A. Course Description

Credits: 5

Prerequisites: BIOL 111 General Biology I AND BIOL 112 General Biology II AND CHEM 111 General Chemistry I AND CHEM 112 General Chemistry II AND MATH 115 College Algebra

OR

BIOL 111 General Biology I AND BIOL 112 General Biology II AND CHEM 111 General Chemistry I AND CHEM 112 General Chemistry II AND MATH 120 Precalculus

Lab Hours/ Weeks: Corequisites: None

Lecture Hours/ Week :

MnTC Goals: None

This course covers the taxonomy, structure, function and ecology of microbes including bacteria, viruses, fungi and protista. Additional topics include microbial pathogenesis, the response of the mammalian immune system to microbial infection, microbial metabolic diversity and microbial biotechnology. Labs include use of microscope, survey of types of microbes, isolation of microbes from the environment, identification of microbes, staining of bacteria, action of antibiotics and disinfectants, counting of bacteria in food and water and use of microbes in food and beverage production. Intended for Biology, Biochemistry, Environmental Science or Life Science Teaching majors.

B. Course Effective Dates: 01/28/2004 - 05/04/2011 05/05/2011 - 08/16/2015 08/17/2015 - Present

C. Outline of Major Content Areas:

See Course Description for major content areas.

D. Learning Outcomes (General)

1. Competently conduct laboratory investigations in the area of microbiology.
2. Explain and apply scientific knowledge of the biology of microorganisms, both theoretical and experimental, at the upper division level.
3. Read and interpret primary scientific literature in in the biology of microorganisms.
4. Recall, explain and apply the concepts, knowledge and vocabulary of the biology of microorganisms at the level necessary for success in graduate and professional study in this field.

E. Learning Outcomes (MN Transfer Curriculum)

This contains no goal areas.

G. Special Information

Note: Enrollment limited to Biology, Biochemistry, Environmental Science or Life Science Teaching majors, except by instructor permission. First day attendance required except by instructor permission.