



Syllabus: BIO 100N Biology Concepts

Course Information

Course Title: Biology Concepts

Course Prefix/Number: BIO 100N-1

Semester: Fall 2020

Class Days/Times: Monday & Wednesday, 9 AM – 11:45 AM

Credit Hours: 4 (includes lab)

Prerequisites: None

Instructor Information

Name: Kimberly Danny, M.S.

Cell Phone/Voice Mail: (928) 380-5536

E-mail: kdanny@tocc.edu

Office location: Ha-Maşcamdam Ha-Ki: Room 121

Office hours: Monday through Thursday, 12 PM – 1:15 PM and by appointment

Course Description

Basic principles and concepts of biology. Includes methods of scientific inquiry, cell structure, chemistry, metabolism, reproduction, genetics, molecular biology, evolution, ecology, and current issues in biology. Lecture and lab are taught simultaneously.

Student Learning Outcomes

After completion of the course students will be able to:

1. Perform activities to demonstrate improvement in the general education goals of communication, critical thinking and mathematics.
2. Describe characteristics of living organisms that distinguish them from non-living constituents of the biosphere.

3. Utilize scientific methods to formulate and answer questions and discuss its strengths and limitations.
4. Describe and explain the properties and roles of biologically important molecules, including proteins, carbohydrates, lipids, and nucleic acids.
5. Describe the structure and function of cells and cellular components in single and multicellular organisms.
6. Describe how energy is acquired and used by living organisms.
7. Describe how traits are inherited and apply patterns of inheritance.
8. Explain the molecular biology of genes and their expression.
9. Describe potential impacts of genetic technologies on society.
10. Explain possible origins of life on Earth and mechanism(s) of evolution that help us account for the amazing diversity of life we now find on our planet.
11. Explain how the flow of energy through an ecosystem influences its structure.
12. Describe how organisms interact with each other and their environment.
13. Apply biological and ecological principles to discuss current issues in human health, and human impact on the environment.

Course Structure

This course will be packed full of biological concepts over the next 15 weeks. Therefore, it is imperative that you do your best not to fall behind. If you are experiencing hardships, please contact me as soon as possible so that I can do my best to help you.

Synchronous (Live) Zoom Sessions. Learners are required to actively engage in the live Zoom sessions. I intend to limit live sessions to 1.5 hours, because I understand how draining it is to be online all day. In the Zoom sessions, please expect a brief lecture, to participate in live discussions, and ask or answer questions.

Asynchronous Tasks and Assignments. Outside of the Zoom sessions, learners will be expected to watch micro-lecture videos, take notes, submit a copy of your notes, participate in asynchronous discussions, submit weekly quizzes, complete online laboratory experiments, and submit laboratory reports.

Exams and Presentations. In addition, four timed exams will be given every 3-4 weeks. Learners will be asked complete two research presentations, one of which will be a group effort and one that will be done individually.

Course Learning Materials and Textbook Information

Textbook

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.

Great news: your textbook for this class is available for **free** online! [Concepts of Biology from OpenStax \(Links to an external site\)](#). ISBN 1-947172-03-4.

You have several options to obtain this book:

- [View online \(Links to an external site.\)](#)
- [Download a PDF \(Links to an external site.\)](#)
- [Order a print copy \(Links to an external site.\)](#)
- [Download on iBooks \(Links to an external site.\)](#)

You can use whichever formats you want. Web view is recommended -- the responsive design works seamlessly on any device.

Virtual Lab

Connect Online Access for Biology Virtual Labs, 1st Ed, By McGraw Hill.

Website:

<https://www.mheducation.com/highered/product/1264045964.html#description1264045964>.

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

I highly recommend downloading the “Canvas Student” app from your phone’s app store and setting notifications to your preference. All assignments, quizzes, lab reports, and presentations must be submitted via Canvas. I will not be excepting any assignments via email.

Zoom

I encourage you to download the Zoom application to your computer, tablet, or phone. You can download Zoom on your device at the Zoom website: <https://zoom.us/download>.

You will be able to access Zoom through Canvas. If you are on accessing the BIO 100N Canvas Course on a computer, you will find a Zoom link in the Course Navigation on the left-hand side. If you are accessing the course on your phone through the Zoom application, the navigation links should pop up after opening the course.

Course Outline and Important Dates

Course Outline

- I. The Nature and Science of Biology
 - a. Characteristics of Living Things
 - b. Scientific Processes
- II. The Chemical and Cellular Basis of Life
 - a. Fundamentals of General and Organic Chemistry

- b. Cellular Structure and Function
 - c. Energy Pathways
- III. Principles of Inheritance
 - a. Cellular Life Cycles
 - b. Patterns of Inheritance
- IV. Molecular Biology
 - a. DNA Structure and Function
 - b. Genetic Technologies and Society
- V. Evolution and Diversity of Life
 - a. Principles of Evolution
 - b. Diversity of Life
 - c. Organismal Structure and Function
- VI. Principles of Ecology
- VII. Current Issues in Biology

Important Dates

| | |
|--|--------------------------------|
| First Day of Classes | August 24, 2020 |
| Add without Instructor's signature | August 24-28, 2020 |
| Add with Instructor's signature | August 31 – September 4, 2020 |
| Labor Day - College Closed | September 7, 2020 |
| Drop/Full Refund Deadline | September 15, 2020 |
| Week 4 - Student Progress Reports Due | September 18, 2020 |
| O'odham Tas - College Closed | September 25, 2020 |
| Fall Break - No Classes | September 28 - October 2, 2020 |
| St. Francis Day - College Closed | October 2, 2020 |
| 45th Day Census | October 8, 2020 |
| Week 8 - Student Progress Reports Due | October 16, 2020 |
| Withdrawal Deadline | November 9, 2020 |
| Week 12 - Student Progress Reports Due | November 13, 2020 |
| Veteran's Day - College Closed | November 11, 2020 |
| Thanksgiving Holiday - College Closed | November 26-27, 2020 |
| Last Day of Instruction | December 11, 2020 |
| Last Day of Class/Final Grades Due | December 15, 2020 |
| Winter Break - College Closed | December 25 - January 1, 2021 |

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 | Weighted Grade % |
|---|-----------------------|-----------------------|------------------|
| In-class Participation | 15 | 15 | 10% |
| Weekly Discussion Boards | 15 | 15 | 15% |
| Weekly Quizzes (2 Lowest Scores Will Be Dropped) | 15 | 100 | 15% |
| Lab Reports | 13 | 100 | 20% |
| Research Presentations (1 group, 1 individual) | 2 | 100 | 20% |
| Exams | 4 | 100 | 20% |
| TOTAL | | | 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

You are expected to arrive to class on time and be prepared to participate in each class period. Four unexcused absences may result in withdrawal and a “W” or “Y” will be recorded. You may

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request to be excused from class for religious observances and practices, for illness, for school or work-related travel or for personal or family emergency. If you will be absent, please notify the instructor as soon as possible (approved by Faculty Senate April 2014).

Incomplete Policy

Incomplete (I) grades are not awarded automatically. The student must request an "I" from the instructor who can choose to award an Incomplete only if all three of the following conditions are met:

1. The student must be in compliance with the attendance policy.
2. The student must have unavoidable circumstance that would prohibit the student from completing the course.
3. The student must have completed over 75% of the course requirements with at least a "C" grade.

Incompletes are not a substitute for incomplete work due to frequent absences or poor academic performance. Incomplete grades that are not made up by the end of the ninth week of the following semester will be automatically changed to an F if the agreed upon work, as stipulated on the written form signed by the instructor and the student when the I grade is awarded, is not completed.

Instructor Withdrawals

Students who have missed four consecutive classes (or the equivalent) not submitted any assignments nor taken any quizzes by the 45th day census report, due on **October 8, 2020**, are assumed NOT to be participating in the class and may be withdrawn at the faculty member's discretion. [faculty members should be clear in their withdraw policy, if you do not withdraw students please note in appropriate sections].

Student Withdrawals

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 **November 9, 2020**, if you do not expect to complete the class, otherwise you may receive an "F" grade.

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: 520383-0033. 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:

1. Students are expected to attend each class., arriving on time, except in the case of an excused emergency.
2. Students are expected to contact instructor prior to absences, coming late to class or leaving early.
3. Unexcused late arrivals or early departures will count against attendance record.
4. Class participation and preparation are essential to student success. Students must read textual material, prepare for projects, complete required research as stated on the course schedule.
5. Students are expected to come to class prepared for class and having done any preliminary work required as per the course schedule.
6. Students are expected to stay in class and work diligently throughout the whole time. Sleeping, frequent/continued exiting from the class during the class period will constitute one (1) absence.
7. No cell phone use is allowed during class. unless the instructor is allowing students to use their tools (calculator, internet access).
8. Late work is marked down 10 points for each day of tardiness.
9. Failure to submit a project results in a grade of zero (0). A 60% grade is a better grade!
10. No work accepted after the last class
11. At the instructor's discretion, extra credit opportunities and optional activities may be provided.

Classroom Behavior

- Students creating disturbances that interfere with the conduct of the class or the learning of others will be asked to leave.

- Student behavior is also detailed in student handbook under Student Code of Conduct Violations.

Class Participation

Class participation and preparation is essential to student success. Students are expected to come to class prepared and complete any preliminary work required as per the course schedule.

Students creating disturbances that interfere with the conduct of the class or the learning of others will be asked to leave. Student behavior guidelines are detailed in [Student Handbook \(Links to an external site.\)](#) under the Student Code of Conduct Violations (page 34).

Late Work

- If you are not able to submit an assignment (other than quizzes) due to an emergency or hardship, please let me know prior to the deadline so arrangements can be made.
- Weekly Quizzes will not be reopened after their weekly due date. Please plan your attempt(s) accordingly.
- Lab Reports can be submitted up to a week after the due date. However, for every day after the due date, a 10% penalty will be deducted. After the week is over, lab report submissions will be marked zero.
- Presentations: Unless you have contacted me prior to the due date, a 10% penalty will be deducted daily for late submissions.

Exams

- Exams will be timed and open for a specific amount of time.
- If you plan to be absent, please let me know as soon as possible. A missed exam with no communication prior or up to 4 hours before the exam will be marked 0.
- Make-up exams must be taken with 2 days of the original exam date.

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Courses Schedule and Important Dates

| WK | DATES | TOPIC |
|-----------|--------------|--|
| 1 | 8/24-8/30 | Course overview, Introduction to Biology |
| | Fri. 8/28 | Last day to add/drop without instructor's signature |
| | Fri. 9/4 | Last day to add/drop with instructor's signature |
| 2 | 8/31-9/7 | The Scientific Method, Fundamentals of Chemistry |
| | Mon. 9/7 | Labor Day – College Closed, No Classes |
| 3 | 9/8-9/13 | Biological Molecules |
| 4 | 9/14-9/20 | Cellular Structure and Function |
| | Tue. 9/15 | Last day to drop with a full refund |
| | Fri. 9/18 | Week 4 Progress Report |
| 5 | 9/21-9/27 | Cellular Structure and Function, Exam 1 |
| | Fri. 9/25 | O'odham Tas – College Closed - No Classes |
| FB | 9/28-10/4 | Fall Break – No Classes |
| | Fri. 10/2 | St. Francis Day – College Closed – No Classes |
| 6 | 10/5-10/11 | Energy, Metabolism, Photosynthesis, Energy flow through Ecosystems |
| | Thu. 10/8 | 45th Day Census |
| 7 | 10/12-10/18 | Molecular biology |
| | Fri. 10/16 | Week 8 Progress Report |
| 8 | 10/19-10/25 | Exam 2, Cellular Reproduction |
| 9 | 10/26-11/1 | Patterns of Inheritance |
| 10 | 11/2-11/8 | Biotechnology |
| 11 | 11/9-11/15 | Exam 3, Individual Presentation |
| | Mon. 11/9 | Withdrawal Deadline |
| | Wed. 11/11 | Veteran's Day – College Closed – No Classes |
| | Fri. 11/13 | Week 12 Progress Report |
| 12 | 11/16-11/22 | Diversity of Life, Evolution |
| 13 | 11/23-29 | Population and Community Ecology |
| | 11/26-11/27 | Thanksgiving Holiday – College Closed – No Classes |
| 14 | 11/30-12/6 | Ecosystems and the biosphere, Conservation & Biodiversity |
| 15 | 12/7-12/10 | Exam 4, Group Presentation |
| | Fri. 12/11 | Last Day of Classes |

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