

INTRO TO LIFE SCIENCES I
BIOL 1308 - 3 credits
Texas A&M University San Antonio, College of Arts and Sciences
Spring 2024 Syllabus

Ms. Marie Tipps

Office: STEM Building 311K **Office phone:** 210-784-2230

e-mail: tmtipps@tamusa.edu (Best way to contact me)

Office hours: MW 1:00pm – 3:00pm

We can also schedule an online meeting or in-person meeting as needed.

Class Meeting Times and Location(s):

Lecture: MWF 11:00am – 11:50am Room: STEM 141

Textbook for Lecture *REQUIRED***:**

Biology: The Essentials by Hoefnagels, 4th edition (McGraw-Hill)

Book fee was already assessed as part of tuition. You should have access through Blackboard on first day of class through Connect program. DO NOT PAY AGAIN IF IT REQUESTS IT.

Other Required Materials:

- Pencils for exam days (traditional or mechanical)
 - iClickers – provided by university
 - Join Code: <https://join.iclicker.com/WNZO>
 - Create free student account & register iClicker remote that will be assigned to you all semester (will be assigned during first class meeting)
 - Answer questions during lecture (also marks your attendance) or to take quizzes
 - Online Components
 - Powerpoints will be posted on Blackboard
 - Announcements regarding lectures or labs may be posted on Blackboard or sent by e-mail
 - Grades for individual assignments will be posted on Blackboard as we go along.
- ***Students should check e-mails daily and Blackboard at least once per week***

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 | b. Cellular organization |
| 2. Characteristics of Life | c. Cellular membrane structure and function |
| 3. Chemistry of Life <ul style="list-style-type: none"> a. Role of water b. Carbon and the Molecular Diversity of Life c. The structure and function of macromolecules (sugars, lipids, proteins, nucleic acids) | 5. Cellular Energetics <ul style="list-style-type: none"> a. Cellular respiration b. Photosynthesis c. Role of enzymes |
| 4. The Cell Theory <ul style="list-style-type: none"> a. Prokaryotic vs. Eukaryotic cells | 6. Cell Cycle: Mitosis and Meiosis |
| | 7. Genetics <ul style="list-style-type: none"> a. Introduction to Mendelian Genetics b. Structure and function of DNA |

Grading

ASSIGNMENTS & QUIZZES = 40% of course grade

Quizzes (10%): There will be a 10-question multiple-choice quiz at the beginning of the second class day each week (unless it is an exam day). This is done to encourage you to review the material from the previous classes regularly rather than cramming the night before each test. You will only have 10 minutes to take it once it has been handed out. Answers to these quizzes will be marked via iClicker. There is no need to write on the quiz, as answers will directly be uploaded to iClicker Cloud and directly graded. If you arrive late to class, you will have less time to take it or might miss the quiz altogether.

- The lowest quiz (1) will be dropped.

Virtual Labs (10%): The Connect software provided as part of your e-textbook have a variety of simulated lab activities intended to recreate assignments that would be done in a lab section. These may take between 10 and 30 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 is a guaranteed 100% as long as it is completed on time and you have unlimited attempts before the due date.

- The lowest virtual lab (1) will be dropped.
- These assignments are due by 11:59pm the day of 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. These will be handouts provided for you in class, as well as posted in Blackboard so they can still be completed even if you are absent the day they are assigned. Due dates will be given with each assignment.

- Activities can be submitted either in-person or on Blackboard, as long as they are submitted by their due dates.

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 learned the basic concepts anyone who has taken a Bio 1 class should know.

Grade Breakdown:

- A = 90-100% (900-1000)
- B = 80-90% (800-899)
- C = 70-80% (700-799)
- D = 60-70% (600-699)
- F = < 60% (0-599)

I may consider rounding up an 89.5%, but not an 89.49% or less. Same for 79.5%, 69.5%, etc. You will be given bonus questions and have the lowest quiz dropped, so do not ask me to round up your grade 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:

I will take attendance at the beginning of every class period, even though it is not calculated as part of the grade. If you have to miss a class, it is your responsibility to look at the lecture Powerpoints and keep up-to-date on what is due. Each student is responsible for informing their teacher about situations for excused absence as soon as they know it is happening. Students are also responsible for any material missed while

absent, knowing what is due, and making it up in a timely manner if necessary. Powerpoints will be available on Blackboard, so students have access to the material from lecture.

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% point deduction per day late.
- Work will not be accepted more than 1 week late.
- No work, other than the final exam, will be accepted after Reading Days unless otherwise worked out with me.

University excused absences will not cause point deductions as long as 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:

Although we intend to have everything (except the SmartBooks) in person this semester, if circumstances change and we are required to do portions online again, the following rules will apply.

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.

Email Etiquette

Professional email etiquette is a requirement when communicating with me (or anyone) online. A proper greeting (e.g. Professor, Mrs. Tipps, Marie, Professor Tipps, Hello Mrs. Tipps, etc.) with a coherent message and the name of the course in the subject line.

For example:

To: tmtipps@tamusa.edu

Subject: Question about Gen. Biol. Class

Ms. Tipps,

My name is “your name here” and I was wondering what format the midterm will be in.

Best, “your name here”

Emails that do not satisfy these conditions will be ignored. * Please do not write emails as you would text or include the entire email body in the subject heading, and please be respectful to all.

Please allow 24 hours for a response during the regular week and 72 hours for a response over the weekend. I will not regularly be answering e-mails sent after 6:00 p.m. so please plan accordingly.

IMPORTANT POLICIES AND RESOURCES

Academic Accommodations for Persons with Disabilities: Texas A&M University-San Antonio is committed to providing all students with reasonable access to learning opportunities and accommodations in accordance with The Americans with Disabilities Act, as amended, and Section 504 of the Rehabilitation Act. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Support Services in the Central Academic Building, Suite 210, or at (210) 784-1335 or visit <https://www.tamusa.edu/index.html> or email us at dss@tamusa.edu. Disabilities may include, but are not limited to, attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability-related needs with Disability Support Services and their instructors as soon as possible.

Academic Learning Center: The Academic Learning Center provides free course-based tutoring to all currently enrolled students at Texas A&M University-San Antonio. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the *Tools* section of Blackboard. You can contact the Academic Learning Center by emailing tutoring@tamusa.edu, calling (210) 784-1307, or visiting the Central Academic Building, room 202.

Counseling/Mental Health Resources: As a college student, there may be times when personal stressors interfere with your academic performance and/or negatively impact your daily functioning. If you are experiencing emotional difficulties or mental health concerns, support is available to you through the Student Counseling Center (SCC). To schedule an appointment call 210-784-1331 or visit Modular C, Room 166 (Rear entrance).

All mental health services provided by the SCC are free and confidential (as the law allows). The Student Counseling Center provides brief individual and group therapy, crisis intervention, consultation, case management, and prevention services.

Crisis support is available 24/7 by calling the SCC at 210-784-1331 (after-hours select option '2'). For more information and self-help resources, please visit www.tamusa.edu/studentcounseling

Emergency Preparedness: JagE Alert is Texas A&M University-San Antonio's mass notification. In the event of an emergency, such as inclement weather, students, staff and faculty, who are registered, will have the option to receive a text message, email with instructions and updates. To register or update your information visit: <https://tamusa.bbcportal.com/>.

More information about Emergency Operations Plan and the Emergency Action Plan can be found here: <https://www.tamusa.edu/about-us/campus-information/safety/university-police-department/documents/emergency-operations-plan.pdf> and <https://www.tamusa.edu/about-us/campus-information/safety/university-police-department/documents/emergency-action-plan.pdf>

Download the SafeZone App for emergencies or call (210) 784-1911. Non-Emergency (210) 784-1900

Financial Aid and Verification of Attendance: According to the following federal regulation, 34 CFR 668.21: U.S. Department of Education (DoE) Title IV regulation, a student can only receive Title IV funds based on Title IV eligibility criteria which include class attendance. If Title IV funds are disbursed to ineligible students (including students who fail to begin attendance), the institution must return these funds to the U.S. DoE within 30 days of becoming aware that the student will not or has not begun attendance. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended the first week of class. Any student receiving federal financial aid who does not attend the first week of class will have their aid terminated and

returned to the DoE. Please note that any student who stops attending at any time during the semester may also need to return a portion of their federal aid.

Writing, Language, and Digital Composing Center: The Writing, Language, and Digital Composing Center supports graduate and undergraduate students in all three colleges as well as faculty and staff. Tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. Our language tutors support students enrolled in Spanish courses and students composing in Spanish for any assignment. Our digital studio tutors support students working on digital projects such as eportfolios, class presentations, or other digital multimedia projects. Students can schedule appointments through JagWire under the Student Services tab. Click on “Writing, Language, and Digital Composing Center” to make your appointment. The Center offers face-to-face, synchronous online, and asynchronous digital appointments. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our website at <https://bit.ly/WLDCCenter>.

Meeting Basic Needs: Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Dean of Students (DOS@tamusa.edu) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to provide any resources they may possess.

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to communicate, in advance if possible, and special circumstances (e.g., upcoming deployment, drill requirements, disability accommodations). You are also encouraged to visit the Patriots’ Casa in-person room 202, or to contact the Office of Military Affairs with any questions at military.va@tamusa.edu or (210)784-1397.

Religious Observances: Texas A&M University-San Antonio recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes.

The Six-Drop Rule: Students are subject to the requirements of Senate Bill (SB) 1231 passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not affect the student’s GPA. However, course drops that exceed the maximum allowed by SB 1231 will be treated as “F” grades and will impact the student’s GPA.

Statement of Harassment and Discrimination: Texas A&M University-San Antonio is committed to the fundamental principles of academic freedom, equality of opportunity and human dignity. To fulfill its multiple missions as an institution of higher learning, A&M-San Antonio encourages a climate that values and nurtures collegiality and the uniqueness of the individual within our state, nation, and world. All decisions and actions involving students and employees should be based on applicable law and individual merit. Texas A&M University-San Antonio, in accordance with applicable federal and state law, prohibits discrimination, including harassment, on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, gender identity, gender expression, or pregnancy/parenting status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the appropriate offices within their respective units.

Texas A&M University-San Antonio faculty are committed to providing a safe learning environment for all students and for the university as a whole. If you have experienced any form of sex- or gender-based discrimination or harassment, including sexual assault, sexual harassment, domestic or dating violence, or stalking, know that help and support are available. A&M-San Antonio's Title IX Coordinator can support those impacted by such conduct in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. The university strongly encourages all students to report any such incidents to the Title IX Coordinator. Please be aware that all A&M-San Antonio employees (other than those designated as confidential resources such as counselors and trained victim advocates) are required to report information about such discrimination and harassment to the university. This means that if you tell a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the university's Title IX Coordinator (titleix@tamusa.edu, 210-784-2061, CAB 439K). If you wish to speak to a confidential employee who does not have this reporting requirement, you can contact the Student Counseling Center at (210) 784-1331 or visit them in Madla 120.

Pregnant/Parenting Students: Texas A&M-San Antonio does not require a pregnant or parenting student, solely because of that status or issues related to that status, to (1) take a leave of absence or withdraw from their degree or certificate program; (2) limit the student's studies; (3) participate in an alternative program; (4) change the student's major, degree, or certificate program; or (5) refrain from joining or cease participating in any course, activity, or program at the University. The university will provide reasonable accommodations to pregnant students that would be provided to a student with a temporary medical condition and that are related to the health and safety of the student and the student's unborn child. These could include maintaining a safe distance from substances, areas, and activities known to be hazardous to pregnant individuals and their unborn child; excused absences because of illness or medical appointments; modified due dates for assignments; rescheduled tests/exams; taking a leave of absence; and being provided access to instructional materials and video recordings of lectures for excused absences, if these would be provided to any other student with an excused absence. Pregnant/parenting students are encouraged to contact the Title IX Coordinator with any questions or concerns related to their status (titleix@tamusa.edu; 210-784-2061; CAB 439K).

Texas A&M-San Antonio has also designated the Title IX Coordinator as the liaison officer for current or incoming students who are the parent or guardian of a child younger than 18 years of age. The Title IX Coordinator can provide students with information regarding support services and other resources.

Students' Rights and Responsibilities: The following statement of students' rights and responsibilities is intended to reflect the philosophical base upon which University Student Rules are built. This philosophy acknowledges the existence of both rights and responsibilities, which is inherent to an individual not only as a student at Texas A&M University-San Antonio but also as a citizen of this country.

Students' Rights

1. A student shall have the right to participate in a free exchange of ideas, and there shall be no University rule or administrative rule that in any way abridges the rights of freedom of speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.
2. Each student shall have the right to participate in all areas and activities of the University, free from any form of discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, or veteran status in accordance with applicable federal and state laws.
3. A student has the right to personal privacy except as otherwise provided by law, and this will be observed by students and University authorities alike.

4. Each student subject to disciplinary action arising from violations of university student rules shall be assured a fundamentally fair process.

Students' Responsibilities

1. A student has the responsibility to respect the rights and property of others, including other students, the faculty and administration.
2. A student has the responsibility to be fully acquainted with the published University Student Rules found in the Student Handbook, Student Code of Conduct, on our website, University Catalog and to comply with them, as well as federal, state, and local laws.
3. A student has the responsibility to recognize that student actions reflect upon the individuals involved and upon the entire University community.
4. A student has the responsibility to recognize the University's obligation to provide an environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notification.

We expect that students will behave in a manner that is dignified, respectful, and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

Students are expected to exhibit a high level of honesty and integrity in their pursuit of higher education. Students engaging in an act that violates the standards of academic integrity will find themselves facing academic and/or disciplinary sanctions. Academic misconduct is any act, or attempt, which gives an unfair advantage to the student. Additionally, any behavior specifically prohibited by a faculty member in the course syllabus or class discussion may be considered as academic misconduct. For more information on academic misconduct policies and procedures please review the Student Code of Conduct.

No Use of Generative AI Permitted

This class assumes that all work submitted by students will be generated by the students themselves, working individually or in groups. Students should not have another person/entity do the writing of any portion of an assignment for them, which includes hiring a person or a company to write assignments and/or using artificial intelligence (AI) tools like ChatGPT. Use of any AI-generated content in this course qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.

Tentative Schedule – Subject to change with notice

August						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
25	26 Go over syllabus/expectations	27	28 Ch. 1 – Scientific Method	29	30 Ch. 1 – Scientific Method	31
September						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2 LABOR DAY – NO CLASSES	3	4 Scientific Method Hands-on activity	5	6 Quiz 1 Ch. 2 – Chemistry of Life	7
8	9 Ch. 2 – Chemistry of Life	10	11 Census Date Ch. 2 – Chemistry of Life	12	13 Quiz 2 Cell Chemistry Hands-on activity	14
15	16 Ch. 3 – Cells	17	18 Ch. 3 – Cells	19	20 Quiz 3 Ch. 3 – Cells/ Ch. 4 – Membranes	21
22	23 Ch. 4 - Membranes	24	25 Cell/Membranes Hands-on Activity	26	27 Quiz 4 Exam Review Day	28
October						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
29	30 EXAM I – Chapters 1-4	1	2 Ch. 4 – Energy & Metabolism	3	4 Quiz 5 Ch. 4 – Energy & Metabolism	5
6	7 Enzyme Hands-on Activity	8	9 Ch. 6 - Cell Respiration		11 Quiz 6 Ch. 6 – Cell Respiration	12

13	14 Ch. 5 - Photosynthesis	15	16 Ch. 5 - Photosynthesis	17	18 Quiz 7 Cell Respiration & Photosynthesis Hands-on Activity	19
20	21 EXAM II – Chapters 4-6	22	23 Ch. 7 – DNA Function & Structure	24	25 Quiz 8 Ch. 7 – DNA Function & Structure	26
November						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
27	28 Ch. 7 – DNA Function & Structure	29	30 DNA Hands-On Activity	31	1 Quiz 9 Ch. 8 - Mitosis	2
3	4 Ch. 8 – Mitosis	5	6 Ch. 8 - Mitosis	7	8 Quiz 10 Mitosis Hands-on Activity	9
10	11 Ch. 9 - Meiosis Last day to drop with a “W”	12	13 Ch. 9 - Meiosis	14	15 Quiz 11 Meiosis Hands-on Activity	16
17	18 Exam III – Chapters 7-9	19	20 Ch. 10 – Inheritance	21	22 Quiz 12 Ch. 10 - Inheritance	23
24	25 Inheritance Hands-On Activity	26	27 NO CLASSES – STUDY DAY	28 NO CLASSES – THANKSGIVING	29 NO CLASSES – THANKSGIVING BREAK	30
DECEMBER						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2 Ch. 11 – DNA Technology	3	4 DNA Technology Hands-on Activity	5 *Last Day of Regular Classes*	6 NO CLASSES – STUDY DAY	7
8	9 FINAL EXAM– (Cumulative/Ch 10/11 10:00-11:50 a.m.)	10	11	12	13	14

