:

Name: Adrian Quijada, Ph.D.

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Office Location : Hamascamdah Ha-Ki ; Room 108

Office hours: By appt.

**Course Description:** Fundamentals of ecology and their relevance to human impact on natural ecosystems. Includes ecosystem structure and function, population dynamics, and human impacts on air, water, land, and biodiversity.

#### Student Learning Outcomes (SLOs) :

After completion of the course students will be able to .....

1. Synthesize ecological principles into an understanding of how the Earth functions.
2. Apply ecological principles to understand human impact on the environment.
3. Evaluate scientific basis of environmental issues.
4. Describe possible causes and analyze potential solutions to current environmental issues.
5. Demonstrate skills necessary for life-long learning, critical examination, and personal decisions relative to environmental biology.

# Tohono O'odham Community College

**Course Structure:**

This course is an integrated lab/lecture course where the labs are integrated into the regular class periods. This course consists of ten units. Each unit consists of PowerPoint lectures, assigned reading, films, in-class activities, discussions, an article review, laboratory project and an exam. This course also includes three field-based, place-based projects which integrates culture, math and ecology.

**Course Assessment:**

Course assessment consists of exams, discussions, short written assignments, informal in-class assessments, laboratory reports and a collaborative service learning project which includes a paper and class presentation. Study guides will be available to help you prepare for exams. In accordance with my teaching philosophy in which I believe student learning occurs primarily through hands-on, real world application of course materials, exams usually 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. Student-to-student assessments are also included in this course though peer review of group participation and written assignments. 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:**

Required Text: Richard T. Wright & Dorothy T. Boorse. Environmental Science: Toward a Sustainable Future, 3d Edition. Benjamin Cummings.

<b>Evaluation:</b>	<b>Points:</b>	<b>Percent of Total Points:</b>
Exams & Quizzes	<b>380 pts</b>	<b>38%</b>
Labs/Field Trips	<b>312 pts</b>	<b>31.2%</b>
Viewpoint Paper	106 pts	10.6%
Discussions/Reflective Writing/Assignments	17 pts	1.7%
In-class participation and attendance	<b>185 pts</b>	<b>18.5%</b>
TOTAL	1000	100%

# Tohono O'odham Community College

## **Himdag Cultural Component:**

The theme of this course is the Himdag core value deep respect (*T-Pi:k*) which lays the foundation for responsible stewardship of the earth. During this course, the students 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. There is also a discussion on how Himdag values promote biodiversity. The Service Learning Project helps students learn to work together (*l-we:mta*) and also includes an opportunity for students to reflect on how their project supported or reflected Himdag values in their final paper.

## **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, lab work 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 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.

# Tohono O'odham Community College

## **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.

## **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.
- 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 12th.

## **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 September 29, 2016 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 26<sup>th</sup>, 2016 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.

# Tohono O'odham Community College

**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.

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.

GOOD LUCK!

## **Course Outline**

### **I. FRAMEWORK FOR A SUSTAINABLE FUTURE (Jan week 3,4)**

1. Science and the Environment
2. Economics, Politics, and Public Policy

Workshop: The American Psychological Association (APA) writing style.

### **II. ECOLOGY: THE SCIENCE OF ORGANISMS AND THEIR ENVIRONMENT (Feb Week 1, 2)**

3. Basic Needs of Living Things
4. Populations and Communities
5. Ecosystems: Energy, Patterns, and Disturbance
6. Wild Species and Biodiversity
7. The Use and Restoration of Ecosystems

### **III. THE HUMAN POPULATION AND ESSENTIAL RESOURCES (Feb Week 3, 4, March Week 1)**

8. The Human Population
9. Population and Development
10. Water: Hydrologic Cycle and Human Use
11. Soil: Foundation for Land Ecosystems
12. The Production and Distribution of Food
13. Pests and Pest Control

### **IV. HARNESSING ENERGY FOR HUMAN SOCIETY (March Week 4)**

# Tohono O'odham Community College

14. Energy from Fossil Fuels

15. Nuclear Power

16. Renewable Energy

V. POLLUTION AND PREVENTION (April Week 1,2, 3)

17. Environmental Hazards and Human Health

18. Global Climate Change

19. Atmospheric Pollution

20. Water Pollution and Its Prevention

21. Municipal Solid Waste: Disposal and Recovery

22. Hazardous Chemicals: Pollution and Prevention

VI. STEWARDSHIP FOR A SUSTAINABLE FUTURE (April Week 4)

23. Sustainable Communities and Lifestyles

**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.

# Tohono O'odham Community College

<b>BIO 105 SPRING 2017--Grade Tracking Form</b>	<b>Points to be Earned</b>	<b>Points Earned</b>
Quiz Science	10	
EXAM 1-Foundations & Ecology	100	
EXAM 2--Ecology & Human Populations	100	
EXAM 3--Economics, Policy, Water & Climate Change	100	
Reflection: Social Traps	12	
Reflection: Creation Stories & Environmental Ethics	12	
Reflection: Homeland Video (Parts 3 & 4)	12	
Reflection: Wind & the Rain Story	12	
Reflection: Sustainability & Easter Island	12	
Reflection: T-imigi & Interrelationship	12	
Lab: Biodiversity/Scientific Method	10	
Lab: Carbon Footprint	10	
Lab: Desert Ecology: Proposal	15	
Lab: Desert Ecology Project: Field Work	16	
Lab: Desert Ecology Project: Data Analysis/Prep	16	
Lab: Desert Ecology Project: Presentation	16	
Assnmt: Rule of 70	10	
SWNL Field Trip 1—Biodiversity	80	
SWNL Field Trip 1--Biodiversity Reflection	10	
SWNL Field Trip 2--Water Resources	80	
SWNL Field Trip 2--Water Resources Reflection	10	
Viewpoint Question	10	
Viewpoint Paper	50	
Viewpoint Presentation	20	
Final Class Presentation	30	
Video: Homeland Parts 1 & 2	10	
Video: Birdsong and Coffee	10	
Video: Strange Days on Plant Earth--Predators	10	
Video: Cadillac Desert	10	
Video: Inconvenient Truth	10	
Attendance & in class participation	185	
<b>Total Points Earned</b>	<b>1000</b>	