

## Bio 1106: General Biology I Laboratory Course Syllabus

Discipline Prefix: BIO	Course Number: 1106	Course Title: General Biology I Laboratory (for majors) Semester: SPRING 2024	
	Course Section:		
Lab Credit Hours: 1	Lecture Hours: 3 in 1306 <i>co-requisite</i>	Lab Hours: 3	Contact Hours: 3
Meeting Days/Time/Location: SciTech 363			

### Department Offering the Course: Biology

#### Faculty Mentor Information

Name: T. Marie Tipps

Office Location: STEM 311N; Office phone: 784-2230

Office Hours: 11AM – 1PM on Tues/Thurs or by appointment

Email Information: [tmtipps@tamusa.edu](mailto:tmtipps@tamusa.edu)

### Course Information

**Course Description:** This course provides hands-on laboratory experiences that highlight the fundamental molecular, cellular, and genetic principles characterizing living organisms. The scientific method in the discovery of these principles will be the primary focus of the hands-on activities. This course is designed for students majoring in science fields. Student majoring or minoring in Biology cannot use placement exams (e.g. CLEP) to fulfill this course requirement. Co-requisite- BIOL 1306-General Biology I- Attributes of Living Systems.

#### Prerequisites and/or Co-requisites

Required co-requisite for Biology Majors: BIOL 1306 Gen Bio I Lecture

Recommended prerequisite: MATH 1314 Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended.

#### Required Course Text and Supplementary Materials

**In-Class Lab Exercises will be supplied online by instructor. Students should print out lab exercise file each week and keep them in a 3-ring binder. Pre-Lab and Post-Lab assignments will be completed on Blackboard each week.**

- Required:**
- 1) Completed lab safety agreement & quiz online by the second lab period.
  - 2) Lab coats must be purchased and worn in the lab every week. If you forget your coat, you will be required to rent one for \$2 or leave the lab for the day and take a zero on that week's lab.

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## **Topics Covered in the Course**

1. Scientific Method
2. Measurements, Metric System, and Statistics
3. Microscopy, Cells and cell cycle, Mitosis and Meiosis
4. Respiration and Photosynthesis
5. Genetics
6. Enzymes
7. Diffusion and Osmosis

## **Course Learning Outcomes**

1. Students will develop critical thinking skills, communication skills, and Empirical and Quantitative skills. Students will learn to work as a team.
2. Students will understand and apply the scientific method to novel questions in order to develop a strategy to answer those questions.
3. Students will learn how to collect and analyze scientific data through hands-on activities in which they gather the data.

## **Description of Assignments/Assessments**

For each of the weekly lab topics (with the exception of week 1), there will be a pre-lab assignment on Blackboard, an in-lab data worksheet, and a post-lab assessment on Blackboard with a combined total of 75 possible points per lab:

### **Pre-Lab Assignment:**

The pre-lab assignment will be worth 20 points and must be completed by 11:59 pm the day before your scheduled lab class. This assignment will consist of reading, writing hypotheses, and/or watching videos to introduce new concepts, definitions, and multiple choice questions about the purpose and procedures for that week's lab. You will have an unlimited number of attempts to complete the quiz assignment. Any hypotheses or procedures that need to be written will need to be ready to be graded at the beginning of your lab class.

### **Assignments:**

This will be a pdf file available online each week. Students should print out the file and bring the printed file to lab class. The file will contain experimental procedures to be performed, a place to record raw data from experiments, and questions to be answered for credit. The instructor will grade for 45 points. These will be due at 11:59 pm the night before your next scheduled lab class.

### **Research Project:**

This project will be completed in the last few weeks of the semester in groups. You will learn research techniques, how to write a scientific paper, and design an experiment/conduct your own research. You will be submitting several assignments that will be part of this project.

## **Grade Policy**

Your final grade will be assigned a letter based upon a 10- point scale.

<b>A</b>	100% - 90%	(720 - 800 points)
<b>B</b>	89% - 80%	(640 - 719 points)

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<b>C</b>	79% - 70%	(560 - 639 points)
<b>D</b>	69% - 60%	(480 - 559 points)
<b>F</b>	Below 60%	(less than 480 points)

If you are more comfortable using a “points” method of keeping track of your grade, the breakdown is:

Lab Pre-exercises (20 pts per lab x 8 labs)	160 points
Weekly Assignments (45 pts per lab x 10 labs)	450 points
Rough Draft Review	60 points
Final Lab Report	100 points
Attendance (2.5 pts per lab x 12 labs)	30 points

**Total 800 possible points**

## Blackboard and Course Communication

All grades will be posted and accessible through the course’s Blackboard site. Students must log-in regularly to both the Blackboard site and to their TAMUSA email account to keep updated on information related to the class.

E-mails: Each student MUST have an active TAMUSA e-mail account. This will be the e-mail address that is used for any communication between you and your instructor. E-mail may be sent from student-to-student, or student-to-instructor using the e-mail feature in Blackboard’s Communication area. Students who e-mail instructor Monday-Thursday ordinarily can expect a response within 48 hours. Students who e-mail Friday-Sunday ordinarily can expect a response by 9:00 PM on Monday.

## Course Policies

1. **Laboratory Attendance Policy** - Laboratory courses are unique to your education in that they will provide you with hands-on opportunities to gain the skills and critical thinking processes inherent to the study of biology. For these reasons, we have a strict attendance policy: **Attendance is mandatory**

If you miss more than 3 labs for whatever reason (excused or not) the maximum score you can earn for the laboratory section of a course is 50%.

If you miss a lab section for a university excused absence, you may attempt to make up the lab in another lab section if the following criteria are met and directions followed: a) the absence is considered a university excused absence and was determined to be one by your primary instructor b) you must contact via e-mail both your instructor and the instructor of the section you would like to attend c) you must receive written confirmation that you are able to make up the lab. If you do not receive written confirmation, you will not be allowed to make up the lab.

2. **Late Work/Make-up Policy:**

**You are required to complete the pre-lab and post-lab assignments by the assigned due dates.** Since these are available online for several days, no late assignments will be accepted. If you have to miss a lab, you may still complete the

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pre- and post- lab assessments by obtaining the raw experimental data from a classmate. It is your responsibility to obtain this data on your own. No extensions will be given for the due dates of the assignments for absent students.

### 3. **Electronic Devices Policy:**

During normal lab classes, electronic devices will be allowed to be used as long as they are not distracting to other members of the class. During exams cell phones/tablets, etc. will NOT be allowed and those devices along with all other personal belongings are to be placed at the front of the classroom or removed from desk surface before receiving and taking the exam.

January 15	First day of classes
April 13	Last day to drop with an automatic "W"
April 20	Last day to drop a course or withdraw from the University
March 29, April 30	Reading Days – No Class
May 1-7	Final exams

The complete academic calendar is available online:

<http://www.tamusa.edu/provost/academicresources/academiccalendar.html>

## University Policies

**Academic Accommodations for Persons with Disabilities:** The Americans with Disabilities Act of 1990, as amended, and the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights protection for individuals with disabilities. Title II of the ADA and Section 504 of the Rehabilitation Act require that students with disabilities be guaranteed equal access to the learning environment through the provision of reasonable and appropriate accommodation of their disability. If you have a disability that may require accommodation, please contact Disability Support Services (DSS) for the coordination of services. The phone number for DSS is (210) 784-1335 and email is [dss@tamusa.edu](mailto:dss@tamusa.edu).

**Academic Learning Center:** All currently enrolled students at Texas A&M University-San Antonio can utilize the Academic Learning Center for subject-area tutoring. The Academic Learning Center is an appointment based center where appointments are made through the Navigate platform. Students access Navigate through Jagwire in the Student Services tab. The Center is active on campus outreaching to students to highlight services offered. You can contact the Academic Learning Center by emailing [tutoring@tamusa.edu](mailto:tutoring@tamusa.edu) or calling (210)-784-1332. Appointments can also be made through JagWire under the services tab.

**Counseling Resources:** As a college student, there may be times when personal stress interferes with your academic performance and/or negatively impacts your daily functioning. If you or someone you know is experiencing life stressors, emotional difficulties, or mental health concerns at Texas A&M University – San Antonio, please contact the Student Counseling Center (SCC) located in Modular C, Room 166 (rear entrance) or call 210-784-1331 between the hours of 8:00AM and 5:00PM, Monday –

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Friday. After-hours crisis support is available by calling 210-784-1331 (select option "2"). Please contact UPD at 911 if harm to self or harm to others is imminent.

All mental health services provided by the SCC are free, confidential (as the law allows), and are not part of a student's academic or university record. SCC provides brief individual and group therapy, crisis intervention, consultation, case management, and prevention services. For more information, please visit

[www.tamusa.edu/studentcounseling](http://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 and/or phone call with instructions and updates. To register or update your information visit: <https://tamusa.bbcportal.com/>

More information about Emergency Preparedness and the Emergency Response Guide can be found here: <https://www.tamusa.edu/upd/index.html>

**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.

**Meeting Basic Needs:** If you face challenges securing food, housing or other basic needs, you are not alone, and A&M- San Antonio can help during this time of crisis. We invite you to learn about the many resources available to support you by visiting the [Dean of Student's website](#) or by reaching out via [dos@tamusa.edu](mailto:dos@tamusa.edu). Additionally, it is not unusual for students to encounter temporary illness or injuries that may interfere with your academic success. Students may request temporary illness/disability assistance by reaching out to the [Dean of Student's Office](#) (210) 784-1354. If you are comfortable doing so, please notify the professor of any issues so that they may provide additional resources.

**Military Affairs:** Veterans and active-duty military personnel are welcomed and encouraged to communicate, in advance if possible, and in 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](mailto: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

Texas A&M University-San Antonio 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, diversity, pluralism 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, or gender expression. 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 helping create 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 has staff members trained to support survivors 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 university. Please be aware that all A&M-San Antonio employees (other than those designated as confidential resources such as counselors and other healthcare providers) 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, sexual violence, or other related misconduct, the faculty member must share that information with the university's Title IX Coordinator. If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact the Student Counseling Center at (210) 784-1331, Modular C.

**Students' Rights and Responsibilities:** The purpose of the following statement is to enumerate the essential provisions for the student freedom and responsibility to learn at Texas A&M University-San Antonio. All students are required to follow all policies and regulations as set forth by The Texas A&M University System. This includes the [A&M-San Antonio Student Code of Conduct](#).

#### *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 procedure that in any way abridges the rights of freedom of speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.

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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, genetic information, veteran status, gender identity, or gender expression 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 the 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 students must comply with them and the laws of the land.
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.
6. 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.

**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>.

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## Course Schedule: 05L Lab

The following course schedule may change due to the progression of the course. Students will be notified when any changes/additions are made to the schedule.

Week	<u>Lab Topic</u>
1 – 1/15	<b><u>No Labs – First Week of Classes</u></b>
2-1/22	<b><u>Syllabus/Lab Safety/Pre-Test/Measurements</u></b> Lab safety Agreement Due in Class
3-1/29	<b><u>Scientific Method</u></b> Measurements Assignment & Sci. Method Pre-lab Due 11:59 <b>Tuesday, 1/30</b>
4-2/5	<b><u>Macromolecules</u></b> Scientific Method Assignment & Macromolecules Pre-lab Due: 11:59 p.m. <b>Tue. 2/6</b>
5-2/12	<b><u>Enzymes</u></b> Macromolecules Assignment & Enzymes Pre-lab Due: 11:59 p.m. <b>Tue. 2/13</b>
6-2/19	<b><u>Microscopy and Cells</u></b> Enzymes Assignment & Microscopy Pre-lab Due: 11:59 p.m. <b>Tue. 2/20</b>
7-2/26	<b><u>Research Project – Introduction &amp; How to Conduct Research Experimental Design</u></b> Microscopy Assignment & Library/Research Intro Pre-lab Due: 11:59 p.m. <b>Tue. 2/27</b> Planning Form Assignment Due in class
8-3/4	<b><u>Research Project – Run Experiment</u></b> Research Articles Assignment Due: 11:59 p.m. <b>Tue. 3/5</b>
9-3/11	<b><u>NO LABS – SPRING BREAK</u></b>
10-3/18	<b><u>Research Project – Results &amp; Writing Lab #1</u></b> In-Class Writing Assignment turned in during class Lab Report Rough Draft due at beginning of Writing Lab #2 class
11-3/25	<b><u>NO LABS – FRIDAY STUDY DAY</u></b>
12-4/1	<b><u>Research Project - Writing Lab #2</u></b> Rough Draft Review – <b><u>must have rough draft to earn points</u></b>
13 – 4/8	<b><u>DNA Isolation &amp; Crime Scene Analysis</u></b> Biotechniques Pre-lab Due: 11:59 p.m. <b>Tue. 4/9</b> <b><u>Final Lab Report due 11:59 p.m. Sunday 4/14</u></b>
14-4/15	<b><u>Diffusion and Osmosis</u></b> Biotechniques Assignment & Diffusion/Osmosis Pre-lab Due: 11:59 p.m. <b>Tue. 4/16</b>
15-4/22	<b><u>Respiration &amp; Photosynthesis</u></b> Diff/Osmosis Assignment & Resp/Photosynthesis Pre-lab Due: 11:59 p.m. <b>Tue. 4/23</b> Resp/Photosynthesis Assignment due 11:59 p.m. Monday, 4/29