

BIOL 2421-Microbiology LAB—Spring 2024 Syllabus

Texas A&M University-San Antonio

Instructor: Dr. Brenda Rushing

Office: SciTech 311 Office phone: 210-784-2212 Email: brushing@tamusa.edu

Office hours/student help time: M/W 10 a.m.-11:30, also Mon. 2-3 p.m.

Appointments for office hours are preferred and expected if at all possible.

Please use Calendly to secure an appointment.

[Dr. Rushing's Calendly link](#)

If these times do not work with your schedule, please do email me for an alternate time!

Class Meeting Time and Location

Location: CAB 302

Section 01L Wed 3 p.m.-5:45 p.m.

Section 03L Thurs 11 a.m.-1:45 p.m.

Learning objectives

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.***

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 keep a 3-ring binder with the lab handouts in order. This will be checked for participation points.
5. 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.
6. You are expected to remain in the lab **the full period** and to participate actively.

Required Materials

- Blackboard access: Students are expected to access Blackboard daily for any updates.
 - 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.
 - An online quiz is also required. (5 pts.)
- 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. **I will not allow use of phone calculators on quizzes.**
- A 3-ring binder for handouts.
- Connect access is required for the online lab modules.

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. Please use the Calendly app (link on first page and on BB) to let me know you are coming. Students with appointments will be given priority over drop-ins, but you are welcome to drop-in to office hours also. I am available to make appointments at other times as well so please ask if needed.

Email is also an excellent way to get in touch with me, and I will respond as soon as possible, usually same day, and no later than 2 business days, except in unusual cases. HOWEVER, do not expect an immediate response, especially if you are emailing me at 2 a.m. or on the weekend! And please note, any private information MUST come through your JAGUAR email account, not a personal email. Please do not use Blackboard messages, as I do not check that routinely.

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 weight toward 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. This average will be given to your lecture professor for final overall calculation. The lab itself is graded as CR/NC on your transcript.

The total grade will be calculated by:

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

Sample calculation for a student whose lecture grade is 85 and whose lab grade is 95:
 Final grade = $(85 * 0.75) + (95 * 0.25) = 87.5$ (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 notebook in order, being on time, etc.
 - 12 sessions X 20 pts. = **240** pts.
 - I will have a check sheet for each lab period to assess your preparation and participation. Please be sure you are checked off for all items before leaving the lab.
 - Safety agreement and quiz = **5** pts.
 - You may miss one lab period without penalty. (There are 13 lab weeks.) I do not need you to provide an excuse for your one allowed absence.
 - If you attend all lab sessions (13), you will receive a maximum of an extra 10 points as a bonus for the 13th session (max. 250 earned out of 240—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 240 available attendance points.) Acceptance of the excuse is at my discretion.

- If a student misses 4 lab periods for any reason (even if excused), 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.
- TARDINESS: If you are more than 5 minutes late to lab, attendance points will be deducted.
- **No makeup work** will be given for missed labs. If you miss 4 labs early in the semester, we will discuss maintaining attendance for the rest of the semester to earn back partial credit for the lab.
- Quizzes: 5 quizzes given, but lowest grade dropped. $4 \times 20 \text{ pts} = 80 \text{ pts}$.
- Streak plate “quiz” will be worth **10 pts**. You will be given 2 plates. I will grade the better one, looking for good technique and well-isolated colonies. This quiz cannot be dropped.
- Throughout the semester, you will have an unknown organism to test and identify by the end of the semester. The grade for this assignment will be for completeness of your lab notebook for the identification of the unknown organism and a worksheet report. **40 pts**.
- Online virtual pre-lab assignments through Connect are generally worth 5 points each. Week 1 is worth 10 points. Total pre-labs=**75 pts**. These must be done by the due date (11:59 p.m. the night before your lab day.) No exceptions. **No late pre-labs accepted.**
- Total available points for the lab: $240+5+80+10+40+75= 450 \text{ pts}$. Your percentage of these points earned will be your lab average, e.g. $396 \text{ pts. earned} / 450 \text{ pts. available} = 0.88$ or 88%.
- 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 be on time for quizzes. You are also 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 late 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 4 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 all weeks.

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 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**, unless you have permission for an extenuating circumstance.
 - Cell phones and calculators at the bench (only if I have given you permission) are to be kept in a plastic zip-type bag to prevent contamination.
 - If you must take a call during class, answer the call quickly (if it is not disruptive) using the speaker phone 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.
- During quizzes, ALL electronic devices (phones, iPads, laptops, etc.) must be stored in the lab cubbies. Attempts to cheat on quizzes and exams will result in 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. BRING A CALCULATOR!
- 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 allowed in the laboratory unless it is in a sealed package in your backpack in a cubby. If you need to step out of 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 or coffee/soda cups with temporary lids are allowed.
- ACADEMIC INTEGRITY is important! Any violations of academic integrity will be penalized.

IMPORTANT UNIVERSITY 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 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.

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/WLDCenter>.

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.

Academic Integrity

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.

Academic misconduct for which a student is subject to penalty includes (but is not limited to) cheating, plagiarism, fabrication, multiple submissions, misrepresentation of academic records, facilitating academic dishonesty, unfair advantage, violating known safety requirements, and ethical misconduct.

University policy prescribes serious consequences for acts of academic misconduct including, but not limited to, a grade of 'F' on the particular paper or assignment or a failing grade in the course. Also, a referral may be issued to the Office of Student Rights and Responsibilities where the sanctions can vary up to possible expulsion from the University. Considering the potential consequences of academic misconduct, it is obviously in students' best interests to avoid even the appearance of such behavior. **If you are ever unclear whether a specific act might constitute academic misconduct, please contact your instructor for an assessment of the situation.**

For more information on academic misconduct policies and procedures please review the [Student Code of Conduct](#).

No Use of Generative AI Permitted

BIOL 2421 Introduction to Microbiology assumes that all work submitted by students will be generated by the students themselves, working individually or in groups when allowed. 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.

Important Dates:

January 16	First day of class
March 11-17	Spring Break – No classes
March 29	Study Day – No classes
April 13	Last day to drop with an automatic "W"
April 20	Last day to drop a course or withdraw from the University
April 29	Last day of classes
April 30	Study Day – No classes
May 1-7	Final exams

The complete academic calendar is available online: <https://www.tamusa.edu/academics/academic-calendar/index.html>

BIOL 2421 Intro to Micro Lab—Spring 2024

Week	Dates	Lab Number	Laboratory Topics	Pre-lab due day before lab at 11:59 p.m.
1	1/17-18	No labs first week		
2	1/24-25	Meeting via Zoom	Course expectations/syllabus Lab safety Background pre-lab for week 2	Post lab due 1/27 (Tutorial, Lab safety, and handwashing, 10 pts)
3	1/31-2/1	Module 2 – Microscopy and morphology	How to use a compound microscope Microbial morphology	Microscopy, 5 pts
4	2/7-2/8	Module 3 – Pipetting	Pipetting practice	Dilution of Bacteria, 5 pts
5	2/14-15	Module 4 – Aseptic technique, streaking and microbial plate counts	Quiz 1 (labs 2, 3) Aseptic technique/streak plating Bacterial plate counts/dilutions/spread plating Results of module 3	Aseptic Technique 1 & 2, 5 pts
6	2/21-22	Module 5 – Simple Stains	Smears and simple stains Results of module 4 Introduce the unknown	Aseptic Technique 3 (slant to slant) and Smear Preparation, 5 pts
7	2/28-29	Module 6 – Differential Stain: Gram Stain	Quiz 2 (labs 4,5) Streak plate quiz —lab practical Gram staining	Gram Stain, 5 pts
	3/6-3/7	Module 7 – Structural Staining: Endospore Stain	Endospore stain <i>First official notebook check</i>	Spore and Capsule Stain, 5 pts
8		Spring break		
9	3/20-21	Module 8 – Bacterial transformation	Quiz 3 (labs 6,7) Bacterial transformation lab	Bacterial Transformation, 5 pts
10	3/27-28	Module 9 – Selective growth Module 10 - Enterotube	Results of module 8 Selective Growth Media Introduction to the Enterotube	Bacterial Subculturing, 5 pts
11	4/3-4/4	Module 12 - Fermentation tubes and TSI Slants <i>Module 11 will be skipped</i>	Results of module 9 Results of module 10 Fermentation tubes TSI Slant	Yeast Fermentation, 5 pts (For review of fermentation in general)
12	4/10-11	Module 13 – Oxygen requirements	Quiz 4 (labs 8, 9, 10) Results of module 12 Oxidase/catalase tests Anaerobic jars	Oxygen Requirements 1 & 2 (anaerobic jar and FTG tubes), 5 pts
13	4/17-18	Module 14 – Bacterial growth curve	Results of module 13 Bacterial growth curve	Bacterial Growth and Spectrophotometry, 5 pts
14	4/24-25	Module 17 – Identify your unknown	Quiz 5 (labs 12,13, 14) Finish Unknown Report and turn in <i>Final notebook check</i>	Kirby Bauer, 5 pts Antibiotic Resistance, 5 pts
		No labs Reading day Tues. 4/30		

This schedule is subject to change as the semester progresses.
Changes will be announced in class and on BB if needed.