

BIOLOGICAL SCIENCE 221 - INTRODUCTION TO MICROBIOLOGY – Spring 2012

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Office Hours: 15 minutes before each lecture in ALLH-101 and 25 minutes after each lab in the ALLB-217

Wednesday I will be available by email or phone from 10 to 11 am. Otherwise I am available for scheduled appointments if needed, and almost always available by text or phone. PLEASE feel free to contact me with any questions or concerns.

Section:	221-84677	Lecture	5:00 - 6:20 PM	TTH	ALLH-101
		Laboratory	6:30 - 9:35 PM	TTH	ALLB-217

Prerequisite: Biological Science 107, or equivalent, with a minimum grade of "C". College Chemistry recommended.

Textbooks and materials - Available at the bookstore:

Lecture: Prescott. *Microbiology* 8th edition (**required**)
De Kruif. *Microbe Hunters* (recommended)
Alcamo. *Microbiology Coloring Book* (recommended if available)

Lab: Leboffe & Pierce. *Microbiology : Laboratory Theory and Application* 3rd edition (**required**)

Materials: Lecture power points and laboratory handouts to be downloaded from COC/Biology/Microbiology/Robinson website

(**required**)
Quadrupled composition book AND 1 to 2 boxes of microscope slides (available in bookstore)
Scantron answer forms for the (4) lecture exams and (1) lab final exam (5): Form 882, #2 pencil with good eraser
Blue books (2 – for the unknowns): 8 1/2" X 7", No 77512 – please use this size only
Lab coat (ASAP). The Bio Club usually has some used ones for sale (\$7 - \$10).

Examinations/Grading:

Lecture:	4 exams (includes the final on the last day of class, low score dropped) (exams are approx. 50% T/F & MC and 50% essay, short answer, life-cycles, fill-ins given approximately every 3 - 4 weeks)	300
	Paper: 5 pages, due – _____ (see handout for specific directions and requirements)	50

Lab:	Quizzes (20 pts each – 5 count towards grade - may drop up to 2- be prepared to have a lab quiz approx. every 3 rd lab)	100
	Lab Notebook	50
	Unknowns (2 sets): 20 pts. & 30 pts.	50
	Technique	50 (includes lecture participation)
	Final: comprehensive – last day of class	100
	TOTAL:	700 pts.

Grading: The student will be evaluated according to participation (reflected in "technique" pts) in lecture and laboratory and performance on examinations that consist of objective, subjective, and practical items. All submitted work should be of college level (complete sentences, correct spelling, appropriate handling of mistakes, etc.) Upon completion of each item listed above for lecture and lab, a letter grade will be assigned on a percentage basis at the conclusion of the semester: 90%-630 pts(A), 80%-560 pts(B), 70%-490 pts(C), 60% (D). You can keep track of your own grade by dividing your total pts. by the total possible pts. and multiplying by 100. Grades on the borderline are not bumped up to the higher grade simply because they are close. Each % point is actually equivalent to 7 pts. There will be a few opportunities for up to, but not more than, 20 extra pts. Note: Academic misconduct such as plagiarism or cheating will result in a zero on the assignment and will be referred to the Dean of Students for appropriate disciplinary action.

Attendance: Lecture and laboratory attendance and participation is **essential**. Students are **required** to notify the instructor if they need to leave early, otherwise class is dismissed at 9:30. Leaving early, not participating in group work, "rushing" through work, not properly caring for laboratory equipment, not cleaning up appropriately, talking/text messaging during class/prelab, and not accomplishing a level of competence of laboratory skills will lower the student's grade (reflected in the Technique score). Please note that COC is a "Drug Free Campus" and smoking is allowable in some of the parking lots only.

Student Learning Outcomes: Upon completion of this course, students will be able to:

- Explain the ubiquitous nature of microorganisms, their significance and their role in human affairs.
- Compare and contrast the major groups of microorganisms with regard to morphology, anatomy, physiology, classification, identification, disease and control.
- Utilize and demonstrate mastery of aseptic technique, microbiological procedures and laboratory safety.
- Interpret results and data of exercises in microbial physiology and identification.

Support available:

Biology Computer Lab (Boykin Hall 211) Hours posted.

Subject Area Tutoring (Biological Sciences) in Bonelli Hall TLC – 2nd floor – check tutoring schedule

MESA program (ALLB 114) – check availability, variety of workshops and possibly tutoring available

Website to support the text -(McGraw Hill higher education Prescott 8th ed.)

TENTATIVE SYLLABUS
(subject to minor changes)
BioSci 221: INTRODUCTION TO MICROBIOLOGY

SUBJECT

CHAPTERS IN BOOK

Introduction

The Evolution of Microorganisms and Microbiology 1 (no lecture – learn from text & ppts.)
Microbial Taxonomy and the Evolution of Diversity 17 (p 446 – 449, 459 – 463)

Survey of microorganisms other than bacteria

Eucaryotic Cell Structure and Function (4 review from 107)
The Protists/Human Disease Caused by Fungi and Protists 23, 39 (relevant diseases)
The Fungi/Human Disease Caused by Fungi and Protists 24, 39 (relevant diseases)

FIRST EXAM – no specified date –the exam is given when the material is finished

Helminthes ppt on website and Exercise 12-4 from Lab Book
Viruses and Other Acellular Infectious Agents 5, 25

Bacteria

Bacteria and Archaea 3
Microbial Nutrition 6 (no lecture – learn from text and ppts.)
Microbial Growth 7
Microbial Metabolism 9 - 11 (read only, review from 107)

SECOND EXAM

Microbial Genetics 13 (read and review from 107), 14
Survey of Bacteria 18 - 22
Human Disease Caused by Bacteria 38
Microbial Control 8, 34

THIRD EXAM

Water/Applied Environmental Microbiology 42
Microbiology of Food and Milk 40
Immunology and Disease 30 (728-736), 31, 32, 33
Clinical Microbiology & Immunology 35

FOURTH EXAM (FINAL) – Last Day of Class