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 Indentification
- 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: Biosyntheise
- 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 Texonomy
- 29. Microscopy
- 30. Prokarytoic & 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