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

This is an introductory course in physics covering one-dimensional and two-dimensional linear motion and forces, vibrations and wave motion, the behavior of light, and electricity and magnetism. Laboratories emphasize real world applications of the concepts and problem solving skills taught in this course. Includes lab. Intended for general education students and students majoring in Life Sciences Teaching.


C. Outline of Major Content Areas:

See Course Description for major content areas.

D. Learning Outcomes (General)

1. Communicate their experimental findings, analyses, and interpretations both orally and in writing.
2. Demonstrate mastery of the physics concepts and vocabulary necessary for success in a General Physics course for science majors, for success in teaching General Science at the grades 5-8 level, and for informed citizenship.
3. Demonstrate quantitative reasoning skills and competency with arithmetic and elementary statistics at a level appropriate for graduates of bachelors degree programs.
4. Demonstrate understanding of scientific facts and theories in physics.
5. Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.
6. Formulate and test hypotheses by performing laboratory experiments in physics, including the collection of data, statistical and graphical analysis of results, and an interpretation of its sources of error and uncertainty.

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.