

INTRO TO LIFE SCIENCES I
BIOL 1308 - 3 credits
Texas A&M University San Antonio, College of Arts and Sciences
Fall 2026 Syllabus

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Office hours: Wednesdays from 1:45-2:45 or by appointment

Class Meeting Times and Location(s):

Lecture: Tuesday/Thursday 2:00-3:15 in STEM 143

Textbook for Lecture *REQUIRED***:**

You were assessed a book fee when registering for the course. Thus, you should already have access to the book and all of the assignments through the book on day one. If you hit a paywall (the website asking you for a code or credit card) STOP immediately!

Hoefnagels, M. (2025 release). Biology: The essentials (4th ed.). New York, NY, NY: McGraw-Hill.

Other Required Materials:

- Pencils for exam days (traditional or mechanical)
 - Online Components
 - We will be using “Connect” which is an on-line tool for assignments and quizzes. You will have access to this via blackboard.
 - Announcements regarding lectures or labs may be posted on Blackboard
 - Grades for individual assignments/labs etc... will be posted on Blackboard as we go along.
- ***Students should check e-mails daily and Blackboard at least once per week***

Recommended Materials:

- Calculator (simple scientific ones are fine)
- Any writing utensil for in-class activities

Catalog Description and Prerequisites:

1308. Introduction to Life Sciences I. 3(3-0)

This course is designed for non-science majors and examines the basis of biology in the modern world and explores biology as a science - a data-driven process of gaining new knowledge – as well as the impact of biological science on society. Topics in this course include the study of life at the cellular level, investigating cellular structures, chemical processes, cell metabolism, cell division, gene expression and introducing patterns of inheritance. Includes experimental hands-on exercises. This course meets the standards for the Life and Physical Sciences category of courses under the core curriculum.

Learning objectives

Students will be able to have a strong grasp of the scientific method – specifically to:

- Ask scientific questions of their world
- Demonstrate the ability to read and understand scientific literature written for the educated lay reader
- Critique and analyze claims of others in a scientific context
- Construct reasonable hypotheses
- Formulate and defend alternative explanations and models on the basis of evidence
- Communicate effectively in oral and written forms
- Demonstrate awareness of specific technology that is used to carry out biological investigations
- Use computers for data analysis, literature searches and retrieval of data from reliable databases

Students will be able to understand the science of biology, both its past and present impacts on society by being able to:

- Analyze how progress in biology depends heavily on the political, social, economic and cultural influences occurring within a society at any given time
- Discuss historical changes in biological theories over time
- Recognize the integration of mathematics, physics, chemistry, and geology into the study of biology
- Understand the impact of science and technology on the global society
- Discuss and identify ethical issues that new technology raises
- Demonstrate the application of biological concepts to:
 - Personal issues
 - Society
 - Economics
 - Technology
 - Ethical issues

Course Content

TOPICS COVERED:

1. Nature of Science
2. Characteristics of Life
3. Chemistry of Life
 - a. Role of water
 - b. Carbon and the Molecular Diversity of Life
 - c. The structure and function of macromolecules (sugars, lipids, proteins, nucleic acids)
4. The Cell Theory
 - a. Prokaryotic vs. Eukaryotic cells
 - b. Cellular organization
 - c. Cellular membrane structure and function
5. Cellular Energetics
 - a. Cellular respiration
 - b. Photosynthesis
 - c. Role of enzymes

6. Cell Cycle: Mitosis and Meiosis
7. Genetics
 - a. Introduction to Mendelian Genetics
 - b. Structure and function of DNA

ASSIGNMENTS & QUIZZES = 40% of course grade

- **Check-in Assignments (10%):** The Connect software provided as part of your e-textbook has flexible learning assignments called “adaptive learning assignments” that adapt to your understanding of the content as well as question banks that act as “quizzes” that assess your current grasp of the content, either of these may be used for an individual check-in assignment and will be labeled accordingly. These assignments are intended to have you review content regularly throughout the course rather than cramming the night before an exam. These may take between 10 and 30 minutes depending on how quickly you grasp the content they cover.
 - The lowest check-in (1) will be dropped.
 - Adaptive learning assignments are intended to allow you to master content as you progress and use the book as well as other resources while working.
 - Quizzes are meant to assess your current knowledge in a timed setting (to prepare you for the timed test environment) and should be treated as an assessment, meaning no outside resources should be accessed during the quiz. These assessments will be proctored through the Connect website to preserve academic integrity.
 - These assignments are due by 11:59 pm the Sunday after we complete the chapter in class that they are related to. I do not grant extensions on these since you will have several weeks to complete them.
- **Virtual Labs (10%):** The Connect software provided as part of your e-textbook has a variety of simulated lab activities intended to recreate assignments that would be done in a lab section. These may take between 10 and 45 minutes depending on how quickly you follow the instructions. A number of these virtual labs will be assigned with each unit to assist with learning the concepts from those chapters. Each lab has unlimited attempts and is guaranteed 100% if it is completed on time (before the due date.)
 - The lowest virtual lab grade (1) will be dropped.
 - These assignments are due by 11:59 pm the Sunday after the exam they are related to. I do not grant extensions on these since you will have several weeks to complete them.
- **Activities (20%):** Throughout the course of the semester, you will have some “hands-on” experiments or activities during class time. The materials and printouts will be provided for you in-class on the day of the activity. Due dates and submission guidelines will be given with each assignment.

EXAMS = 60% of course grade

- **4 Exams:** There will be 4 exams this semester, consisting of 45-50 multiple-choice and short-answer questions. Exams will be completed in-person and must be done within the class period. The fourth exam will serve as the final exam but will mainly cover material from the last unit. However, it will

include some general concept questions about material that has shown up all semester just to make sure you have learned the basic concepts anyone who has taken a Bio I class should know.

Grade Breakdown:

- A = 90-100%
- B = 80-90%
- C = 70-80%
- D = 60-70%
- F = < 60%

You will be given bonus points over the course of this class and have two assignment grades dropped, so I do not curve exam grades or round-up grades at the end of the semester. If you are concerned you may finish close to the edge of a grade, talk to me during office hours sooner so you feel confident making the highest grade you can before the last minute.

POLICIES:

Please do not hesitate to ask questions in class. I am happy to clarify things and answer additional/related questions on a subject. If we are pressed for time, I may ask you to save a question or story until after class, but I firmly believe there is no such thing as a stupid question and will do my best to answer what you ask.

Makeups/Absences:

If you have to miss a class, it is your responsibility to review the material and keep up-to-date on what is due. Students are also responsible for any material missed while absent, knowing what is due, and making it up in a timely manner if necessary.

Late Work:

Late work will be accepted with point deductions within a limited time period.

- Work submitted within 1 week of the due date will have a 10% deduction per day late.
- Work that is more than one week late will not be accepted
- No work, other than the final exam, will be accepted after Reading Days unless otherwise worked out with me ahead of time

University excused absences will not cause point deductions if you get in touch with me **within 48 hours of the absence** to arrange a new due date and provide proof of the reasoning.

Online Submissions:

Technical Problems – If you have a technical problem that prevents you from completing an assignment by the deadline, you must document the issue in order to receive an extension. If you cannot prove the issue, an

extension will not be granted. When you have an issue, let me know immediately and contact Information Technology Services (available at the bottom of the TAMUSA homepage or the left column on Blackboard).

- If an assignment is not showing up online during the time it should be assigned, **it is your responsibility to let me know before the assignment's due date and document the page showing it is not appearing.**
- If you do not tell me about technical issues until after the deadline, I cannot verify the problem or tell what was wrong and will not reopen it. If you tell me after the fact that you had a technical problem without providing any proof, I will not allow an extension.
- **No extensions are granted for Virtual Labs** since you have several weeks to complete them.

FOR UNIVERSITY POLICES SEE ADDITIONAL DOCUMENT ON BLACKBOARD

TENTATIVE SCHEDULE

WEEK	TOPIC	ASSIGNMENTS
Week 1: 8/24-8/28	Syllabus Ch. 1: Intro and Scientific Method	Introduction to Connect due by Sunday 8/30 at 11:59pm
Week 2: 8/31-9/4	Ch. 1 Continued Ch. 2: Chemistry of Life	Scientific Method Activity Chapter 1 “Check-in” due by Sunday 9/6 at 11:59pm
Week 3: 9/7-9/11	Ch. 2 Continued	Surface Tension Demonstration Chapter 2 “Check-in” due by Sunday 9/13 at 11:59pm
Week 4: 9/14-9/18	Ch. 3: Cells	Build-A-Cell Activity Chapter 3 “Check-in” due by Sunday 9/20 at 11:59pm
Week 5: 9/21-9/25	Ch. 4: Membranes	Exam Review Activity
Week 6: 9/28-10/2	EXAM I (Ch. 1-4 (through membranes)) Ch. 4: Energy and Metabolism	Exam Review (optional) due by Tuesday at 2:30pm Virtual Labs due by Sunday 10/4 at 11:59pm
Week 7: 10/5-10/9	Ch. 4 Continued Ch. 5: Photosynthesis	Chapter 4 “Check-in” due by Sunday 10/11 at 11:59pm
Week 8: 10/12-10/16	Ch. 5 Cont’d Ch. 6: Cellular Respiration	Chapter 5 “Check-in” due by Sunday 10/18 at 11:59pm
Week 9: 10/19-10/23	Ch. 6 Continued EXAM II (Ch. 4-6)	Cellular Respiration Activity Exam Review (optional) due by Thursday at 2:30pm Virtual Labs due by Sunday 10/25 at 11:59pm
Week 10: 10/26-10/30	Ch. 7: DNA Structure and Function	
Week 11: 11/2-11/6	Ch. 7 Continued Ch. 8: Mitosis	Build a Protein Activity Chapter 7 “Check-in” due by Sunday 11/8 at 11:59pm
Week 12: 11/9-11/13	Ch. 8 Continued Ch. 9: Meiosis	Cell Division Activity Chapter 8 “Check-in” due by Sunday 11/15 at 11:59pm
Week 13: 11/16-11/20	Ch. 9 Continued EXAM III (Ch. 7-9)	Exam Review (optional) due by Thursday at 2:30pm Virtual Labs due by Sunday 11/22 at 11:59pm

Week 14: 11/23-11/27	No Class - Thanksgiving	
Week 15: 11/30-12/4	Ch. 10: Inheritance Ch. 11: DNA Technology	Gene Expression Activity DNA Extraction Activity Virtual Labs due by Wednesday 12/2 at 11:59pm
Week 16: 12/7-12/11	Finals Week	