

# North Hennepin Community College

## PHYS 1202: Principles of Physics II

### A. COURSE DESCRIPTION

Credits: 5

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites:

This course requires the following prerequisite  
PHYS 1201 - Principles of Physics I

Corequisites: None

MnTC Goals: Goal 03 - Natural Science

This course is the second of a two-semester introductory physics course for students with a mathematics preparation of algebra and some trigonometry. Topics to be covered include: wave motion, electricity, magnetism, electromagnetic waves, and light. (4 hours lecture, 2 hours lab)

Prerequisite: Physics 1201 or consent of instructor

**B. COURSE EFFECTIVE DATES:** 09/10/1997 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. The topics to be covered may include: temperature, heat, thermodynamics, electric forces and fields, electric potential, electric current and circuits, alternating current, magnetism, electromagnetic induction, and light.

### D. LEARNING OUTCOMES (General)

1. Demonstrate an understanding of the scientific theories covered in this course. (MnTC Goal 2, comp. a; MnTC Goal 3, Competency a)
2. Demonstrate skill in working with laboratory equipment. (MnTC Goal 2, comp. a; MnTC Goal 3, Competency b)
3. Demonstrate an ability to collect data, perform statistical and graphical analysis on this data, and appreciate sources of error and uncertainty. (MnTC Goal 2, comps. a, c; MnTC Goal 3, Competencies b and c)
4. Clearly express their mathematical ideas in writing. (NHCC Core Ability Communication, comps. d, g; MnTC Goal 3, Competency c)
5. Communicate their experimental findings, analyses, and interpretations both orally and in writing. (NHCC Core Ability Communication, comps. d, g; MnTC Goal 2, comps. a, c; MnTC Goal 3, Competency c)
6. Demonstrate that they can organize and present scientific material in a coherent manner. (MnTC Goal 2, comps. a, c; MnTC Goal 3, Competency c)
7. Apply problem-solving skills. (Discipline Goal; MnTC Goal 2, comps. a, b, c,d;)
8. Integrate new skills into their customary ways of thinking as they develop their problem solving skills. (Discipline Goal; MnTC Goal 2, comps. b, d;)
9. Evaluate science- related societal issues using knowledge of the principles of physics. (NHCC Core Ability Ethical Civic, comps. b, c; MnTC Goal 3, Competency d)

## **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.
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.

## **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

## **G. SPECIAL INFORMATION**

None noted