

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

 x Transfer Course x A.A. Degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: Microbiology 200 – Fundamentals of Microbiology

UNIT VALUE: 5

MINIMUM NUMBER OF SEMESTER HOURS: 144 (Three hours lecture – Six hours laboratory)

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills.

ENTRANCE REQUIREMENTS

PREREQUISITE: Biology 102; or Biology 200 plus Chemistry 100; or Biology 100 plus Chemistry 100; or Biology 105 plus Chemistry 100; or Biology 101 and Biology 101L plus Chemistry 100.

COREQUISITE:

RECOMMENDED PREPARATION: CHEM 100 – Fundamentals of Chemistry

SCOPE OF COURSE:

Fundamentals of microbiology including medical aspects of microbiology. CSU; UC (CAN BIOL 14)

SPECIFIC COURSE OBJECTIVES:

1. identify and explain basic principles of microbiology including concepts in microbial structure, metabolism and genetics, methods of sterilization, disinfection, chemotherapy, immunology, and the microbiological subdisciplines of bacteriology, mycology, parasitology and virology;
2. define the specific vocabulary of microbiology and compare and contrast similar terms;
3. perform basic microbiological lab techniques (e.g., operating a microscope, preparing microbial stains, performing aseptic procedures, etc.);
4. identify cause, symptoms, pathology, treatment and other medically significant features for a large set of infectious diseases;
5. apply technical knowledge and lab skills to identify unknown microorganisms; and
6. design and carry out his/her own experiments to test hypotheses in microbiology.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Introduction to Fundamentals
 - A. History of Microbiology
 - B. Classification
 - C. Prokaryotic Cell Structure
 - D. Microbial Metabolism
 - E. DNA Replication and Protein Synthesis
 - F. Bacterial Genetics
 - G. Biotechnology
 - H. Factors Affecting Microbial Growth

- II. Control of Microbes
 - A. Physical Methods
 - B. Disinfectants
 - C. Antimicrobial Agents
 - D. Interactions Between Host and Microbe

- III. Immunology
 - A. Nonspecific Defenses
 - B. Acquired Immunity
 - C. Immunological Applications
 - D. Immunological Disorders

- IV. Bacterial Pathogens
 - A. Staphylococci
 - B. Streptococci
 - C. Gram-Negative Cocci
 - D. Gram-Positive Bacilli
 - E. Tuberculosis
 - F. Anaerobic Bacteria
 - G. Gram-Negative Coccobacilli
 - H. Enterobacteriaceae
 - I. Spirochaetes
 - J. Other Gram-Negative Pathogens
 - K. Rickettsiae and Chlamydiae

- V. Parasitology
 - A. Protozoa
 - B. Helminths

- VI. Fungi
 - A. General Mycology
 - B. Example Pathogens

- VII. Viruses
 - A. General Virology
 - B. Herpes Viruses
 - C. Hepatitis and Influenza Viruses
 - D. Paramyxoviruses
 - E. Picornaviruses and Rhabdoviruses
 - F. Other Viruses

REQUIRED READING:

Lecture: Talaro, Kathleen & Arthur Talaro. Foundations in Microbiology. 4th Edition. New York, NY: McGraw Hill Companies, Inc., 2002.

Lab: Alderson, Gary. Microbiology: Experiments & Lab Techniques. 10th Edition. Vista, CA: Eagle Vision Editions, 2001.

SUGGESTED READING:

Holt, J.G., et., eds. Bergey's Manual of Determinative Microbiology. 9th edition. Baltimore: The Williams and Wilkins Co., 1994.

Leboffe, M.J. and B.E. Pierce. A Photographic Atlas for the Microbiology Laboratory. 2nd edition. Englewood, CO: Morton Publishing Co., 1999.

Tortora, G.J., et. al. Microbiology: An Introduction. 7th Edition. San Francisco, CA: Benjamin Cummings, 2001.

6 Exams (100 points each)	600 points
Final Exam (Comprehensive)	200 points
National Final Exam	100 points
Journal	25 points
Persona Letter	10 points

Lab	
3 graded slides (5 pts. ea)	15 points
Other slides (2 pts. ea)	10 points
Graded Streak Plate	5 points
Serological Tests	5 points
Unknown Lab	30 points
Research Project	30 points
Quizzes & Lab Reports	100 points

TOTAL POSSIBLE POINTS	1130 points
------------------------------	--------------------

F < 60%; D = 60-69%; C = 70-79%; B = 80-89%; A = 90-100%

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes _____ No x Number of times course may be taken for credit: x

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable:

CONTACT PERSON: Gary Alderson x2525

SIGNATURES ON FILE
