

Minnesota State College Southeast

PHYS 1215: College Physics I

A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: 3

Lab Hours/Week: 2

OJT Hours/Week: *.*

Prerequisites:

This course requires either of these prerequisite categories

1. Algebra College Level

Or

2. MATH 1025 - Algebra

Corequisites: None

MnTC Goals: Goal 03 - Natural Science

This non-calculus based course introduces the basic principles of physics through applications, problems, and experiments. Newtonian motion and conservation laws for linear and circular motion will be covered including speed, velocity, and acceleration for linear and projectile motion. Oscillatory motion will be covered including mechanical, light, sound and energy waves. Thermodynamics will be introduced including the first and second law of thermodynamics. (Meets MnTC Goal 3) (Prerequisite: Algebra College Level Placement or successful completion of MATH1025 Algebra) (4 credits: 3 lecture/1 lab)

B. COURSE EFFECTIVE DATES: 07/20/2016 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Mechanics
2. Wave Motion
3. Thermodynamics

D. LEARNING OUTCOMES (General)

1. Six of the following course goals will be addressed during the course at the instructor's discretion:
 - a. Introduction to Physics
 - b. Kinematics - the study of speed, velocity, and acceleration
 - c. Force and Newton's laws of motion
 - d. Linear and angular momentum
 - e. Work and energy
 - f. Oscillatory motion
 - g. Wave motion
 - h. Thermodynamics

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

This course was previously PHYS 2515.