

BIOL 2421-Microbiology LAB-Fall 2025 Syllabus
Texas A&M University-San Antonio
Instructor: Dr. Davida Smyth, Teaching Assistant: Sarah Freeman
Office: SciTech 311E
Office hours: TBD p.m. (Other hours available by appt.)
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Class Meeting Time and Location

Lab 03L R 11:00-1:45, CAB 302

Lab 05L W 3:00-5:45, CAB 302

Lab 01L R 3:30-6:15, CAB 302

Learning objectives (need more here – be more specific)

The student will learn the basic techniques for studying microbial organisms, including but not limited to, microscopy, sterile technique, different culturing methods, slide preparation and staining. The laboratory portion of the course will provide hands-on experience with experimental scientific principles, as well as illustrate and enhance concepts covered in the lecture course. This course includes a classroom undergraduate research experience that will give students exposure to an authentic research experience.

Expectations

- 1) You are expected to arrive on time and be ready to work.
- 2) You are expected to have read the lab handout **prior to class** in enough depth to understand the experiment for the day. If it becomes apparent that students are not preparing for class, pre-lab quizzes or writing assignments may be instituted.
- 3) There are mandatory online pre-lab exercises to complete via the McGraw-Hill Connect system. These are linked on Blackboard.
- 4) You are expected to print out the lab handouts posted on Blackboard and bring them to the lab. Each student will keep a 3-ring binder with the lab handouts in order.
- 5) You will also have to write up your experiments each week in an online notebook called Benchling. This will be checked for participation points. You must write up your work after each session.
- 6) You are expected to wear a lab coat each week unless otherwise instructed. You will also be required to have long pants and close-toed shoes or you will be asked to leave.
- 7) You are expected to remain in the lab for **the full period** and to participate actively.

Required Materials

- Blackboard access: Students are expected to access Blackboard daily.
 - Lab information and handouts will be posted on Blackboard.
 - Important announcements may be posted on Blackboard and are considered equivalent to items announced in class.
 - Grades will be posted on Blackboard for information purposes. (Calculations are done offline in Excel.)
- Jaguar email account: Students are expected to access their Jaguar email accounts routinely as that account will be another main method for me to communicate with you. I cannot respond to emails containing any private information to your personal account as it is a violation of university policy.
- University laboratory safety agreement must be signed prior to the start of the second lab session.
- LAB COAT policy: You will be provided with a disposable lab coat that will remain in the microbiology lab. You are responsible for keeping it uncontaminated and in good shape for the semester. If you contaminate the coat, you are required to let us know so that we can decontaminate it with bleach, ethanol, or by autoclaving as appropriate. You will be shown how to remove your coat properly, fold it, and place it in a

storage bag with your name on it. Bins will be provided for the storage bags. If we determine that your coat is too damaged to be used safely you will be required to purchase a replacement for \$5.

- A scientific calculator is highly recommended. For safety reasons, phones are not to be used in class without permission.
- A 3-ring binder for handouts.

Communication

As stated above, all students are expected to access Blackboard for updates on the course and to find the course materials. I am available during office hours if you need clarification on the material in this course, and I will post a notice on Blackboard or on my door if I am pulled away into a meeting during a scheduled office hour. I may also be down the hall in the lab and will leave a note for you to come to find me there. I am available to make appointments at other times as well. Please use the email function on blackboard to contact me. I will respond as soon as possible.

If you are having a significant crisis in your life, please come talk to me sooner rather than later. If I can help you early in the semester, it is much better than trying to salvage things at the end of the semester.

Grading

This course combines a lecture and laboratory section. These two sections will have different weights for your final grade for the course. The lecture section will be worth 75% of your course grade. The laboratory section will be worth 25% of your grade.

The total grade will be calculated by:

$$\begin{array}{rcl} & (\% \text{ of the available lecture points earned} \times 0.75) & \\ + & (\% \text{ of the available lab points earned} \times 0.25) & \\ = & \text{total \% grade for the course.} & \end{array}$$

Sample calculation for a student whose lecture grade is 85 and whose lab grade is 95:

Final grade = $(85 \times 0.75) + (95 \times 0.25) = 87.5$ (this student earned a B)

Laboratory Exercises and Grades

- Your lab grade will consist of the following:
 - Attendance and active participation each week. These points include any data analysis or worksheets assigned, bringing printouts, keeping your Benchling notebook in order, being on time, etc.
 - $X \text{ sessions} \times 20$ (10 for benchling, 5 for attendance, 5 for worksheet completion) pts. = X pts.
 - You may miss one lab period without penalty. (There are 15 lab weeks.) I do not need you to provide an excuse for your one allowed absence.
 - If you attend all lab sessions (15), you will receive a maximum of an extra 10 points as a bonus for the 15th session (max. 310 earned out of 300—over 100% for attendance is possible.) This bonus is to encourage you to attend all lab weeks!
 - If you miss an additional lab period but have an approved excuse and documentation, you will not be penalized. However, your lab grade percentage will be calculated based on fewer points available (e.g., if you miss 2 labs, your grade would be calculated based on 200 available attendance points.) Acceptance of the excuse is at my discretion.
 - If a student misses 4 lab periods for any reason, the student will automatically fail the lab portion of the course. Attendance in the lab is required; there is no substitute for hands-on work.

- **No makeup work** will be given for missed labs. If you miss labs early in the semester, we will discuss maintaining attendance for the rest of the semester to earn back partial credit for the lab.
 - I will calculate this on the basis of attendance (5 points), worksheet completion (5 points) and benchling entry (10 points).
- Quizzes: 3 quizzes given. 3 X 10 pts = **30 pts**.
- You will have to generate a poster. A template will be provided. Poster=**70 pts**.
- Total available points for the lab: **300+30+70= 400 pts**. Your percentage of these points earned will be your lab average, e.g. 300 pts. earned/ 400 pts. available = 0. 75 or 75%
- I reserve the right to institute pre-lab quizzes if I feel that students are coming to the lab unprepared. This will change the total point availability above and grade percentages accordingly.
- Note that if you are late for a quiz or leave the lab period prior to completing the assigned lab, you will **not** be able to make up those points. You are expected to stay the entire lab period unless there is a documented emergency.
- Late assignments will only be accepted within 24 hrs. of the due date and 10% will be automatically deducted. Again, this does not apply to online pre-lab assignments.

Attendance Policy

- **Quiz Day Attendance:** Mandatory. No quiz make-up. If you miss a quiz, it will be the one you drop. If you arrive after the quiz, you will not be allowed to take it.
- **Lab Attendance:** Mandatory (no make-up allowed.) There will be **no provisions made for you to make up a lab** as these require hands-on participation and materials are only available for that week.
- Because life happens and sometimes the ability to make it to the lab is impossible, you will be allowed to **miss one lab without penalty**. Use this excused absence wisely for a true illness or emergency. You will still be responsible for the material on any quizzes and should obtain the information from a classmate.
- Any student who has **missed more than 3 lab periods will fail the laboratory portion of the course**. (See above.) Again, if you attend all labs, you will receive 10 attendance points as a bonus for attending the Xth week (for a total of 250 points maximum.)

Classroom Behavior

The bottom line is respect for your peers who are trying to learn, and for me and my time as the instructor.

- Disruptions are to be kept to an absolute minimum—if you have a habit of getting up during class routinely, I will ask you to leave for the day. An occasional trip to the restroom is fine. In the lab, you **MUST** always wash your hands prior to leaving the room. I will deduct points if I see you leave without washing your hands.
- A well-timed question is **always** encouraged and is not considered a disruption.
- Earbuds and headphones may **NEVER** be worn during class/lab periods.
- Phones must be on vibrate or turned OFF for the entirety of the class/lab period. Phones must be kept in the lab cubbies.
 - If you must take a call during class, answer the call quickly (if it is not disruptive) and leave the room before beginning a conversation. Tell the person you are in the lab and need to wash your hands before continuing the conversation. Keep these disruptions to an absolute minimum, and only for **emergencies**. If the phone rings a second time and you must take the call, you should go deal with the emergency, and please do not return to the classroom that day.
 - Do not text during lab instruction time; it is distracting to everyone and disrespectful of the academic environment. If you are in a waiting step during an experiment, limited texting for necessary purposes is usually okay.

- During quizzes, ALL electronic devices (phones, music players, iPods, laptops, etc.) must be stored in the lab cubbies. Attempts to cheat on quizzes and exams will result in a maximum penalty (see below). You will not be allowed to leave the classroom during a quiz. Phones may not be used as a calculator for an exam or quiz.
- We may discuss controversial topics occasionally. Please abide by common courtesy and listen with respect to the opinions of your peers during class. If a student becomes abusive or disrespectful, he/she will be asked to leave the class or further action must be taken.
- Only students enrolled in the course are allowed in the laboratory classroom. Children are not allowed in the lab.
- If you have a preferred nickname or gender pronoun, please indicate that to me in whatever method is most comfortable for you: after class, via email, during office hours etc.
- If you are a veteran or military-related student with special concerns (deployment, disability accommodations, etc.), please let me know. You may also contact the Office of Military Affairs at 210-784-1174.
- No food or drink is allowed in the laboratory unless it is in a sealed container in your backpack in a cubby. If you need to step out of the lab during a break, you must WASH HANDS, get the sealed container, or water bottle from your backpack, and take it outside to eat or drink in the hallway. No open drink cups are allowed.

Please see your lecture syllabus for all the university policies regarding financial aid, disability services, student misconduct, etc. All stated policies apply to the lab portion of the course as well.

IMPORTANT POLICIES AND RESOURCES

Academic Accommodations for Individuals 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, Disability Support Services is located in the Central Academic Building, Suite 210. You can also contact us via phone at (210) 784-1335, visit us <https://www.tamusa.edu/Disability-Support-Services/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 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 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 Madla 120.

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. For more information on SCC services, visit <http://tamusa.edu/studentcounseling>

Crisis support is available 24/7 by calling the SCC at 210-784-1331.

Additionally, the TELUS Student Support App provides a variety of mental health resources to including support for in-the-moment distress, an anonymous peer-to-peer support network, mental health screenings, podcasts, and articles to improve your mental wellbeing.

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, an email with instructions, and updates. To register or update your information, visit: <https://tamusa.bbcportal.com>

More information about the Emergency Operations Plan and the Emergency Action Plan can be found here: <https://www.tamusa.edu/about-us/emergency-management/>

Download the SafeZone App (<https://safezoneapp.com/>) 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 by the published Census Date (the first week of class). Any student receiving federal financial aid who does not attend prior to the published Census Date (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://www.tamusa.edu/academics>.

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 submit a CARE referral (<https://www.tamusa.edu/university-policies/Student-Rights-and-Responsibilities/file-a-report.html>) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to direct you to available resources.

Office Hours: All faculty with teaching assignments should include regularly scheduled office hours on each syllabus in addition to "by appointment." Please review your appointment letter for the number of weekly office hours you are expected to set. Regularly scheduled office hours should also be posted outside your office door (where applicable).

Military Affairs: Veterans and active-duty military personnel are welcome and encouraged to visit the Office of Military Affairs for any questions involving federal or state VA Education Benefits. Visit the Patriots' Casa building, room 202, or 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 traditions. Under the policy, students are provided with an opportunity to make up any examination, study, or coursework 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, equal 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 on our campus and within our state, nation, and world. All decisions and actions involving students and employees are to 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, or pregnancy/parenting status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the University's Civil Rights Officer at 210-784-2061 or titleix@tamusa.edu.

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 based on sex, 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, sexual violence, or other related sex-based 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 such reasonable modifications to pregnant students as would be provided to a student with a temporary medical condition that is 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.

Young Jaguars: can support parenting students with daycare who meet this criteria: Must be enrolled in classes at TAMUSA in the current semester. Must be Pell eligible or a single parent. They serve children ages 3 to 12 years old. Children must be enrolled in Pre-K-3 through 6th grade. youngjaguars@tamusa.edu (210) 784-2636

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, gender identity, gender expression, and pregnancy/parenting 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 the university students' 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, and University Catalog, and to comply with them, as well as with 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 a safe environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notifications.

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. Conduct that infringes 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 that 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 academic misconduct. For more information on academic misconduct policies and procedures, please review the Student Code of Conduct (<https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/documents/Student-Handbook-2022-23.pdf>) or visit the resources available on the OSRR website (<https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/academic-integrity.html>).

Broader Use of Generative AI Permitted Within Guidelines

Use of artificial intelligence (AI) tools, including ChatGPT, is permitted in this course for students who wish to use them. To adhere to our scholarly values, students must cite any AI-generated material that informed their work (this includes in-text citations and/or use of quotations, and in your reference list). Using an AI tool to generate content without proper attribution qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.

NOTE: Guidance for how to cite AI-generators, like ChatGPT, can be found here <https://apastyle.apa.org/blog/how-to-cite-chatgpt>

Important Dates: Fall 2025 Regular 16-Week Session

August 25	First day of class
September 1	Labor Day Holiday – No classes
September 10	Census Date
November 14	Last day to drop with an automatic “W”
November 25	Last day to withdraw from the University
November 26	Study Day – No classes
November 27-29	Thanksgiving Holiday – No classes
December 4	Last day of classes
December 5	Study Day – No classes
December 6-12	Final exams
December 16	Commencement

The complete academic calendar is available online:

<https://www.tamusa.edu/academics/academic-calendar/index.html>

BIOL 2421 Intro to Micro Lab—Fall 2025—Wednesday section

Week	Dates	Lab Number	Laboratory Topics	Benchling Entry Due
1	08/27	Module 1 – Handwashing and the ubiquity of microbes (GloGerm)	<ul style="list-style-type: none"> • Lab safety/Course expectations • Set up Benchling • Handwashing lab • Content Inventory baseline 	9/03 (lab safety, 5 pts)
2	09/03	Module 2 – How to collect your soil samples	<ul style="list-style-type: none"> • How to sample and collect metadata 	9/10 (Field work, 5 pts)
3	09/10	Module 3 – Pipetting practice and microscopy continued	<ul style="list-style-type: none"> • Pipetting practice • How to use the microscope 	9/17 (Taking pictures of the sampling site, 5 pts)
4	9/17	Module 4 – Streaking and simple stain	<ul style="list-style-type: none"> • Streaking of bacteria • Simple stain of bacteria • Results of module 3 	9/24 (Streaking and staining, 5 pts)
5	9/24	Module 5 – Gram Stain and boil preparations	<ul style="list-style-type: none"> • Quiz 1 • Gram stain • Introduction to PCR • Results of module 4 	10/01 (Gram stain, 5 pts)
6	10/01	Module 6 – Selective growth Module 7 – Anaerobic growth	<ul style="list-style-type: none"> • Results of module 5 • Selective Growth Media • Introduction to Anaerobic Growth • <i>First Check of Benchling for Completeness</i> 	10/08 (Selective growth, 5 pts)
7	10/08	Module 8 – Biochemical testing Module 9 - Fermentation tubes	<ul style="list-style-type: none"> • Quiz 2 • Results of module 6 • Results of module 7 • Biochemical Tests • Fermentation tubes 	10/15 (Fermentation, 5 pts)
8	10/15	Module 10 – Aseptic technique and microbial plate counts of soil	<ul style="list-style-type: none"> • Aseptic technique • Results of module 8 • Results of module 9 	10/22 (Aseptic technique, 5 pts)

9	10/22	Module 11 – Preparing your master plate	<ul style="list-style-type: none"> ● Quiz 3 ● Patching onto an agar plate ● Results of module 10 	10/29 (TBD, 5 pts)
10	10/29	Module 12 – Screen for antibiotic producers	<ul style="list-style-type: none"> ● Patching onto tester strains ● Results of module 11 	11/05 (Watch video, 5 pts)
11	11/05	Module 13 – PCR and Electrophoresis	<ul style="list-style-type: none"> ● Quiz 4 ● Results of module 12 ● PCR and how to run a gel 	11/12 (PCR, 5 pts)
12	11/12	Module 14 – Sequencing analysis	<ul style="list-style-type: none"> ● Results of module 13 ● How to blast your sequence 	11/19 (BLAST, 5 pts)
13	11/19	Module 15 – Poster Design	<ul style="list-style-type: none"> ● Results of module 14 ● Posters 	12/03 (Poster design)
14	12/03	Module 16 – Poster Gallery – peer review	<ul style="list-style-type: none"> ● Last lab period of the semester ● Quiz 5 ● <i>Final Benchling check</i> 	
15	12/10		<ul style="list-style-type: none"> ● Reading week, Poster is Due this week 	

This schedule is subject to change as the semester progresses.

Changes will be announced in class and on BB if needed.

BIOL 2421 Intro to Micro Lab—Fall 2025—Thursday sections

Week	Dates	Lab Number	Laboratory Topics	Benchling Entry Due
1	08/28	Module 1 – Handwashing and the ubiquity of microbes (GloGerm)	<ul style="list-style-type: none"> • Lab safety/Course expectations • Set up Benchling • Handwashing lab • Content Inventory baseline 	9/04 (lab safety, 5 pts)
2	09/04	Module 2 – How to collect your soil samples	<ul style="list-style-type: none"> • How to sample and collect metadata 	9/11 (Field work, 5 pts)
3	09/11	Module 3 – Pipetting practice and microscopy continued	<ul style="list-style-type: none"> • Pipetting practice • How to use the microscope 	9/18 (Taking pictures of the sampling site, 5 pts)
4	9/18	Module 4 – Streaking and simple stain	<ul style="list-style-type: none"> • Streaking of bacteria • Simple stain of bacteria • Results of module 3 	9/25 (Streaking and staining, 5 pts)
5	9/25	Module 5 – Gram Stain and boil preparations	<ul style="list-style-type: none"> • Quiz 1 • Gram stain • Introduction to PCR • Results of module 4 	10/02 (Gram stain, 5 pts)
6	10/02	Module 6 – Selective growth Module 7 – Anaerobic growth	<ul style="list-style-type: none"> • Results of module 5 • Selective Growth Media • Introduction to Anaerobic Growth • <i>First Check of Benchling for Completeness</i> 	10/09 (Selective growth, 5 pts)
7	10/09	Module 8 – Biochemical testing Module 9 - Fermentation tubes	<ul style="list-style-type: none"> • Quiz 2 • Results of module 6 • Results of module 7 • Biochemical Tests • Fermentation tubes 	10/16 (Fermentation, 5 pts)
8	10/16	Module 10 – Aseptic technique and microbial plate counts of soil	<ul style="list-style-type: none"> • Aseptic technique • Results of module 8 • Results of module 9 	10/23 (Aseptic technique, 5 pts)

9	10/23	Module 11 – Preparing your master plate	<ul style="list-style-type: none"> ● Quiz 3 ● Patching onto an agar plate ● Results of module 10 	10/30 (TBD, 5 pts)
10	10/30	Module 12 – Screen for antibiotic producers	<ul style="list-style-type: none"> ● Patching onto tester strains ● Results of module 11 	11/06 (Watch video, 5 pts)
11	11/06	Module 13 – PCR and Electrophoresis	<ul style="list-style-type: none"> ● Quiz 4 ● Results of module 12 ● PCR and how to run a gel 	11/13 (PCR, 5 pts)
12	11/13	Module 14 – Sequencing analysis	<ul style="list-style-type: none"> ● Results of module 13 ● How to blast your sequence 	11/20 (BLAST, 5 pts)
13	11/20	Module 15 – Poster Design	<ul style="list-style-type: none"> ● Results of module 14 ● Posters 	12/04 (Poster design)
14	12/04	Module 16 – Poster Gallery – peer review	<ul style="list-style-type: none"> ● Last lab period of the semester ● Quiz 5 ● <i>Final Benchling check</i> 	
15	12/11		<ul style="list-style-type: none"> ● Reading week, Poster is Due this week 	

This schedule is subject to change as the semester progresses.

Changes will be announced in class and on BB if needed.