

# Minnesota State University Moorhead

## BIOL 350L: Microbiology Lab

### A. COURSE DESCRIPTION

Credits: 0

Lecture Hours/Week: 0

Lab Hours/Week: 0

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: BIOL 350

MnTC Goals: None

Microbiology zero credit lab that accompanies BIOL 350.

**B. COURSE EFFECTIVE DATES:** 09/24/1997 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

### D. LEARNING OUTCOMES (General)

1. Analyzed and interpreted results from a variety of microbiological methods, and applied these methods to analogous situations.
2. Communicated and collaborated in with their fellow students in gathering and analyzing data.
3. Demonstrated an ability to formulate hypotheses and designed experiments, based on the scientific method.
4. Demonstrated an understanding of the relationship between science and society having identified and discussed ethical issues in microbiology.
5. Developed and practiced safe microbiology, using appropriate protective and emergency procedures.
6. Documented and reported on experimental protocols, results and conclusions.
7. Effectively communicated fundamental concepts of microbiology in written and oral formats.
8. Employed pure culture and selective techniques to enrich for, and isolate, microorganisms.
9. Employed quantitative reasoning and used mathematical reasoning and graphing skills to solve problems in microbiology.
10. Estimated the number of microorganisms in a sample (using, for example, direct count, viable plate count and spectrophotometric methods).
11. Have acquired and demonstrated investigative microbiological skills in the laboratory.
12. Have been demonstrated competency with, and an understanding of, the key concepts in microbiology including those listed above.
13. Have demonstrated scientific thinking skills in both lecture and laboratory activities.
14. Properly prepared and viewed specimens for examination using microscopy (bright field).
15. Used appropriate methods to identify microorganisms (media-based, molecular and serological).
16. Used appropriate microbiological and molecular lab equipment and methods.

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

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

## **G. SPECIAL INFORMATION**

None noted