A. Course Description

Credits: 4

Prerequisites: MATH 098 Introduction to Mathematical Thinking
OR
MATH 102 Mathematics of Sustainability or placement at or above College Algebra level on the University's assessment test.

Lab Hours/ Weeks: Corequisites: None

Lecture Hours/ Week :

MnTC Goals: Goal 03 - Natural Science

An introduction to the physics of everyday things around us. Have you ever wondered how a car's engine turns gasoline into motion? Or how electrons in wires light up a bulb? How a nuclear power plant produces energy? Or perhaps how magnets work? Students learn about these and other everyday things in this course intended for general education students. Lab included.

B. Course Effective Dates: 08/17/2004 - Present

C. Outline of Major Content Areas:

See Course Description for major content areas.

D. Learning Outcomes (General)

1. Demonstrate conceptual understanding of scientific facts and theories in physics in the areas of: \( \ddot{a} \) Motion of objects due to external forces, \( \ddot{a} \) Properties of solid and fluids that affect their physical interactions, \( \ddot{a} \) Heat and Energy, \( \ddot{a} \) Waves, electricity and magnetism, and the atom
2. Formulate and test hypotheses by performing laboratory experiments in physics, including the collection of data, statistical and graphical analysis of results, and interpretation of uncertainty.
3. Communicate experimental findings, analyses, and interpretations in writing and orally.
4. Apply knowledge of physics to societal issues and science-related topics and policies.

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.