PHYS 1408: College Physics I Lab

A. COURSE DESCRIPTION

   Credits: 1
   Lecture Hours/Week: *.*
   Lab Hours/Week: 2
   OJT Hours/Week: *.*
   Prerequisites: None
   Corequisites: None
   MnTC Goals: Goal 03 - Natural Science

   When this course is taken together with PHYS1407 (lecture), it meets Minnesota Transfer Curriculum (MnTC) goal area 3. This course is the lab component for College Physics I (PHYS1407) and is designed to hone students' skills in collecting and recording physical data, plus analyzing such data and drawing logical conclusions. This will include use of graphing techniques and advanced math formulas for determining uncertainty in results. Most of the experiments will deal with classic physical phenomenon, such as gravity, energy conservation and momentum. Prerequisite: Trigonometry and college algebra are strongly advised.

B. COURSE EFFECTIVE DATES: 08/25/2008 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

   1. Accurately draw and label a graph.
   2. Analyze data in graph form.
   3. Analyze data in table form.
   4. Compare experimental results with accepted values.
   5. Draw conclusions about an experiment and write them in logical sentence form.
   6. Fill out a complete lab report, paying attention to labels and details.
   7. Review accuracy and precision.
   8. Summarize a lab procedure.
   10. Use calculations of data to answer physical questions.

D. LEARNING OUTCOMES (General)

   1. The learner will be able to make accurate measurements, collect data, analyze data, and write reasonable observations/conclusions.

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.
F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted