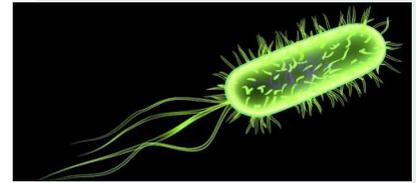




Fall 2018



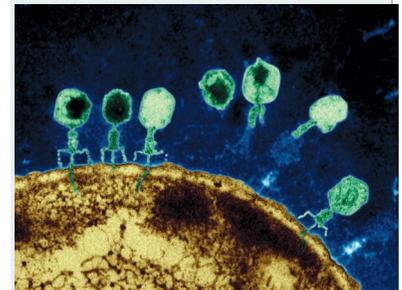
Biology 239 Syllabus



Lecture—Mon & Wed 9– 10:15,
HSB Rm. 101
Lab — Wed 10:30–1:15, HSB
Rm. 110

COURSE INFORMATION

Introduction to microbiology with emphasis on principles of infection and immunity. It is a four credit hour biology class. There is a lecture component that meets twice a week and a lab component that meets once a week.



STUDENT LEARNING OBJECTIVES

At the completion of this course students will be able to:

- ◆ Compare and contrast the characteristics of various microbes with regards to infections, treatment and control.
- ◆ Apply the scientific method by stating a question; determining appropriate test; performing test; collecting and analyzing, and presenting data.
- ◆ Correctly perform microbiologic lab skills.
- ◆ Summarize basic bacterial genetic principles and analyze consequences of mutation.
- ◆ Evaluate and apply the proper methods of microbial control necessary in sample scenarios or case studies.
- ◆ Articulate and diagram the role of the immune system in maintaining homeostasis and challenging infections.

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INSTRUCTOR

- Miriam Chávez, Ph.D.
- Office: Rm 100B, Health Science Building
- Phone: 925-8613
- E-mail: mjchavez@unm.edu
- Office Hours:
Mon—Thurs 8:00—9:00 a.m.
Tues & Thurs 10:30 to Noon

Micro- bio- logy



REQUIRED LEARNING RESOURCES

Textbook:

Microbiology. This book is available in web view and PDF for free from Openstax.org. You can also get the digital version from Amazon for free or a printed copy at a low cost.

Microbiology: Laboratory Theory and Application by Leboffe and Pierce, 2016, 3rd edition, Morton Publishing. Available at bookstore.

Course Webpage: <https://learn.unm.edu/>. The webpage contains resources you need to succeed in the course. Login using your UNM user name and password. *You are responsible for all announcements, assignments, quizzes, tests and/or any changes to the syllabus will be posted on the webpage.*

“If you can dream it, you can do it” — Walt Disney

COURSE POLICIES

Attendance. Attendance is necessary for you to participate in class as well as to fully understand the material presented. You are responsible for “signing-in” to document your attendance. This means getting to class on time, remaining for the **entire** class period, & actively participating. If you are missing more than 15 min. of class, it will count as an absence. Unless otherwise advised, after four absences you can be dropped from the class. The student will be held responsible for all material and information regardless of whether the student was present in class.

Late Assignments. Late assignments will only be accepted up to a week after the due date. There will be a 50% reduction of the grade.

Make-up Exams. Make-up exams (essay format) will be given to students with a documented emergency. You must notify the instructor the day of the missed exam.

Quizzes. Make-up quizzes will be given to students with a valid excuse.

Withdrawal. If a student drops the course before September 7, it will not appear on their transcript. After September 7 a “W” will be issued.

Cell phones. As a courtesy to the class, please turn off or silence any mobile phones or electronic devices. Please do not text message during class.

Disruptive behavior. Please avoid any disruptive behaviors in the classroom. This includes going in and out of the class, texting, talking.

Plagiarism. Only submit work that is yours. Always cite any work used using APA format.

THINGS TO KEEP IN MIND

Special Needs:

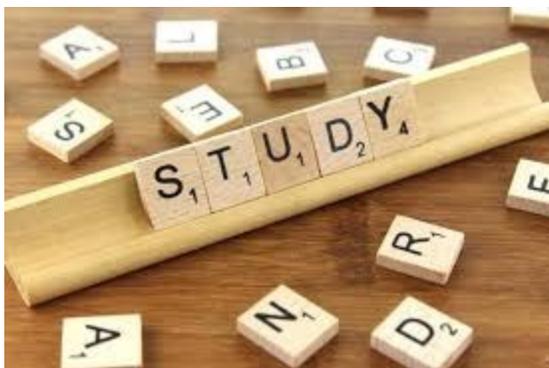
Qualified students with disabilities needing appropriate academic adjustments should contact the instructor by the end of the 1st week of the semester to ensure that your needs are met in a timely manner.

Academic Dishonesty:

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet the standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course. Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Equal Opportunity and Non-discrimination:

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered “responsible employees” by the Department of Education (see page 15 - <http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf>). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: <https://policy.unm.edu/university-policies/2000/2740.html>.



Develop good study habits. Don't wait until the last minute.

GRADING CRITERIA—

For Assigning Final Course Grade:

Lecture will count for 70% of the course grade, as follows:

Exams (3)	300 points
Final Exam	110 points
Quizzes (4)	40 points
Case studies	80 points
Exam Reviews	60 points
Attendance	30 points

Lab will count for 30% of the course grade.

The grade earned will be based on the following percentage:



100 or higher – A+	77-79 – C+
94-99 – A	73-76 – C
90-93 – A-	70-72 – C-
87-89 – B+	60-69 – D
83-86 – B	below 60 – F
80-82 – B-	

TIPS FOR SUCCESS

Study habits. Look and read the chapter. It may take more than one reading to understand the material presented. Learn the vocabulary.

Office hours. I am available to help you succeed in the class; stop by my office and I can clarify information or help you with homework.

Learning Center. Their website is <http://valencia.unm.edu/campus-resources/the-learning-center/index.html>.

Email netiquette. Include an informative subject line (class and concern -- Bio 110, quiz 3); include a salutation and closing (sign your name); do not use IM or TXT spelling, but instead use standard English.

SAGE. SAGE (Student Alerts and Grouped Events) is the new Early Alert referral program I will use to send out emailed alerts to both students and staff regarding student progress. This enables streamlined communication between faculty, students and staff to help students succeed at Valencia. Students may receive SAGE referrals on tutoring needs, grades, attendance issues, missing assignments, etc., as well as kudos for a job well done.

COURSE OUTLINE

	Chapter	Quiz
August 20 – September 12		
History of Microbiology	1	
Characteristics Prokaryotic Cells	3	Aug. 27
Prokaryotic Diversity	4	
Microbial Growth	9	Sept. 10
Microbial Metabolism	8	

Labor Day – No classes on Monday, September 3

*****EXAM I ----Monday, September 17*****

September 19 – October 10		
Microbial Genetics	11	
Control of Microbes	13	Oct. 1
Antimicrobial Drugs	14	

*****EXAM II ----Monday, October 15*****

October 17 – November 14		
Microbial Mechanisms of Pathogenicity	15	
Disease and Epidemiology	16	
Host Defenses	17 & 18	Nov. 12
Diagnosing Infections	10	

*****EXAM III ---- Monday, November 19*****

November 21– December 5		
Acellular Pathogens	6	

*****FINAL EXAM – Wednesday, December 12 9:00 a.m.*****

*I reserve the right to make needed and appropriate adjustments in this syllabus.

LABORATORY PORTION

This portion of the class is a hands-on activities. It focuses on basic microbiology laboratory techniques with emphasis on identification of organisms. You will be working with live bacterial cultures. Proper aseptic technique must be used at all times.



Unknown Identification

- ⇒ One of the major goals of this laboratory is for each student to identify an unknown organism using the skills, techniques and knowledge gathered throughout the semester.
- ⇒ Therefore you will need to keep a laboratory notebook where you will record all of your results in an organized manner.
- ⇒ Will identify an unknown bacteria from a used toothbrush.

GRADING CRITERIA FOR LAB—

The lab grade will be determined as follows (counts for 30% of your overall grade):

Quizzes (5 out of 6)	50 points
Pre-Quizzes (10 out of 11)	50 points
Lab Reports (11)	110 points
Unknown	50 points
Midterm Exam	80 points
Final Exam	100 points

LAB POLICIES

- * Attendance is necessary for you to participate in lab as well as to fully understand the material presented. This means getting to class on time and completing the exercises covered. Unless otherwise advised, after three absences you can be dropped from the class. The student will be held responsible for all material and information regardless of whether the student was in lab.
- * Must read lab assigned prior to coming to the lab. There will be a 5 point pre-quiz that must be taken before Tuesdays lab. This quiz is available through Blackboard Learn.
- * There will be **no food or drink** in the lab room.
- * You **must wear** a lab coat or apron during lab – this will be left in the lab.
- * If you have long hair – **you must** tie it back.

LAB OUTLINE

Week	Day	Exercise
1	August 22	Lab Safety Exercise 1 – Fundamental Skills for the Microbiology Lab Sections 1-2, 1-4, and 1-5
2 Quiz 1	August 29	Exercise 2 – Microbial Growth Sections 2-1, 2-2, and 2-8
3	September 5	Exercise 3 – Microscopy and Staining Sections 3-4 and 3-10
4 Quiz 2	September 12	Exercise 3 – Microscopy and Staining Section 3-6
5	September 19	Exercise 3 – Microscopy and Staining Sections 3-7, 3-8, 3-9, and 3-11
6 Quiz 3	September 26	Exercise 4 – Selective Media Sections 4-3 and 4-4
7	October 3	Review for Midterm
8	October 10	Midterm Exam
9	October 17	Exercise 5 – Differential Tests Sections 5-2, 5-8, and 5-9
10 Quiz 4	October 24	Exercise 5 – Differential Tests Sections 5-12, 5-15, and 5-18
11	October 31	Exercise 5 – Differential Tests Sections 5-4, 5-10, 5-11, 5-21, and 5-22
12 Quiz 5	November 7	Exercise 6 – Quantitative Techniques Section 6-2 Exercise 7 – Medical Microbiology Introduction Section 7-2
13	November 14	Exercise 7 – Medical Microbiology Introduction Section 7-3
14 Quiz 6	November 21	Exercise 9 – Identification of Unknown Sections 9-1 and 9-2
15	November 28	Review for Final Exam
16	December 5	Final Exam

