



Syllabus: BIO 105N-1 Environmental Biology

Course Information

Course Title: Biology Concepts

Course Prefix/Number: BIO 105N-1

Semester: Spring 2022

Class Days/Times: Online (Course is delivered online in an asynchronous modality)

Credit Hours: 4 (includes lab)

Prerequisites: None

Instructor Information

Name: Kimberly Danny, M.S.

Office Phone/Voice Mail: (520) 479-2300 Ext. 1518

E-mail: kdanny@tocc.edu

Office location: Ha-Maşcamdam Ha-Ki: (Faculty Building), Room 121, S-Cuk Du'ag Maşcamakuḍ (Main Campus), Sells, AZ

Office hours:

- In-person: Tuesdays & Thursdays 1:45-2:45 PM
- Zoom: <https://us06web.zoom.us/j/9262129224>
 - BIO 100N Study Session (Optional): Monday 4:45-5:30 PM
 - BIO 105N Study Session (Optional): Monday 5:30-6:15 PM
 - Open to all: Wednesdays 12-1:30 PM
- Or by appointment

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

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.

Course Structure

BIO 105N will be delivered online and asynchronously, meaning that the class will not convene on any specified day or time. This type of course requires good time management skills and the ability to learn independently. Ideally, you should schedule the equivalent of 6 hours course time plus 12 hours per week for homework and assignments. Although the time you dedicate to this course is flexible, there are course deadlines for assignments.

This course is divided into three modules, each with a broad focus. The modules are *Fundamentals of Ecology*, *Sustaining Life on Earth*, and *Food, Energy, and Water Systems*. Each module generally consists of the following elements:

- Weekly units with weekly reading assignments from the text and PowerPoint presentations
- Assignments, labs, and online discussions
- One Individual or Group Project
- One Online Exam

Attendance is counted by the completion of a week-specific assignment (e.g. Week 1 discussion) every Monday. Please note that your attendance does not factor into your final grade, but is used to determine student retention and/or withdrawal from the course.

There will be an optional Zoom meeting Mondays from 4:45-5:30 PM MST (Arizona time). This optional meeting will be a space where BIO 100N-1 and BIO 100N-2 students can ask questions, review content, and more. If this Zoom meeting is cancelled or rescheduled, I will make an announcement in Canvas.

Course Learning Materials and Textbook Information

Canvas, <https://tocc.instructure.com/login/canvas>

I highly recommend bookmarking Canvas on your web browser and/or downloading the “Canvas Student” app and setting notifications to your preference. All assignments, quizzes, lab reports, and presentations should be submitted via Canvas. I will only accept assignments by email in unavoidable cases. Please note that assignments submitted via email are more likely to get lost or graded later than the rest of the class.

Textbook

This course textbook is Environmental Biology by Matthew R. Fisher. This is a free open-source textbook which can be found at <https://openoregon.pressbooks.pub/envirobiology/>. If you would like to read the book off-line, be sure to download it onto your computer. You will need to open the document in Acrobat Reader or Microsoft Edge.

Other Materials

You will also need the following basic household items to complete the online labs: 25-foot measuring tape or ability to measure distance with your Smartphone, a meter stick, and a Smartphone for taking photos for uploading to assignments.

Course Outline and Important Dates

Course Outline (see schedule for specific dates):

- | | |
|--------------------------|----------------------|
| I. Environmental Biology | III. Humans on Earth |
| A. Science | A. History |
| B. Scientific method | B. Population |

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.

II. How the Earth Works

- A. Climate and biomes
- B. Ecology
 - 1. Ecosystem components
 - 2. Energy flow and biogeochemical cycling
 - 3. Natural selection and evolution
 - 4. Population and community ecology

C. Economics and politics

IV. Human Impacts

- A. Biodiversity
 - 1. Description and importance
 - 2. Impacts upon and management
- B. Water
 - 1. Resources
 - 2. Uses and management
- C. Land

Important Dates

The TOCC 2021-2022 Academic Calendar can be viewed at the following webpage: https://tocc.edu/wp-content/uploads/2021/10/2021-2022-Academic-Calendar-10.29.2021_MSC.pdf.

Evaluations and Grading & Assignments

Your grade will be determined by the following:

GRADE	PERCENTAGE (%)
A	90-100
B	80-89.9
C	70-79.9
D	60-69.9
F	0-59.9

Evaluation	Number of Assignments	Points per Assignment	Total Points	Approximate Percentage of Grade
Discussion Boards	15	20	300	20%
Weekly Reading Assignments	15	10	140	9%
Assignments	15	20	300	20%
Exams	3	100	300	20%
Module Projects	3	180; 140; 150	470	31%
Total			1510	100%

Himdag Cultural Component

Tohono O'odham traditions and cultural beliefs will be discussed as relevant course topics, and only as appropriate to the Tohono O'odham Nation's traditional standards for sharing information as determined by the *Himdag* committee.

Policies and Expectations**Attendance Policy (Asynchronous Online Classes)**

You are expected to complete all learning activities, participate in class, assignments, and quiz by the due dates listed in the course syllabus. Four consecutive missed due dates may result in a letter grade of "F" or an instructor withdrawal "FW" (see 45th-Day Instructor Withdrawal policy below). You may request to be

excused from class for religious observances and practices, for illness, for school or work-related travel, or for personal or family emergencies. If you will be absent, please notify the instructor as soon as possible.

Covid-19 Incomplete Policy

A student may be considered for an incomplete (I) if:

1. The student completed 50% of the course. (Note: Students who have emergencies before 50% of the course is complete should withdraw "W" from the course).
2. While completing the course the student was in "good standing" (i.e. had a grade of "C" or better and had good attendance).
3. The reason for not completing course was COVID related (ex. student contracted COVID, student had to care for someone with COVID or had to take on major care taking roles, had a change in jobs, etc.)

For the incomplete, the Instructor must develop a plan with student and obtain permission from the student to grant an Incomplete. The student has until the end of FALL 2022 to complete the course. Failure to complete the required plan will result in the incomplete (I) being replaced by a grade of F.

45th–Day Instructor Withdrawal Policy (FW), Asynchronous Online Classes

Students who have missed four (4) consecutive course due dates for learning activities, participation, assignments, quizzes, exams, by the 45th-day census report, due on **March 4, 2022** are assumed NOT to be participating in the class and may be withdrawn at the faculty member's discretion. After the 45th - day census, if a student needs to stop attending a course, they must withdraw from the course (see Student Withdrawal Policy below).

Student Withdrawal (W)

Students may withdraw from class at any time during the first two-thirds (2/3) of the semester without instructor permission and without incurring any grade penalty. Please be sure to withdraw yourself by **March 30, 2022**, if you do not expect to complete the class, otherwise you may receive an "F" grade. For more information on the student withdraw process email admissions@tocc.edu.

Special Withdrawals (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.

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, or the original work of your group. While you may discuss assignments with other class members, the final written project must clearly be original. 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. If you are uncertain about proper citations, ask your instructor or the librarian.

Course Feedback

All assignments will be graded and returned to the students promptly, typically within a week after the assignment is closed for handing in. Email 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. Quarterly grade reports will be provided to each student, either in person, by email or via the electronic system of Canvas.

Equal Access Statement/Disability Accommodations

Tohono O'odham Community College seeks to provide reasonable accommodations for qualified individuals with disabilities. The College will comply with all applicable regulations, and guidelines with respect to providing reasonable accommodations as required to ensure an equal educational opportunity. This process includes self-identifying as a student with a disability, providing supporting documentation of their disability, and being approved for services through the Disability Resources Office (DRO). It is the student's responsibility to make known to their instructor(s) the student's specific needs within the context of each class in order to receive appropriate accommodations. We will work together in order to develop an accommodation plan specifically designed to meet the individual student's requirements.

For more information or to request academic accommodations, please contact: Anthony Osborn, TOCC Disabilities Resource Coordinator, aosborn@tocc.edu, or 520-383-0033 for additional information and assistance.

Title IX

Tohono O'odham Community College encourages each student to have the knowledge and skills to be an active bystander who intervenes when anyone is observed or being harassed or endangered by sexual violence. Sexual discrimination and sexual violence can undermine students' academic success and quality of life on campus and beyond. We encourage students who have experienced or witnessed any form of sexual misconduct to talk about their experience and seek the support they need.

Confidential support and academic advocacy can be found with: Student Services Title IX Coordinator/Counselor, Alberta Espinoza, M.Ed. located in I-We:mta Ki: Room 18. Phone: (520) 479-2300 Extension 1210. Email: aespinoza@tocc.edu.

Conduct: Bias, Bullying, Discrimination and Harassment

Tohono O'odham Community College faculty and staff are dedicated to creating a safe and supportive campus environment as a core value. Harassment based on age, class, color, culture, disability and ability, ethnicity, gender, gender identity and expression, immigration status, marital status, political ideology, race, religion/spirituality, sex, sexual orientation, and tribal sovereign status will not be tolerated.

Instructor Policies and Expectations

Course Policies

- Class participation and preparation are essential to student success. Students must read textual material, prepare for projects, and complete required research as stated on the course schedule.
- No work is accepted after the last day of classes unless specified.
- Unacceptable student behavior is also detailed in the TOCC Student Handbook under Student Code of Conduct Violations.

Netiquette

(Adapted from Association of College & University Educators participation norms)

BIO 105N includes discussion boards and other opportunities to provide feedback to fellow participants. Maintaining appropriate etiquette for online forms of communication—or netiquette—is crucial to ensuring that these discussion forums offer a rich learning experience for all participants. Learners are asked to kindly follow six norms for proper netiquette:

1. **Actively participate.** A greater number of voices enriches the course. Engaged learners can further their understanding of biology concepts through discussions and group activities.
2. **Read and respond to the discussion threads.** Learning is enhanced by engaging in meaningful discussions. A discussion does not take place by solely reading and responding to the initial prompts, but rather by reading other classmates' posts and providing feedback, offering encouragement, and sharing relevant resources.
3. **Embrace the diversity among learners.** Learners benefit from the exchange of diverse perspectives and experiences. Everyone is expected to be respectful of these differences.
4. **Be timely.** Discussions are most beneficial when people respond to one another in a timely manner. Please do your best to stay on track to maximize learning.
5. **Be specific.** Please provide specific evidence from instructional materials or your own classroom experiences when posting to the discussion forums. Citing evidence whenever possible allows you to effectively support your ideas.
6. **Use an appropriate tone and language.** Without nonverbal cues, humor and sarcasm can be mistaken as cold or insulting. Please be aware of your use of tone and language before submitting discussion posts.

Late Work

- **If you are experiencing hardships, please contact me as soon as possible so we can attempt to work something out.**
- Late work is accepted until a certain date. Each assignment will have a hard deadline, after which no submissions will be allowed.
- Extra credit opportunities and optional activities are provided at the instructor's discretion.
- A missed exam or presentation with no communication prior, during, or after the due date, the assignment will be marked zero.

Courses Schedule

This schedule 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.

Key: Wk = Week W_D_: Week _ Discussion

Module 1: Foundations - Environmental Ethics, Ways of Knowing & Ecological Principles

Date	Wk	Important dates	Chapter #: Sections	PowerPoints	Assignments (Might include additional readings)
1/18-1/24	0	T 1/18: 1 st Day of Instruction		Getting started	W0D: Self Introduction Course and Syllabus Quiz
1/18-1/24	1	F 1/21: Course Registration Deadline	Ch. 1: 1.1 and 1.3.	Intro to Course Social Traps	Week 1 Quiz W1D: Social Traps
1/24-1/31	2	M 1/31: Full Refund for Dropped Course(s)	Ch. 1: 1.2, 1.4, and 1.5.	Intro to Environmental Science Intro to TEK Science	W2DA: Honorable Harvest W2DB: Indigenous Knowledge and Sustainability Week 2 Quiz
1/31-2/7	3		Ch. 2: 2.1 (pages 35-37), 2.2 & 2.4. Ch. 3: 3.1 & 3.2.	Ecology I: Ecosystems	Experimental Design Activity Prep for Ecology Lab Part I Ecology Research Question W3D: Four Elements Week 3 Quiz
2/7-2/14	4	F 2/11: Week 4 Progress Report	Ch. 4: 4.1 & 4.2.	Ecology II: Ecology Overview & Species Distribution Ecology II: Population Ecology	Prep for Ecology Lab Part II--Survey Methods Ecology Proposal Strange Days on Planet Earth: Predator Video Week 4 Quiz
2/14-2/28	5 & 6	M 2/21: President's Day – College Closed	Ch. 3: 3.1. Ch. 4: 4.4.	Ecology III: Communities	Ecology Fieldwork, Data Analysis, and Report Ecology Research Presentations and Peer Review Week 5/6 Quiz Exam 1

Module 2: Sustaining Diversity of Life on Earth

Date	Wk	Important dates	Chapter #: Sections	PowerPoints	Assignments (Might include additional readings)
2/28-3/7	7	F 3/4: 45 th -day Census	Ch. 4: 4.3	Human Populations	Discussion: Results of Ecological Footprint Quiz Easter Island Reading & Assignment Humans and the Anthropocene View Point Paper Week 7 Quiz
Spring Break: 3/7-3/11					

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3/14-3/21	8	M 3/14: Graduation Application Due F 3/18: Week 8 Progress Report	Ch. 3: 3.3 Ch. 5: 5.1, 5.2, 5.3 & 5.4.	Biomes and Biodiversity	Reflection Paper: Values of Biodiversity Lab: HHMI Biomes and Human Impacts Semester mid-point reflection & Introduction to the Man in the Maze Week 8 Quiz
3/21-3/28	9	M 3/21: Summer & Fall Registration Opens	Ch. 5: 5.5 and 5.6	Environmental Policy & Law Conservation Biology	Intellectual Property Rights/Bioprospecting Case Study Intellectual Property Rights/Bioprospecting Discussion Week 9 Quiz
3/28-4/4	10	W 3/30: Student Withdrawal Deadline	Ch. 9. All sections	Environmental Economics & Sustainability	Viewpoint Paper Outline Sustainability Discussion Ecosystems Services Discussion Weekly Reading Assignment
4/4-4/11	11				Viewpoint Report due Viewpoint Presentations due Viewpoint Presentation Discussion Exam 2

Module 3. Food, Energy, Water, & Health Systems

Date	Wk	Important dates	Chapter #: Sections	PowerPoints	Assignments (Might include additional readings)
4/11-4/18	12	F 4/15: Week 12 Progress Report	Ch. 7: 7.1, 7.2 & 7.3 Ch. 10: 10.4	Climate Change and the Greenhouse Effect Water Resources and Climate Change	Water Footprint Where Words Touch the Earth Climate Change Impacts on Water in the Southwest Week 12 Quiz
4/18-4/25	13		Ch. 8: All sections.	Climate Change & Agriculture in Arid Lands Climate Change Adaptation & Mitigation	Where does my food come from? Climate Change, Agriculture and Food Discussion Week 13 Quiz
4/25-5/2	14		Ch. 6: 6.1 and 6.2 Ch. 11: All sections	Climate Change & Health Environmental Health	How Much Carbon Do You Spew? Climate Change Impacts on Health & Energy in my Region Connecting Climate, Food, Water and Health Week 14 Quiz
5/2-5/6	15	F 5/6: Last day of class			Man in the Maze Reflection Exam 3
5/13	-	Course Grades Due			