BIOL 2021 - General Microbiology Lab

Spring 2026 Syllabus, Section 2L2, CRN 27383

Instructor Information

Oscar Ramos
Email: oramos@tamiu.edu

Oscar Noe Ramos, M.S. Biology
Senior Lecturer
Email: oramos@tamiu.edu
Office: LBV 184
Office Hours:
TBA
Office Phone: 9563262441

Times and Location

T 8:30am-11:30am in Lamar Bruni Vergara Science Ct 189

Course Description

Biology&Chemistry Department, College of Arts & Sciences

Student Learning Outcomes

Learning Outcomes

Upon the successful completion of this course, students will:

- Prepare, view, and analyze specimens using microscopy.
- Apply microbiological methods to isolate and differentiate microorganisms.
- Practice microbiology in a responsible and safe manner, using appropriate safety equipment and adhering to emergency procedures and guidelines.
- Document and communicate the methods, results, and conclusions of a scientific project.
- Identify, interpret and evaluate credible sources of information and cite them appropriately.
- Apply microbiology to human and environmental health and current scientific problems.

Important Dates

Visit the Academic Calendar (tamiu.edu) (https://www.tamiu.edu/academiccalendar/) page to view the term's important dates.

Textbooks

Group	Title	Author	ISBN
	Microbiology: Laboratory Theory and Application, Brief, 4th Edition	Norman-McKay, L., Leboffe, M., and Pierce, B.	9781640437791

Other Course Materials

Materials (Required during every lab meeting)

A composition notebook (dedicated notebook for General Microbiology Lab) will be required during every lab meeting.

Alternative to required text: Leboffe, M. J., and Pierce, B. E. (2015) Microbiology: Laboratory Theory and Application, 4th Edition, Morton Publishing Company, ISBN 978-1-6173-1250-2.

Grading Criteria

Grading Criteria and Course Schedule will be posted on Blackboard

Total laboratory grade is 20% of the overall course grade.

GRADE	PERCENTAGE
A	91-100
B	80-90.9
C	70-79.9
D	60-69.9
F	Below 60

Open Boilerplate

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Assignments

Lab Reports: Two lab reports will be written, describing the separation and identification of specific microorganisms. For this, each group of two students is required to perform all of the tests that are available in lab. After having performed the experiments, students are expected to write a report describing their results in formal scientific paper format (including bibliography). The instructor must be notified at least a week before the assignment deadline if there are any issues with partner participation. Any missed labs will result in a grade reduction for the lab report. A student will not receive credit for work not performed in lab. A detailed report guideline will be given during class.

Lab Notebook & Safety: A lab notebook will be required to document methods, observations, results, and discussion points. All data will be documented in the lab notebook required during every class period. Failure to bring your dedicated General Microbiology lab notebook containing previous labs and/or document lab protocols/observations will result in a grade of '0' for the lab period. Safety violations will also result in at least one grade letter deduction or even a grade of '0' for the lab period.

Quizzes: Quizzes will be administered in Blackboard or at the beginning of the lab period. No additional time will be provided for completion of these assignments, either online or in-person. Each quiz will cover the last one to two weeks materials/work and the upcoming lab. The lowest quiz score will be dropped.

Lab Safety: Students are required to complete general lab safety and orientation training for proper handling of BSL1 organisms. **Students must sign the general microbiology lab safety contract** (and keep the copy with them) to **acknowledge these trainings by February 4th** (12th day of class). **Any student who has not completed** the safety contract by the 12th day of class **will be dropped from the lab portion** of the microbiology class or receive a failing grade in the course. Students cannot attend labs without signing the safety contract. Safety violations will result in at least a letter grade deduction for Lab Notebook & Safety.

Any changes to the syllabus or course information will be posted on Blackboard.

Safety Practices

- Students are expected to **DRESS APPROPRIATELY** and follow laboratory safety procedures. Lab appropriate clothing (closed toe shoes with legs and torso covered) will be required for your own safety. Long hair must be tied back, and dangling jewelry is not allowed. **Students not dressed appropriately or intentionally violating safety policies will be required to leave lab** and receive a '0' for the day (Quizzes and/or Lab Notebook & Safety) and lab report grade deduction.

- Biological materials must be handled appropriately in accordance with the Biosafety Level I laboratory guidelines: aseptic techniques, proper handwashing before and after lab work, appropriate use of personal and protective equipment (PPE), disinfection of laboratory workspace before and after lab, decontamination procedures, proper disposal of waste, and safe handling of chemicals/biological agents.
- Absolutely **NO FOOD OR DRINK IN THE LAB**.
- **WASH YOUR HANDS** before and after working in the lab and during the lab as needed.
- Students are responsible for **cleaning and disinfecting their workstations prior to work** and leaving their **WORKSTATIONS CLEAN, ORDERLY, AND PROPERLY DISINFECTED.**
- To ensure safe practices and that correct procedures are followed**, cell phones for personal usage are not permitted** during lab activities. Feel free to excuse yourself from the classroom if necessary.
- Physical distancing and masks (face coverings) are recommended to prevent acquiring/transmitting a suspected respiratory illness. **Illnesses will receive accommodation. Documentation is required.**
- ***Safety violations will result in at least a letter grade deduction from the lab notebook grade for the day AND/OR quiz. Deliberate safety violations (including improper lab attire) will result in zero points for assignments (quiz, lab notebook; lab report grade deduction) and removal from the classroom.***

Participation/Attendance

- Attendance is **MANDATORY**. Exceptions do apply to those who have a valid excuse with documentation. Missing two labs without an excused absence (with documentation) will result in a grade deduction. Missing a total of three labs without providing proper documentation will result in a failing grade (zero) for your lab. **Students must pass the lab to pass the course. If you exhibit ANY respiratory illness, DO NOT COME TO CLASS.** Send an email immediately so that we can accommodate you.
- **MISSED CLASS NOTES** are not provided by the instructor and must be obtained from other students.
- **MISSED QUIZZES** may not be made up and will result in a grade of zero for the missed quiz (to be determined by the instructor).
- **MISSED LAB SESSION.** If space is available, you will be expected to attend another lab session to complete assigned work. Please contact your instructor to arrange this within 24 hours of the missed session. Missed labs will result in a lab report grade deduction.
- Assignments are due on the date designated by the instructor. **LATE COURSE WORK IS NOT ACCEPTED** (e.g. reports or presentations), unless otherwise indicated by the instructor. Work will only be accepted in an emergency situation.
- **BE ON TIME.** Any student who is 5 minutes late for class will not be able to participate in that day's lab. This will be reflected in your grade.

Plagiarism & AI Policy

If your assignment includes copied or closely borrowed sentences & sections of a sentence from someone else's work, a publication, or an AI tool (like ChatGPT), it will be considered plagiarism. In science writing, direct quotes are not allowed—everything needs to be explained in your own words. Plagiarized work will receive a zero or a failing grade. AI assistance for grammar, such as Grammarly, is acceptable.

The good news is, avoiding plagiarism is totally doable! Take time to understand the material, then explain it using your own voice. If you are ever unsure, ask for help—your professors are here to support you.

Schedule of Topics and Assignments

Day	Date	Agenda/Topic	Reading(s)	Due
Tue	1/20	MLK Holiday (Labs do not meet this week)		
Tue	1/27	Introduction to Course & Lab Safety Tools of Microbiology		
Tue	2/3	Bacterial Staining Techniques (I – Basic Stain)		
Tue	2/10	Bacterial Staining Techniques II (Gram Stain)		
Tue	2/17	Introduction to Biochemical Characterization Biochemical Characterization I (Inoculation of Known Bacterium)		
Tue	2/24	Biochemical Characterization II (Gram stain & agar assays		
Tue	3/3	Biochemical Characterization III (Agar Assay Results & Test tube assays)		
Tue	3/10	Spring Break		

Tue	3/17	Biochemical Characterization III (Observations) Unknown Lab I (inoculation of unknown bacterium)
Tue	3/24	Unknown Lab II *Biochemical Characterization Report Due
Tue	3/31	Unknown Lab III
Tue	4/7	Unknown Lab IV
Tue	4/14	Transformation Lab *Unknown Lab Report Due
Tue	4/21	Presentations
Tue	4/28	Presentations
Tue	5/5	Labs have concluded
Tue	5/12	Labs have concluded

University/College Policies

Please see the University Policies below.

COVID-19 Related Policies

If you have tested positive for COVID-19, please refer to the Student Handbook, Appendix A (Attendance Rule) for instructions.

Required Class Attendance

Students are expected to attend every class in person (or virtually, if the class is online) and to complete all assignments. If you cannot attend class, it is your responsibility to communicate absences with your professors. The faculty member will decide if your excuse is valid and thus may provide lecture materials of the class. According to University policy, acceptable reasons for an absence, which cannot affect a student's grade, include:

- Participation in an authorized University activity.
- Death or major illness in a student's immediate family.
- Illness of a dependent family member.
- Participation in legal proceedings or administrative procedures that require a student's presence.
- Religious holy day.
- Illness that is too severe or contagious for the student to attend class.
- Required participation in military duties.
- Mandatory admission interviews for professional or graduate school which cannot be rescheduled.

Students are responsible for providing satisfactory evidence to faculty members within seven calendar days of their absence and return to class. They must substantiate the reason for the absence. If the absence is excused, faculty members must either provide students with the opportunity to make up the exam or other work missed, or provide a satisfactory alternative to complete the exam or other work missed within 30 calendar days from the date of absence. Students who miss class due to a University-sponsored activity are responsible for identifying their absences to their instructors with as much advance notice as possible.

Classroom Behavior (applies to online or Face-to-Face Classes)

In the classroom, students are expected to listen attentively, participate respectfully, and adhere to established rules. Behavior that interferes with the class lecture may result in disciplinary action, ensuring a productive and respectful learning environment for everyone. Any disputes over academic matters should be addressed calmly and constructively, ideally during designated times such as office hours or after class. If a student does not agree with a decision, they can request a meeting with the instructor to discuss their concerns in more detail. Should further resolution be needed, the student may escalate the matter to the department head or use formal grievance procedures as outlined in the sections below. (please refer to Student Handbook Article 4 (https://www.tamiu.edu/handbook/article-04.shtml)).

TAMIU Honor Code: Plagiarism and Cheating

As a TAMIU student, you are bound by the TAMIU Honor Code to conduct yourself ethically in all your activities as a TAMIU student and to report violations of the Honor Code. Please read carefully the Student Handbook Article 7 and Article 10 available at Student Handbook (https://www.tamiu.edu/handbook/index.shtml).

We are committed to strict enforcement of the Honor Code. Violations of the Honor Code tend to involve claiming work that is not one's own, most commonly plagiarism in written assignments and any form of cheating on exams and other types of assignments.

Plagiarism is the presentation of someone else's work as your own. It occurs when you:

1. Borrow someone else's facts, ideas, or opinions and put them entirely in your own words. You must acknowledge that these thoughts are not your own by immediately citing the source in your paper. Failure to do this is plagiarism.
2. Borrow someone else's words (short phrases, clauses, or sentences), you must enclose the copied words in quotation marks as well as citing the source. Failure to do this is plagiarism.
3. Present someone else's paper or exam (stolen, borrowed, or bought) as your own. You have committed a clearly intentional form of intellectual theft and have put your academic future in jeopardy. This is the worst form of plagiarism.

Here is another explanation from the 2020, seventh edition of the Manual of The American Psychological Association (APA):

"Plagiarism is the act of presenting the words, idea, or images of another as your own; it denies authors or creators of content the credit they are due. Whether deliberate or unintentional, plagiarism violates ethical standards in scholarship" (p. 254). This same principle applies to the illicit use of AI.

Plagiarism: Researchers do not claim the words and ideas of another as their own; they give credit where credit is due. Quotations marks should be used to indicate the exact words of another. Each time you paraphrase another author (i.e., summarize a passage or rearrange the order of a sentence and change some of the words), you need to credit the source in the text. The key element of this principle is that authors do not present the work of another as if it were their own words. This can extend to ideas as well as written words. If authors model a study after one done by someone else, the originating author should be given credit. If the rationale for a study was suggested in the discussion section of someone else's article, the person should be given credit. Given the free exchange of ideas, which is very important for the health of intellectual discourse, authors may not know where an idea for a study originated. If authors do know, however, they should acknowledge the source; this includes personal communications (p. 11). For guidance on proper documentation, consult the Academic Success Center or a recommended guide to documentation and research such as the Manual of the APA or the MLA Handbook for Writers of Research Papers. If you still have doubts concerning proper documentation, seek advice from your instructor prior to submitting a final draft.

TAMIU has penalties for plagiarism and cheating.

- **Penalties for Plagiarism**: Should a faculty member discover that a student has committed plagiarism, the student should receive a grade of 'F' in that course and the matter will be referred to the Honor Council for possible disciplinary action. The faculty member, however, may elect to give freshmen and sophomore students a "zero" for the assignment and to allow them to revise the assignment up to a grade of "F" (50%) if they believe that the student plagiarized out of ignorance or carelessness and not out of an attempt to deceive in order to earn an unmerited grade; the instructor must still report the offense to the Honor Council. This option should not be available to juniors, seniors, or graduate students, who cannot reasonably claim ignorance of documentation rules as an excuse. For repeat offenders in undergraduate courses or for an offender in any graduate course, the penalty for plagiarism is likely to include suspension or expulsion from the university.
    - *Caution*: Be very careful what you upload to Turnitin or send to your professor for evaluation. Whatever you upload for evaluation will be considered your final, approved draft. If it is plagiarized, you will be held responsible. The excuse that "it was only a draft" will not be accepted.
    - *Caution*: Also, do not share your electronic files with others. If you do, you are responsible for the possible consequences. If another student takes your file of a paper and changes the name to his or her name and submits it and you also submit the paper, we will hold both of you responsible for plagiarism. It is impossible for us to know with certainty who wrote the paper and who stole it. And, of course, we cannot know if there was collusion between you and the other student in the matter.
- **Penalties for Cheating**: Should a faculty member discover a student cheating on an exam or quiz or other class project, the student should receive a "zero" for the assignment and not be allowed to make the assignment up. The incident should be reported to the chair of the department and to the Honor Council. If the cheating is extensive, however, or if the assignment constitutes a major grade for the course (e.g., a final exam), or if the student has cheated in the past, the student should receive an "F" in the course, and the matter should be referred to the Honor Council. Additional penalties, including suspension or expulsion from the university may be imposed. Under no circumstances should a student who deserves an "F" in the course be allowed to withdraw from the course with a "W."
    - *Caution*: Chat groups that start off as "study groups" can easily devolve into "cheating groups." Be very careful not to join or remain any chat group if it begins to discuss specific information about exams or assignments that are meant to require individual work. If you are a member of such a group and it begins to cheat, you will be held responsible along with all the other members of the group. The TAMIU Honor Code requires that you report any such instances of cheating.
- **Student Right of Appeal**: Faculty will notify students immediately via the student's TAMIU e- mail account that they have submitted plagiarized work. Students have the right to appeal a faculty member's charge of academic dishonesty by notifying the TAMIU Honor Council of their intent to appeal as long as the notification of appeal comes within 10 business days of the faculty member's e-mail message to the student and/or the Office of Student Conduct and Community Engagement. The Student Handbook provides more details.

Use of Work in Two or More Courses

You may not submit work completed in one course for a grade in a second course unless you receive explicit permission to do so by the instructor of the second course. In general, you should get credit for a work product only once.

AI Policies

Your instructor will provide you with their personal policy on the use of AI in the classroom setting and associated coursework.

TAMIU E-Mail and SafeZone

Personal Announcements sent to students through TAMIU E-mail (tamiu.edu or dusty email) are the official means of communicating course and university business with students and faculty –not the U.S. Mail and no other e-mail addresses. Students and faculty must check their TAMIU e-mail accounts regularly, if not daily. Not having seen an important TAMIU e-mail or message from a faculty member, chair, or dean is not accepted as an excuse for failure to take important action.

Students, faculty, and staff are encouraged to download the SafeZone app, which is a free mobile app for all University faculty, staff, and students. SafeZone allows you to: report safety concerns (24/7), get connected with mental health professionals, activate location sharing with authorities, and anonymously report incidents. Go to SafeZone (https://www.tamiu.edu/adminis/police/safezone/index.shtml) for more information.

Copyright Restrictions

The Copyright Act of 1976 grants to copyright owners the exclusive right to reproduce their works and distribute copies of their work. Works that receive copyright protection include published works such as a textbook. Copying a textbook without permission from the owner of the copyright may constitute copyright infringement. Civil and criminal penalties may be assessed for copyright infringement. Civil penalties include damages up to $100,000; criminal penalties include a fine up to $250,000 and imprisonment. Copyright laws do not allow students and professors to make photocopies of copyrighted materials, but you may copy a limited portion of a work, such as article from a journal or a chapter from a book for your own personal academic use or, in the case of a professor, for personal, limited classroom use. In general, the extent of your copying should not suggest that the purpose or the effect of your copying is to avoid paying for the materials. And, of course, you may not sell these copies for a profit. Thus, students who copy textbooks to avoid buying them or professors who provide photocopies of textbooks to enable students to save money are violating the law.

Students with Disabilities

Texas A&M International University seeks to provide reasonable accommodations for all qualified persons with disabilities. This University will adhere to all applicable federal, state, and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal education opportunity. It is the student's responsibility to register with the Office of Disability Services for Students located in Student Center 124. This office will contact the faculty member to recommend specific, reasonable accommodations. Faculty are prohibited from making accommodations based solely on communications from students. They may make accommodations only when provided documentation by the Office of Disability Services for Students.

For accommodations or assistance with disabilities, contact the Disability Coordinator, Karla Pedraza, at karla.pedraza@tamiu.edu, call 956.326.2763, or visit Student Center 124.

Student Attendance and Leave of Absence (LOA) Policy

As part of our efforts to assist and encourage all students towards graduation, TAMIU provides
LOA's for students, including pregnant/parenting students, in accordance with the Attendance Rule (Section 3.07) and the Student LOA Rule (Section 3.08), which includes the "Leave of Absence Request" form. Both rules can be found in the TAMIU Student Handbook (URL: Student Handbook (https://www.tamiu.edu/handbook/index.shtml)).

Pregnant and Parenting Students

Under Title IX of the Education Amendments of 1972, harassment based on sex, including harassment because of pregnancy or related conditions, is prohibited. A pregnant/parenting student must be granted an absence for as long as the student's physician deems the absence medically necessary. It is a violation of Title IX to ask for documentation relative to the pregnant/parenting student's status beyond what would be required for other medical conditions. Students who experience or observe alleged or suspected discrimination due to their pregnant/parenting status, should report to the TAMIU Title IX Coordinator (Lorissa M. Cortez, 5201 University Boulevard, KLM 159B, Laredo, TX 78041, TitleIX@tamiu.edu, 956.326.2857) and/or the Office of Civil Rights (Dallas Office, U.S. Department of Education, 1999 Bryan Street, Suite 1620, Dallas, TX 75201-6810, 214.661.9600). You can also report it on TAMIU's anonymous electronic reporting site, *Report It*, at https://www.tamiu.edu/reportit (https://www.tamiu.edu/reportit/index.shtml).

TAMIU advises a pregnant/parenting student to notify their professor once the student is aware that accommodations for such will be necessary. It is recommended that the student and professor develop a reasonable plan for the student's completion of missed coursework or assignments. The Office of Compliance (Lorissa M. Cortez, lorissam.cortez@tamiu.edu) can assist the student and professor in working out the reasonable accommodation. For other questions or concerns regarding Title IX compliance related to pregnant/parenting students, contact the Title IX

Coordinator. In the event that a student needs a leave of absence for a substantial period of time, TAMIU urges the student to consider a Leave of Absence (LOA) as outlined in the TAMIU *Student Handbook*.#As part of our efforts to assist and encourage all students towards graduation, TAMIU provides LOAs for students, including pregnant/parenting students, in accordance with the Attendance Rule and the Student LOA Rule.#Both rules can be found in the TAMIU *Student Handbook*.

For parenting-related rights, accommodations, and resources, contact the Parenting Liaison, Mayra Hernandez, at mghernandez@tamiu.edu, call 956.326.2265, or visit Student Center 226.

For pregnancy-related rights, accommodations, and resources, contact the TIX Coordinator, Lorissa Cortez, at lorissaM.cortez@tamiu.edu, call 956.326.2857, or visit Killam Library 159.

Anti-Discrimination/Title IX

TAMIU does not discriminate or permit harassment against any individual on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, educational programs, or employment. If you would like to file a complaint relative to Title IX or any civil rights violation, please contact the TAMIU Director of Equal Opportunity and Diversity/Title IX Coordinator, Lorissa M. Cortez, 5201 University Boulevard, Killam Library 159B, Laredo, TX 78041, TitleIX@tamiu.edu, 956.326.2857, via the anonymous electronic reporting website, ReportIt (https://www.tamiu.edu/reportit) and/or the Office of Civil Rights (Dallas Office), U.S. Department of Education, 1999 Bryan Street, Suite 1620, Dallas, TX 75201-6810, 214.661.9600.

Incompletes

Students who are unable to complete a course should withdraw from the course before the final date for withdrawal and receive a "W." To qualify for an "incomplete" and thus have the opportunity to complete the course at a later date, a student must meet the following criteria:

1. The student must have completed 90% of the course work assigned before the final date for withdrawing from a course with a "W", and the student must be passing the course;
2. The student cannot complete the course because an accident, an illness, or a traumatic personal or family event occurred after the final date for withdrawal from a course;
3. The student must sign an "Incomplete Grade Contract" and secure signatures of approval from the professor and the college dean.
4. The student must agree to complete the missing course work before the end of the next long semester; failure to meet this deadline will cause the "I" to automatically be converted to an "F"; extensions to this deadline may be granted by the dean of the college. This is the general policy regarding the circumstances under which an "incomplete" may be granted, but under exceptional circumstances, a student may receive an incomplete who does not meet all of the criteria above if the faculty member, department chair, and dean recommend it.

WIN Contracts

The Department of Biology and Chemistry does not permit WIN contracts. For other departments within the college, WIN Contracts are offered only under exceptional circumstances and are limited to graduating seniors. Only courses offered by full-time TAMIU faculty or TAMIU instructors are eligible to be contracted for the WIN requirement. However, a WIN contract for a course taught by an adjunct may be approved, with special permission from the department chair and dean. Students must seek approval before beginning any work for the WIN Contract. No student will contract more than one course per semester. Summer WIN Contracts must continue through both summer sessions.

Student Responsibility for Dropping a Course

It is the responsibility of the student to drop the course before the final date for withdrawal from a course. Faculty members, in fact, may not drop a student from a course without getting the approval of their department chair and dean.

Independent Study Course

Independent Study (IS) courses are offered only under exceptional circumstances. Required courses intended to build academic skills may not be taken as IS (e.g., clinical supervision and internships). No student will take more than one IS course per semester. Moreover, IS courses are limited to seniors and graduate students. Summer IS course must continue through both summer sessions.

Grade Changes & Appeals

Faculty are authorized to change final grades only when they have committed a computational error or an error in recording a grade, and they must receive the approval of their department chairs and the dean to change the grade. As part of that approval, they must attach a detailed explanation of the reason for the mistake. Only in rare cases would another reason be entertained as legitimate for a grade change. A student who is unhappy with his or her grade on an assignment must discuss the situation with the faculty member teaching the course. If students believe that they have been graded unfairly, they have the right to appeal the grade using a grade appeal process in the Student Handbook and in the Faculty Handbook.

Final Examination

All courses in all colleges must include a comprehensive exam or performance and be given on the date and time specified by the Academic Calendar and the Final Exam schedule published by the Registrar's Office. In the College of Arts & Sciences all final exams must contain a written component.

The written component should comprise at least 20% of the final exam grade. Exceptions to this policy must receive the approval of the department chair and the dean at the beginning of the semester.

Mental Health and Well-Being

The university aims to provide students with essential knowledge and tools to understand and support mental health. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it. The Telus app is available to download directly from TELUS (tamiu.edu) (https://www.tamiu.edu/counseling/telus/) or from the Apple App Store and Google Play.