

Microbial Physiology Lab
MICR 3146
CRN (11602,15793)
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LABORATORY: Biology Building, Room B411

LAB TEXT: Lab manual posted on Blackboard

LAB OBJECTIVES

A mixture of bacterial colony morphologies grew on a petri dish. The objective of this lab is for each group of students to utilize microbiological techniques in order to identify selected bacterial colonies. You will use common and advanced lab techniques to examine the physiology of the cell and the many processes the cell uses to produce energy and the metabolites required for survival. You will examine a multitude of techniques, including the principles behind, the uses for, and interpretation of these and other techniques. Understanding this information will be essential to your performance in this class.

LAB GOALS

1. Learn the fundamental concepts in microbial physiology
2. Apply the concepts you've learned
3. Extrapolate information and facts from what you already know
4. Communicate your understanding of microbiology
5. Learn to think critically

LABORATORY EXERCISES

The laboratory exercises are designed to teach fundamental microbiology techniques, including sterile technique, bacterial isolation and culture, macromolecule purification, and identification of microorganisms. The laboratory will meet in Room B412 of the Biology Building, starting the second week of class. The first session will include a **REQUIRED** laboratory safety lecture. **NO ONE** will be allowed to work without this training.

LABORATORY POLICIES

SAFETY. Rules exist for your safety, since the organisms we will be using in the lab can make you sick. The first laboratory meeting will include a **REQUIRED** safety lecture. You will not be permitted to work in the lab until this training has been completed. For Lab PPE, you are **required to provide your own lab coat**, which you must bring to the lab **EACH WEEK**, gloves will be provided. Only closed-toed shoes will be permitted and long hair must be pulled back **OR** placed in a hairnet. If you do not meet the dress requirements you will be asked to leave. No food, drink, or application of cosmetics will be permitted in the laboratory.

MISSING LAB. You will only receive credit for a lab report **if you attended the lab itself**. Do **NOT** miss lab, attendance will be taken each week and a quiz given at the end of class. Do **NOT** be late for class; excessive tardiness may result in not being given the quiz at the TAs discretion. Since there is only one lab section you cannot make up the lab nor the quiz after it has been given. If you miss a lab for a reasonable excuse, notify your TA. Lab meets at the same time every week and cannot be made-up. **DO NOT** schedule **anything** during this time.

LATE LAB REPORTS. Each lab report is due **ONE WEEK** after the laboratory exercise has been concluded. It must be turned in to your TA at the beginning of lab. Lab reports will **NOT** be accepted on any other day. Failure to turn in a lab report will result in an automatic zero.

COURTESY. As a courtesy to your classmates, please give your full attention to all speakers and limit your in-class discussions to topics related to microbiology. Cell-phones and pagers must be turned off during class sessions and labs. The use of laptop or notebook computers or tablets during class and lab sessions is limited to note-taking and coursework only – refrain from browsing the internet or checking your email during class. Please be on time for class – roll may be taken at the start of each class session.

ACADEMIC DISHONESTY. It is the official policy of the University of Texas at El Paso that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. Scholastic dishonesty includes, but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Please see <http://www.studentaffairs.utep.edu> for details

DISABILITIES AND MEDICAL CONDITIONS. If you have or suspect you have a disability and need an accommodation, please contact the Center for Accommodations and Support Services (CASS) at 747-5148, at cass@utep.edu or go to Union Building East, Room 106. **If you have medical condition and cannot attend lab in person you need approval from CASS.**

GRADING SYSTEM

Your grade will be based on 7 lab reports, 9 quizzes, midterm and final exams. It is recommended that you maintain a notebook. However, this is for your own study purposes and will not constitute a grade in the class. Lab reports are required and will be due the following week after the lab.

1. QUIZZES. You must read each day's lab manual assignment BEFORE COMING TO LAB. The quizzes are designed to test your knowledge of the material presented in lab and in your reading assignments. Your TA will give the quiz at the beginning of each laboratory period, so please be on time to lab or you will miss that day's quiz. A total of 10 quizzes will be given. One quiz will be dropped and the best 9 counted towards your grade.

2. LAB REPORTS. Lab Reports must be turned in ONE WEEK after each lab session. EACH GROUP will be required to turn in ONE common Lab Report.

3. EXAMS. Two exams will be given during the laboratory time. The exams are worth a total of 100 points. The exam will test your understanding of all of the materials covered in the laboratory and your ability to APPLY the concepts you have learned.

In summary, the grading policy is as follows:

8 Lab Reports (20 pts each)	160 Points
9 Quizzes (10 pts each)	90 Points
Midterm Exam	50 Points
Final	50 Points
Total	<u>350 Points</u>

Materials for this lab:

- Lab Coat (**Required**)
 - If you do not have a lab coat, you will not be allowed in the laboratory and there are no make-ups for the labs.
- Sharpie (**Required**)
- Notebook
- Lab Manual
 - The lab manual is available on Blackboard. All protocols will be discussed in the lab prior to the lab in which the protocol is performed. It is recommended that you perform all protocols on paper, prior to lab and before attempting the protocol in lab. This will give you an idea of where and what kinds of problems to expect in lab. This is also a good way to learn the protocols and to understand where the theory of these protocols applies.

COVID-19 UTEP STATEMENT

COVID-19 PRECAUTION STATEMENT

- Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms.
- If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations.
- If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID-19 testing.
- The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people.
- The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes.
- For more information about the current rates, testing, and vaccinations, please visit epstrong.org.

- <https://arstechnica.com/science/2021/06/even-mild-covid-in-young-people-often-leads-to-long-term-symptoms-study-finds/>
- "concern about finding mild cases in young people leading to long-term problems. "It is worrying that non-hospitalized, young people (16–30 years old) suffer potentially severe symptoms, such as concentration and memory problems, dyspnea [difficulty breathing] and fatigue, half a year after infection," the authors wrote. "Particularly for students, such symptoms might interfere with their learning and study progress..."
- If you are not familiar with long-haulers syndrome described in the above study, this 60 Minutes story illustrates it in great detail:
- <https://www.youtube.com/watch?v=0gLmMPOHDwM>
- <https://www.buzzfeednews.com/article/amberjamieson/florida-covid-delta-variant-surge>
- While with the original coronavirus, an infected person was expected to infect two to three others, a person infected with Delta is expected to infect anywhere from five to nine.
- <https://www.nytimes.com/2021/08/17/health/covid-vaccinated-infections.html?referringSource=articleShare>