

Microbiology 20
Spring 2015

West Los Angeles College
Mon/Weds 6:45-10 pm
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Office Hours Mon-Wed 6:30-6:45pm MSA 204

Text Tortora, Funke and Case. Microbiology: An Introduction
Benjamin Cummings, publisher
Microbiology Laboratory Theory and Application by Leboffe

Course Description: This course is an introduction to the fundamental principles of microbiology. The laboratory portion of the course covers microscopic and cultural techniques for studying and identifying microorganisms.

Student Learning Objectives: Upon completion of the course, students are expected to understand:

1. The morphology, physiology and classification of bacteria, protozoa and fungi.
2. The structure and mode of multiplication of viruses.
3. Selected human diseases caused by bacteria, protozoa, fungi, parasitic worms and viruses.
4. The physical and chemical methods used to control microorganisms in our environment.
5. The molecular and cellular basis for the human immune response.
6. The principles of chemotherapy, hypersensitivity, immunization and serology.

Attendance is mandatory and roll will be taken. If you miss two consecutive sessions, you may be dropped from the class. If you decide to withdraw from the course, you must file the appropriate papers in the admissions office otherwise, a grade other than a "W" may appear on your transcript. If you add to the class, remember to hand in the add slips to the admissions office. There is a strong correlation between poor attendance and poor grades. **You are responsible for information, exam announcements, date changes, etc. presented in class, whether or not you are present**

Students who are given add slips must complete the process by the 3rd class meeting. No replacement add slips will be signed.

Withdrawal from Class:

You are responsible for your credit and enrollment status. Any student withdrawing from class must inform the admissions office of this decision. **Students failing to follow the correct procedure for withdrawals will receive a grade of "F" for the semester. Please check the dates for withdrawal.**

Assignments: read the appropriate lab exercises before you come to class (see attached schedule). Laboratory reports are usually due the same day that the results are read. Your time in laboratory is precious; complete the answers to the lab report questions at home.

Grades: Your grade in the course will be based on four midterm exams. Each test is worth 15% and 4 tests will be 60% of the course grade. Laboratory work contributes to 25% of the course grade, 12.5% of this will be for the unknown, the rest of the 12.5% will be for lab. All lab reports are to be turned in. The final exam is 15% of grade. The following curve will be used: A 92-100, B. 80-91 C 65-79 D. 50-64 F<50. There will not be any make up exams.

Exam Format

After the completion of each section there will be review questions on the subject matter discussed in the lectures, the relevant section from the textbooks and the laboratory exercises. The exam format will be multiple-choice type questions. If you have missed a test, your lowest score will be duplicated to arrive at your final grade. There is no substitute for hard work but the following tips can help you. After the completion of each section, answer the questions for that section. You should understand the purpose of each laboratory exercise and work diligently during the labs.

Recommendations for Succeeding in Class:

- 1. Expect to Work. This is not supposed to be easy.**
- 2. Get to class on time, every time, and stay the whole time.**
 - Never miss class unless you're ill. Take good notes.
- 3. Find someone in the class to contact if you miss a meeting.**
- 4. Be organized! Use a daily calendar to set times for regular studying for each of your classes.**
- 5. Study & Review each night the class is given.**
 - Learning is easier if you schedule time daily to read, to think & review.
 - Every time you study. spend at least 10 minutes reviewing previous lessons.
(These "refresher shots" are the secret for long-term memory.)
 - Read the relevant chapters in your textbook; hi-light pertinent lines, & add these notes to your class notes (never read without writing).
 - Use associations to help you remember things.
 - Prepare note cards and carry them with you to review.
- 6. Begin preparing for your exams at least 1 week in advance.**
- 7. Anything you turn-in (exams, lab reports) should look neat.**

Tentative Schedule

Week of	Lecture Topic	Reading Assignment
2/9	Lab Orientation/Introduction	1 and 3
2/16-2/23	Cell Structure	4
2/30-3/4	Bacteria/Fungi Protozoa and Parasitic Worms	10, 11 &12
3/9	Exam 1	7
3/16-3/18	Control of Microbial growth	7
3/23-4/1	Microbial metabolism and growth	5&6
4/6	Exam 2	
4/6-4/8	Viruses	13
4/13-4/15	Mechanisms of Pathogenicity	14
4/20-5/4	Host Defenses, Immune Response	15, 16, 17
5/6	Exam # 3,	
5/11-5/13	Immunization and hypersensitivity	18
5/18-5/20	Serology, antimicrobial drugs	19, 20
5/25	Exam # 4,	
6/1-4	Selected pathogens	21-26
6/8	Final exam	

**Microbiology 20 Laboratory Schedule
Mondays and Wednesdays - Spring 2015**

Week #	Date	Laboratory Topic	Exercise
1	M 2/9	Lab Orientation and Locker Check-in Ubiquity of Microorganisms	2-1
	W 2/11	Observations of Ubiquity of Microorganisms Aseptic Transfer and Inoculation Methods	2-1 1-3
2	M 2/16	President's Day Holiday – No Class	
	W 2/18	Observations of Aseptic Methods	1-3
3	M 2/23	Use and Care of the Microscope	3-1
	W 2/25	Examination of Microscopic Eukaryotes: Fungi	3-3
4	M 3/2	Examination of Microscopic Eukaryotes: Protozoa	3-3, 3-4
	W 3/4	Parasitic Helminths	12-4
5	M 3/9	Smear Preparation and Simple Stain	3-5
	W 3/11	Gram Stain	3-7
6	M 3/16	Gram Stain	3-7
	W 3/18	Acid-Fast Stain	3-8
7	M 3/23	Endospore Stain	3-10
	W 3/25	Pure Culture Techniques: Streak Plate Method of Isolation	1-4
8	M 3/30	Streak Plate Method: Sub-culturing	1-4
	W 4/1	Streak Plate Method: Evaluation Effect of UV Radiation on Microbial Growth	1-4 2-13
	M 4/6, W 4/8	Spring Break – No Class	
9	M 4/13	Observations of Effect of UV Radiation Chemical Germicides: Effects of Disinfectants and Antiseptics	2-13 2-14
	W 4/15	Observations of Chemical Germicides Effect of Temperature on Microbial Growth	2-14 2-9
	M 4/20	Observations of Effect of Temperature	2-9
10	W 4/22	Unknown Gram Stain and Streak Plate Isolation	
	M 4/27	Unknown Gram Stain and Streak Plate Isolation	
11	W 4/29	Unknown Macroscopic Characteristics and Working Stock Preparation	
	M 5/4	Unknown Carbohydrate Fermentation (Phenol Red Broth) Unknown Catalase Test	
12	W 5/6	Observations of Carb Fermentation Unknown MR-VP and Citrate Tests	5-3 5-5
	M 5/11	Observations of MR-VP and Citrate Tests	5-4, 5-8
13	W 5/13	Unknown Starch Hydrolysis Unknown H ₂ S Production (Kligler Iron Agar)	5-12 5-21
	M 5/18	Observations of Starch Hydrolysis and H ₂ S Production * Test catch-up	5-12, 5-21
14	W 5/20	Antimicrobial Susceptibility Test * Unknown Test catch-up and Final Results	7-3
	M 5/25	Memorial Day Holiday – No Class	
15	W 5/27	Observations of Antimicrobial Susceptibility Clean up and Locker Check-out	7-3

WLAC Policy on Student Academic Honesty

(Adopted by the WLAC Academic Senate June 2006)

West Los Angeles College is committed to preparing students to compete confidently and effectively in a rapidly changing, information-driven, technological global community. Students are expected to be honest and ethical. No acceptable rationale for dishonesty can be based on physical, emotional or learning challenges. The college expects that students do their own academic work. Acceptable academic conduct does not include cheating, plagiarism or any other unethical academic behavior.

It is the student's responsibility to know what conduct is academically honest.

Original Critical Thinking

A student is expected to work independently. Written assignments and/or projects are to be individually accomplished unless there are specific instructions to work with another student or group of students.

Citing Others' Intellectual Work

Properly credit all sources of information using appropriate citation(s).

The following list includes some examples of academic dishonesty:

Plagiarism

- Submitting someone else's scholarly work, such as essays or term papers, as your own.
- Submitting someone else's artistic work as your own. (examples include musical compositions, computer programs, photographs, paintings, drawings)
- Copying, in part or in full, someone else's assignment.
- Including in your work without proper citation the ideas or language of another author.
- Including in your work without proper citation information downloaded from the Internet.

Test-taking

A student is expected to mentally isolate him/herself while taking quizzes and examinations. All responses will be based upon studied and memorized information, unless specifically instructed to use reference materials and/or specified notes.

The following list includes some examples of academic dishonesty:

Cheating

- Consulting concealed notes during a quiz, test or exam.
- Using unauthorized prepared materials during a quiz, test or exam.
- Receiving information or answers from another individual during a quiz, test or exam.

- Copying information or answers from a classmate's paper.
- Using electronic devices that have not been authorized by the instructor during a quiz, test or exam.
- Inventing data for a laboratory experiment or case study.
- Submitting work prepared previously for another course.
- Talking during a quiz, test, or exam.

Other examples of academic dishonesty:

- Providing your work for someone else to copy.
- Allowing a fellow student to use answers on your paper during a quiz, test or exam.
- Passing information to a fellow student during a quiz, test or exam.
- Purposely allowing a classmate to copy your original work product, such as answers to assignments, lab reports, term papers, etc.
- Stealing tests or examinations.
- Removing tests or exams from a campus facility without the permission of the instructor.

Violators of the WLAC Policy on Student Academic Honesty are subject to disciplinary action. Depending upon the seriousness of the violation, the disciplinary action may be any or all of the following:

- The instructor may warn the student that the conduct is a violation of the WLAC Policy on Student Academic Honesty.
- The instructor may give a zero score or an "F" grade for the assignment or exam. In the case of assignments which are not averaged into the course grade (such as extra credit assignments) the penalty may be the subtraction of the points the assignment is worth.
- The instructor may report in writing the academic dishonesty incident to the Office of Student Services to be placed in the student's disciplinary file.
- The instructor may send a written report to the Office of Student Services about the student's violation of the Standards of Student Conduct (LACCD Board Rule 9803.12), and request that the college initiate disciplinary action leading to the suspension of the student from the college or the expulsion of the student from the college and the entire district as authorized by LACCD Board Rule 91101.11b. In all instances, the student has the right of due process when charged with a violation of the Standards of Student Conduct. Details of the Student Grievance Procedure may be found in the West Los Angeles College catalog and in the Schedule of Classes in the section on student conduct.