

# Minnesota State University Moorhead

## PSCI 170: Physical Science I

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 1

Lab Hours/Week: 2

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 03 - Natural Science

Activity-based conceptual learning, appropriate to the elementary classroom and to the life-long learning of physical science will be modeled in the course. Lab included. MnTC Goal 3.

### B. COURSE EFFECTIVE DATES: 02/20/2002 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Simple motion.
2. Newton's Laws.
3. Energy (including heat and work).
4. Waves (including sound and light).
5. Electricity and magnetism.
6. The structure of matter and interactions of matter.
7. History, nature and process of science and engineering.

### D. LEARNING OUTCOMES (General)

1. Develop and evaluate procedures to answer scientific questions about physics and chemistry.
2. Use evidence (data, observations) to form a conclusion/answer a question about physics and chemistry.
3. Choose appropriate tools and measure accurately.
4. Use explanations at the particle level to explain phenomena in the real world.
5. Apply the laws of physics and chemistry to phenomena in the real world.

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

Goal 03 - Natural Science

1. Demonstrate understanding of scientific theories.
2. 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.
3. Communicate their experimental findings, analyses, and interpretations both orally and in writing.

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

## **G. SPECIAL INFORMATION**

None noted