

# Bemidji State University

## **BIOL 3710: Microbiology**

### **A. COURSE DESCRIPTION**

Credits: 4

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Structure, classification, and physiology of bacteria and related microorganisms. Lecture and laboratory.  
Prerequisites or Corequisites: One year introductory biology and one year introductory chemistry or consent of instructor.

### **B. COURSE EFFECTIVE DATES: 08/26/1997 - Present**

## **C. OUTLINE OF MAJOR CONTENT AREAS**

1. Antimicrobial Chemotherapy
2. Aseptic Technique
3. Bacterial & Viral Identification
4. Bacteriophages
5. Clinical Microbiology, Epidemiology
6. Clinical Microbiology
7. Control of Microbial Growth
8. Food Microbiology
9. Historical Perspectives
10. Human Diseases Caused by Bacteria & Viruses
11. Human Diseases Caused by Fungi & Protozoa
12. Industrial Microbiology
13. Laboratory Safety and Epidemiology
14. Measuring Microbes
15. Microbes & Human History
16. Microbial Ecology
17. Microbial Evolution
18. Microbial Genetics
19. Microbial Growth Patterns
20. Microbial Growth: Biosynthesis
21. Microbial Growth: Cell Division
22. Microbial Growth: Macromolecules
23. Microbial Growth: Making of a Cell
24. Microbial Growth: Nutrition & Energy
25. Microbial Infections
26. Microbial Interactions: Symbiosis, Predation, & Antibiosis
27. Microbial Physiology
28. Microbial Taxonomy
29. Microscopy
30. Prokaryotic & Eukaryotic Cell Structures & Staining Methods
31. Viruses of Eukaryotes
32. Viruses

## **D. LEARNING OUTCOMES (General)**

1. identify the major characteristics that define the different taxa of microorganisms.
2. understand the structure and function, genetics, biochemistry of microorganisms.
3. practice basic principles of microbiological lab methods, including sterile techniques and basic microscopy.
4. compare and contrast diverse-causing ability of various microorganisms.
5. analyze the metabolic diversity and how it contributes to the ecology of microbes.

## **E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

None

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted