Note: This course <u>will not</u> count toward your UNM degree if you are thinking about majoring in Science, Technology, Engineering, and Math (STEM) fields



Spring 2023



Biology 1110:552 Intro. to Biology Non-STEM Majors Syllabus

Course Information

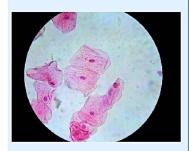
This course introduces non-STEM majors to basic biological concepts including, but not limited to, the characteristics of life, chemistry, cell biology, genetics, evolution, biodiversity, and ecology.

Dr. T's Course Description

I love teaching Biology. First, we will start off with a broad overview that lists the characteristics of life and the organization of life. The characteristics of life will serve as our narrative while we learn more about biology. We'll learn about the chemistry of cells and how everything we eat are composed of cells. Have you ever wondered when you are eating fruit, meat, or vegetables that you are eating cells that contain DNA? Yes, serve me a plate of DNA. Yum! Then, we will learn about the organelles of cells and how cells obtain energy. Think of them as energy-producing little bodies. Next- we will discuss our DNA and how it determines what we look like and how DNA contributes to the continuation of life with reproduction and potential adaptation of life to the environment. The last quarter of the semester we will learn more about life's origin and Biodiversity and the importance of evolution to biology.

Let's get started.







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Course Learning Outcomes (CLO)

At the completion of this course, students will be able to:

Introduction to Biology

CLO 1: Explain the central ideas and process of biology.

CLO 2: Explain the value of the scientific method.

Introduction to Chemistry

CLO 3: Explain how chemical and physical principles apply to biological processes at the cellular level.

Cells

CLO 4: Understand the basic concepts of cell biology.

Genetics

CLO 5: Understand fundamental processes of molecular biology.

Biodiversity

CLO 6: Understand the mechanisms of evolution, including natural selection, genetic drift, mutations, random mating, and gene flow.

CLO 7: Understand that all organisms share properties of life as a consequence of their common ancestry.

The overall goal of the course is to help you become literate in these scientific concepts and be able to apply them in your life as you move forward in reaching your educational goal.

Instructor Information

Tammi R. Duncan, Ph.D.

Office: Rm 132, Arts & Sciences Building

Phone: 505.925.8726 Front office: 505.925.8600

Email: tammid31@unm.edu
Drop-in Hours (Office hours):

Mon. via Zoom: 11:15am-12:15pm

 Tues. via Zoom: 9:00am-10:30am & 12:30pm-2:30pm

- Wed.: Available by appointment.

- Thurs.: 9:00am-10:30am

- Fri. via Zoom: Available by appointment.

https://unm.zoom.us/j/5736149969

Password: biology

I grew up riding horses on the Navajo Reservation. I found my passion studying bacteria at Diné College in Shiprock, NM in my first microbiology course.



Required Learning Resources



- **1. Textbook:** Concepts of Biology. This book is available for free in web view and PDF. I strongly recommend downloading a PDF and saving the copyhttps://openstax.org/details/books/concepts-biology You can also get the digital version from Amazon for free or a printed copy for a low cost.
- **2. UNM Canvas:** http://canvas.unm.edu. The webpage contains resources you need to succeed in the course. Login using your UNM username and password. You are responsible for all announcements, assignments, quizzes, tests and/or any changes to the syllabus will be posted on the webpage. Please check regularly.



3. Technology and computer: In this course, you will need a dependable computer, reliable internet connection, computer speakers and webcam, Microsoft PowerPoint and Word, and Adobe Flash Player.

"If you can dream it, you can do it" — Walt Disney

Tips for success

PowerPoint Slides. Use the PowerPoint slides for each chapter to guide your reading and to identify the learning objectives. The Learning objectives should be used to test your knowledge of the material for each chapter.

Study habits. Your study habits that might have worked for you in high school, might have to be adjusted for college. Use metacognition, awareness and understanding of one's own thought process, to help you make adjustments in time and methods of your study habits. It's an ongoing process throughout your educational career. Plan time to review your Biology concepts everyday. I was encouraged as an undergraduate to think of attending college as an 8am-5pm job. The more you practice reanswering your concepts and learning objectives, the more you can remember it. Look at figures and read the chapter. It may take more than one reading to understand the material presented. Learn the vocabulary.

Drop-in hours. I am available to help you succeed in the class; stop by my office for face-to-face Drop-in hours or online via Zoom Drop-in (Zoom- Meeting ID: 573 614 9969 PW:biology) and I can clarify information, coach you with homework, or bring up other methods besides flashcards to help you remember the material.

Learning Center. The learning center has tutors ready to help Biology 1110 students. To register and set up an appointment, go to the following link: https://valencia.unm.edu/campus-resources/the-learning-center/learning-center.html

Study groups. Form online study groups. I always found that by hearing my explanation of the concept in my own words to my classmate helps me remember the information.

TIPS FOR SUCCESS continue... Suggestions from students who have taken the class before.

Potential study methods

- 1. Record yourself reading the textbook and <u>actively</u> (meaning you are picturing what the words are describing) listen to it later.
- 2. You can also audio record the information on your flashcards to help you remember.
- 3. You can write a story in your own words about a mechanism to help you remember.
- 4. You can imagine you are tiny and picture yourself in one cell. Imagine you are on a trip through the cytoplasm, visualizing the mitochondria producing ATP or energy, and see how the DNA is being made.
- 5. You can use your body to picture things. For example, to picture the H_2O water molecule, your hands can be the Hydrogens and your head can be the Oxygen. Your head is bigger than your hands, so it would have more electrons "hanging out" near it, therefore it is more electronegative.
- 6. You can also imagine your dog as a bacteria and his/her tail as a flagellum. Then you can take sticky notes and start labeling him/her. Or you can draw a big cell on a large piece of paper (or tape six notebook pieces of paper together) and use sticky notes to label the parts. In this practice- you can color code the parts that are in plants with green, the parts for animal cells in pink, and the parts for bacterial cells in black.
- 7. You can draw logos to describe a mechanism.
- 8. You can rewrite your notes or draw your notes out.
- 9. You can draw a <u>Concept Mapping: Chapter map</u> of what you are going to learn for the Chapter to help you see the big picture and orient you while you read the material.
- 10. You can use the Learning objectives at the end of the powerpoints as your chapter outline and while you read you can answer the questions as you go.
- 11. You can create analogies to help you remember the concept.
- 12. You can pronounce terms with a specific kind of pronunciation that will help you remember. For example, microtubules are small, hollow cylinders about 25um in diameter and 0.2-25um in length. I think of hollow as something that echos... so I would pronounce microtubules as an echo.... (sounds gets fainter and fainter). MICROTUBULES-MICROtubules-microtubules... written as a way that would get fainter and fainter.
- 13. Draw pictures in the word. For example, a nonstop mutation is mutation that changes an amino acid to a STOP codon. You can draw one of the o's as a stop sign in the word, nonstop.

What's nice about making your own study tools is that you can save it and re-use it to study for your final and it could be one way to have fun. Use colors, color pencils, stick notes, music, smells, sounds. ~Dr. T

Course Policies

This is a three credit-hour asynchronous/remote course. Class does not meet face to face. It is 16 weeks long. Students are expected to complete readings, homework, study, Reviews, and exams, on their own by posted deadlines. This class will require holding self accountable for submitting completed assignments and assessments by the deadline. As your instructor, I will guide you through the material and please visit me during online Zoom drop-in hours or set up an appointment.

Participation. You must complete the weekly discussion board posts in order to receive participation points 1 point/discussion. You also can receive points toward your final exam score by attending Zoom drop-in hours at 1pt/visit for a total of 5 points.

Make-up Exams. Make-up exams will be given to students with a documented emergency. You must notify the me directly, Dr. T –instructor, tammid31@unm.edu prior to the day of the missed exam. Due dates are firm.

Homework. These will be assigned weekly to help you master the learning objectives. Make-up homework will be given to students with valid excuse/emergency. You are Required to contact both me and Dr. Azza Ezzat. Due dates are firm. Be sure to include your name on your homework. One point will be deducted if not.

Review. There will be three Reviews over the chapters for each Exam. These will help you practice and apply the knowledge that you have gained. One will be due before each regular exam. Be sure to include your name on your Review. One point will be deducted if not.

Late assignment/homework. Late assignments/homework will only be accepted within the first week following the due date. There will be a 50% reduction in grade. I will not accept assignments after the first week.

Withdrawal. Last day to withdraw from class without a "W" on your transcript is Feb. 3, 2023 at 5:00pm using UNM Canvas. Last day to withdraw from class with out Dean's signature/permission is Apr. 14, 2023.

Drop policy. If a student misses three assignments/quizzes, he/she may be dropped from the class. Also, if a student has not logged in to UNM CANVAS in two weeks he/she may be dropped. However, I will not drop students at or after the 12th week of the course.

Plagiarism. Only submit work that is yours. Always cite any work used using APA format. https://libguides.unm.edu/c.php?g=326014&p=2187071 Copy and Paste from Google, your classmates, or your book is considered plagiarism. Write answers in your own words. You will receive two warnings with the assignment given a zero. A third time you will be dropped from the course and your Biology teacher and UNM Science & Wellness Department Chair at UNM Valencia will be notified.

Disruptive behavior. For online communication and interactions follow the rules of netiquette and dress for the meeting like you are attending class.

Netiquette. The rationale of providing **Rules of Netiquette** for students is to provide guidelines for online behavior and communication between you and your classmates.

- 1. Your online behavior and communication should be similar to how you would treat and speak to a person in standing in front of you.
- 2. Be mindful of different backgrounds, which include cultural, linguistic, political, and religious differences.
- 3. Be respectful of other's views and opinions and try to remain open minded. You can have respectful disagreements. Avoid flaming, which is publicly attacking or insulting another person's view
- 4. Provide constructive and concise responses to the subject of the posts in Discussion Forums and Blogs. Stay on topic, read all comments/viewpoints in discussion before contributing to discussion, avoid slang and profanity, be prepared to correct information if your comment is misunderstood or misinterpreted, and avoid using personal identifying information.
- 5. Practice good grammar and spelling skills. Use 12 pt. font Times New Roman or Calibri, avoid text shortcuts, define acronyms, use correct spelling, limit use of emoticons, and use clear and concise language. Use professionalism in your submissions, including photos.
- 6. Avoid the use of all CAPITAL LETTERS. It suggests shouting, impoliteness, or can be aggressive. Reread you post, checking for sarcasm, slang or anger, before submitting it. Avoid sending a message out of anger or written if you are angry.
- 7. Email your instructor if you are in conflict with them or another student.
- 8. In relation to security, protect your passwords and don't send confidential information through email. If you suspect your password has been used, change your password.
- 9. There are specific listings of practices for email netiquette and message board netiquette below.

Email Netiquette

Write a concise email to @unm.edu accounts. Include "Bio 1110" in your subject line to me and a formal salutation.

Discussion Forum Netiquette

Include "topic-your name" in subject line.

Write concise paragraph (2-3 sentences) on the topic.

Write in your own words and cite your references with APA and credit classmates work if appropriate.

Read all messages in thread before replying.

Don't repeat another person's post.

Things to keep in mind

Accommodations: UNM-Valencia is committed to providing courses that are inclusive and accessible for all participants. As your instructor, it is my objective to facilitate an accessible classroom setting, in which students have full access and opportunity. If you are experiencing physical or academic barriers, or concerns related to mental health, physical health and/or COVID-19, please consult with me after class, via email tammid31@unm.edu or during talk-to-me hours. I am not legally permitted to inquire about the need for accommodations. We can meet your needs by collaborating with the Director of Student Affairs, Hank Vigil, by email vigilh@unm.edu or by phone (505) 925-8581.

Academic Dishonesty: Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet the standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course. Academic dishonesty includes, but not limited to, dishonesty in quizzes, tests, or assignments; Copying and pasting answers from Google; claiming credit for work not done or done by others, hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

COVID-19 Health and Awareness. UNM is a mask friendly, but not a mask required, community. To be registered or employed at UNM, Students, faculty, and staff must all meet UNM's <u>Administrative Mandate on Required COVID-19 vaccination</u>. If you are experiencing COVID-19 symptoms, please do not come to class. If you have a positive COVID-19 test, please stay home for five days and isolate yourself from others, per the <u>Centers for Disease Control (CDC) guidelines</u>. If you do need to stay home, please communicate with me at <u>tammid31@unm.edu</u>; I can work with you to provide alternatives for course participation and completion. UNM faculty and staff know that these are challenging times. Please let me, an advisor, or another UNM staff member know that you need support so that we can connect you to the right resources. Please be aware that UNM will publish information on websites and email about any changes to our public health status and community response.

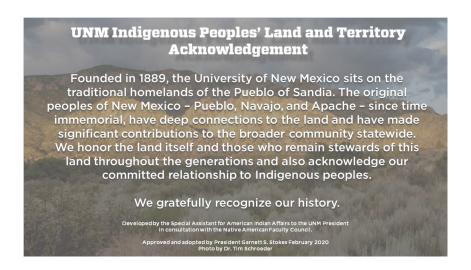
Equal Opportunity and Non-discrimination: In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see page 15--offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct, and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://oeo.unm.edu/title-ix/index.html

Citizenship and/or Immigration Status: All students are welcome in this class regardless of citizenship, residency, or immigration status. Your professor will respect your privacy if you choose to disclose your status. As for all students in the class, family emergency-related absences are normally excused with reasonable notice to the professor, as noted in the attendance guidelines above. UNM as an institution has made a core commitment to the success of all our students, including members of our undocumented community. The Administration's welcome is found on our website: http://undocumented.unm.edu/.

Respectful and Responsible Learning: We all have shared responsibility for ensuring that learning occurs safely and equitably. UNM has important policies to preserve and protect the academic community, especially policies on student grievances (Faculty Handbook D175 and D176), academic dishonesty (FH D100), and respectful campus (FH CO9). These are in the *Student Pathfinder* (https://pathfinder.unm.edu) and the *Faculty Handbook* (https://handbook.unm.edu). Please ask for help in understanding and avoiding plagiarism or academic dishonesty, which can both have very serious consequences.

Support in Receiving Help and in Doing What is Right: I encourage students to be familiar with services and policies that can help them navigate UNM successfully. Many services exist to help you succeed academically and to find your place at UNM, see students.unm.edu or ask me for information about the right resource center or person to contact. UNM has important policies to preserve and protect the academic community, especially policies on student grievances (Faculty Handbook D175 and D176), academic dishonesty (FH D100), and respectful campus (FH CO9). These are in the Student Pathfinder (https://pathfinder.unm.edu) and the Faculty Handbook (https://handbook.unm.edu) Please ask for help in understanding and avoiding plagiarism or academic dishonesty, which can both have very serious disciplinary consequences.

Land Acknowledgement: (see https://diverse.unm.edu on appropriate use) Founded in 1889, the University of New Mexico sits on the traditional homelands of the Pueblo of Sandia. The original peoples of New Mexico Pueblo, Navajo, and Apache since time immemorial, have deep connections to the land and have made significant contributions to the broader community statewide. We honor the land itself and those who remain stewards of this land throughout the generations and also acknowledge our committed relationship to Indigenous peoples. We gratefully recognize our history.



Develop good study habits. Don't wait until the last minute. Start your semester project early.

Review notes and readings everyday.

Prior to Module For each Module After Module Complete Read chapter Read Chapter homework Review/study Print/review Ask questions notes & ppt. **PowerPoints** Exam Complete homework Take notes

Grading Policy: -Grade earned on Biol 1110:552 UNM Canvas online will be worth 60%. -Grade earned at High school Biology class will be worth 40%.

Homework (20% of grade): Homework are practice question sets that are each worth 8pts and their total is 80pts. To get the points you must demonstrate that you are attempting to understand the information. The goal of the homework is to give you more practice and a better understanding of current material. The Introduction Homework helps you practice submitting HW.

Discussion Board (4% of grade): There are 15 Discussion Board posts that are each worth 1pt and their total is 15pts. These Discussion board posts help you reflect on your class performance, practice time management, and begin career planning.

Learning Log (15% of grade): There are 15 Learning Log assignments that are each worth 4pts and their total is 60pts. These Learning Logs will help you practice critical thinking skills in the first half of the semester and will help you prepare your Public Service Announcement Semester Project in the second half of the semester.

Semester Project (5% of grade): There is one Semester Project that is worth 20pts. The objective of this project is to bring awareness to a topic in Biology by preparing a poster and recording a voice memo describing your poster.

Reviews (11% of grade)): There are three Reviews. Each of these Reviews are worth 15 pts each and their total is 45pts. Reviews are due before your exam.

Exams (25% of grade): There are three exams. Two of these exams will be counted toward your grade. Each of these exams is worth 50 pts and their total is 100 pts with dropping the lowest score. You will be given one hour to complete the exam. No notes, textbook, or online resources.

Cumulative Final (13% of grade): The Final is a 75pts exam at the end of the semester. The Final will be cumulative. You will have 1.5 hours to take this exam online.

C B F	Points per assignment:	Total Points:	Percentage of overall grade:
Intro. Online Homework (1)	2pts	2pts	1%
Intro. Online Exam (1)	3pts	3pts	1%
Discussion Board (15)	1pt	15pts	4%
Homework (10)	8pts	80pts	20%
Learning Log (15)	4pts	60pt	15%
Semester Project (1)	20pts	20pt	5%
Review (3)	15pts	45pts	11%
Exams (2 of 3)	50pts	100pts	25%
Final Exam (1)	75pts	75pts	13%
TOTAL		400 pts	100 %
A+ 100% or higher A 91-99% A- 90%	B+ 88-89% B 81-87% B- 80%	C+ 78-79% C 71-77% C- 70%	D+ 68-69% D 61-67% D- 60% F <60%

Course Schedule

Week	Veek Date Chapter: Topic Items Due Due Date @				
vveek	Date	Chapter. Topic	items Due	11:59pm	
1	1/16 to 1/21	Introduction to Online Class	Discussion 1	Fri. 1/20	
	1/10 to 1/21	HW, Discussion Board Submission	Learning Log 1	Fri. 1/20	
	<u> </u>			·	
2	1/22 to 1/28	Ch 1: Introduction to Biology	Intro. Online HW	Wed. 1/25	
			Intro. Online Exam	Thurs. 1/26	
			Discussion 2	Fri. 1/27	
			Learning Log 2	Fri. 1/27	
3	1/29 to 2/4	Ch 2: Chemistry of Life	Homework 1: Ch 1	Wed. 2/1	
			Discussion 3	Fri. 2/3	
		(Feb. 3 Last day to drop class without "W")	Learning Log 3	Fri. 2/3	
4	2/5 to 2/11	Ch 3: Cell Structure & Function	Homework 2: Ch 2	Wed. 2/8	
			Discussion 4	Fri. 2/10	
			Learning Log 4	Fri. 2/10	
5	2/12 to 2/18	Review 1 (Ch. 1, 2, & 3)	Homework 3: Ch 3	Wed. 2/15	
		Exam 1 (Ch. 1, 2, & 3)	Discussion 5	Fri. 2/17	
			Learning Log 5	Fri. 2/17	
6	2/19 to 2/25	Ch 4: How Cells Obtain Energy	Review 1	Wed. 2/22	
	' '	Ch 5: Photosynthesis (Section 5.1 only)	Exam 1	Fri. 2/24	
		, , , , , , , , , , , , , , , , , , , ,	Discussion 6	Fri. 2/24	
			Learning Log 6	Fri. 2/24	
7	2/26 to 3/4	Ch 9: DNA Structure & Function	Homework 4: Ch 4/5	Wed. 3/1	
	,		Discussion 7	Fri. 3/3	
			Learning Log 7	Fri. 3/3	
8	3/5 to 3/11	Ch. 6: Cell Reproduction	Homework 5: Ch 6	Wed. 3/8	
	-,,		Discussion 8	Fri. 3/10	
			Learning Log 8	Fri. 3/10	
9	3/12 to 3/18	UNM SPRING BREAK	No Homework, No		
	, , , , ,		Quiz, No Discussion		
10	3/19 to 3/25	Review 2 (Ch. 4/5.1, 9, & 6)	Homework 6: Ch 6	Wed. 3/22	
10	3,13 (0 3,23	Exam 2 (Ch. 4/5.1, 9, 6)	Discussion 9	Mon. 3/20	
		LAGITI 2 (CIT. 47 5.1, 5, 6)	Learning Log 9	Fri. 3/24	
			Discussion 10	Fri. 3/24	
11	3/26 to 4/1	Ch. 7: Cellular Basis of Inheritance	Review 2	Wed. 3/29	
* *	3/20 10 4/1	Ci. 7. Celiulai basis of filleritalice	Exam 2	Fri. 3/31	
			Learning Log 10	Fri. 3/31	
			Discussion 11	Fri. 3/31	
12	4/2 to 4/8	Ch. 8: Patterns of Inheritance	Homework 7: Ch 7	Wed. 4/5	
12	14/2 10 4/0	Cit. 6. Fatterns of finientance	Discussion 12	Fri. 4/7	
		(Apr. 14 Last day to drop class without		Fri. 4/7	
		(Apr. 14 Last day to drop class without Deans Permission)	Learning Log 11	[[] [] []	
		Deans Permission)	1		

Course Schedule

Week	Date	Chapter: Topic	Items Due	Due Date @ 11:59pm
13	4/9 to 4/15	Ch. 11: Evolution and its Process	Homework 8: Ch 8	Wed. 4/12
			Discussion 13	Fri. 4/14
		Semester Project Overview	Learning Log 12	Fri. 4/14
14	4/16 to 4/22	Review 3 (Ch. 7, 8, 11)	Homework 9: 11	Wed. 4/19
		Exam 3 (Ch. 7, 8, 11)	Discussion 14	Fri. 4/21
			Learning Log 13	Fri. 4/21
15	4/23 to 4/29	Ch. 12: Diversity of Life	Review 3	Wed. 4/26
			Exam 3	Fri. 4/28
		4/24 Course Evaluations open	Discussion 15	Fri. 4/28
			Learning Log 14	Fri. 4/28
16	4/30 to 5/6	Final Exam Review Week	Homework 10: Ch 12	Wed. 5/3
		5/5 Course Evaluations close at 5pm	Semester Project	Fri. 5/6
			Learning Log 15	Fri. 5/6
Final	5/8 to 5/12	Cumulative Final Exam	Final Exam	Tues. 5/9

Grade Breakdown Chart

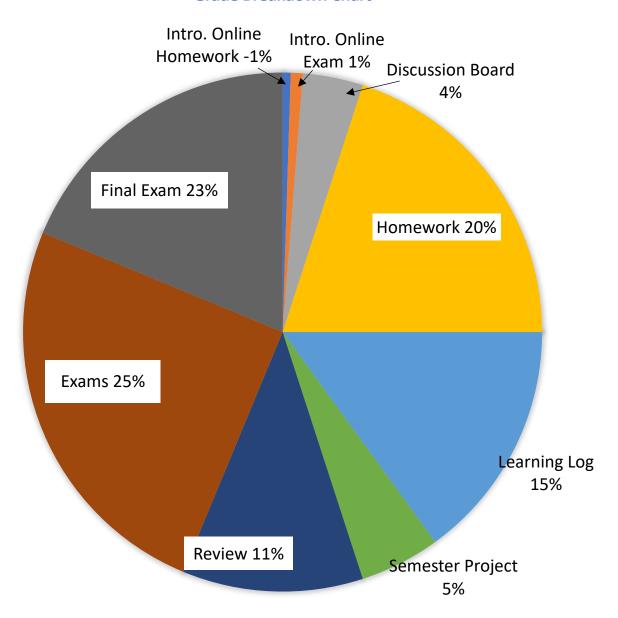


Figure 1. Grade breakdown of points in percentages. Notice that your highest points Exams 25%, Final Exam 23%, Homework 20%, and Learning Log 15%. To pass the course you will have to receive a 71% C or better. Try your best and contact me tammid31@unm.edu for guidance if you need help.