A. Course Description

Credits: 4

Prerequisites:
- MATH 115 College Algebra
- OR
- MATH 120 Precalculus

Lab Hours/ Weeks: Corequisites: None

Lecture Hours/ Week :

MnTC Goals: Goal 03 - Natural Science

The first semester of the comprehensive first year course in biology. Covers the biochemistry and inner workings of cells, energy metabolism, genetics, cellular physiology, population genetics and evolutionary pattern and process. Laboratory topics include use of the microscope, biochemistry, cell structure and function, genetics, and evolution. Intended for students who are pursuing, or considering, the major in biology or life sciences teaching.

B. Course Effective Dates: 08/16/2017 - Present

C. Outline of Major Content Areas:

See Course Description for major content areas.

D. Learning Outcomes (General)

1. Communicate their experiential findings, analyses, and interpretations both orally and in writing.
2. Demonstrate quantitative reasoning skills and competency with arithmetic, algebra, and statistics at a level appropriate for second semester science majors.
3. Demonstrate understanding of scientific theories in biology.
4. Explain and apply knowledge of biochemistry, cell biology, energy metabolism, genetics, cellular physiology, population genetics, and evolutionary biology.
5. Formulate and test hypotheses by performing laboratory experiments in biology, including the collection of data, statistical and graphical analysis of results, and an interpretation of its sources of error and uncertainty.
6. Recall, explain and apply the concepts, knowledge and vocabulary of biology at the level necessary for success in a second semester algebra-based general biology course for science majors.
7. Understand and apply knowledge of use of the microscope and other biological laboratory equipment, and use that knowledge in the proper conduct and interpretation of laboratory investigations.

E. Learning Outcomes (MN Transfer Curriculum)

Goal 03 - Natural Science

1. Formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students’ laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.
2. Demonstrate understanding of scientific theories.
3. Communicate their experimental findings, analyses, and interpretations both orally and in writing.
4. Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.
G. Special Information

Note: First day attendance required except by instructor permission.