

Common Course Outline for: PHYS 1111 College Physics 2

A. Course Description

1. Number of credits: 4
2. Lecture hours per week: 3
3. Lab hours per week: 2
4. Prerequisites: PHYS 1110 (C or higher) and MATH 1100 (C or higher)
5. Co-requisites: None
6. MnTC Goals: 3 Natural Science

This course is a continuation of Physics 1110. This course uses College Algebra. Topics include oscillations and waves, electricity, magnetism, electromagnetic waves and optics.

B. Date last revised: April 2017

C. Outline of Major Content Areas:

Oscillations and waves, electricity, magnetism, electromagnetic waves and optics

D. Course Learning Outcomes

1. Demonstrate an understanding of scientific theories and principles by: (2abc, 3a)
 - a. Stating and applying the fundamental laws and concepts relating to the course topics.
 - b. Identifying which physical laws and principles are appropriate for the solution of physics problems relating to various applications.
 - c. Using the appropriate physical laws and principles and College Algebra concepts and techniques to develop the mathematical expressions required to solve physics problems; solving those mathematical expressions.
 - d. Using the terminology of physics correctly.
2. Formulate and test hypotheses by: (2abc, 3b)
 - a. Performing laboratory, simulation, or field experiments.
 - b. Collecting data and analyzing it statistically and graphically.
 - c. Identifying sources of error and uncertainty.
 - d. Estimating the magnitude of error and uncertainty in data.
 - e. Using appropriate software to perform experiments and analyze data.
3. Communicate experimental findings, analysis, and interpretations by: (2abc, 3c)
 - a. Presenting laboratory results orally.
 - b. Orally explaining analysis and interpretations of laboratory results and relating the results to physics concepts and theories.
 - c. Presenting written reports that interpret laboratory results and relate them to physics concepts and theories.

E. Methods for Assessing Student Learning

Assessment methods are at the discretion of the instructor and may include written and/or

oral reports, homework, other projects, quizzes, exams, and a final exam.

Special Information: This course is *not* recommended for pre-engineering or other physical science majors.