



Course Description

PHY2054L | Physics (without Calculus) 2 Laboratory | 1.00 credit

The physics lab courses are one-credit courses designed to be taken in conjunction with a physics lecture. A different experiment is performed each week, with topics chosen to correspond with the material being studied in the lecture. Each experiment is designed to be completed in about 2 contact hours.

Course Competencies:

Competency 1: The student will demonstrate an ability to make measurements in the laboratory by:

1. Using various instruments to make measurements that relate to the functioning of simple physical systems in the laboratory
2. Organizing and recording instrument readings onto a data sheet for each experiment in the lab
3. Estimating and recording the possible measuring errors with selected measurements in the lab

Competency 2: The student will demonstrate knowledge of the rudiments of laboratory report writing by:

1. Submitting completed written reports which reflect:
 - an organized presentation of materials
 - calculations done correctly
 - graphs plotted correctly, with calculations of slopes and other parameters, when needed
 - calculations that indicate how measuring errors can affect the results of an experiment in selected labs
 - interpretations of results that are consistent with reported observations

Competency 3: The student will demonstrate an awareness of the importance of observations and measurements as the basis for scientific theory by:

1. Reporting his/her actual observations even if they conflict with his/her preconceptions
2. Proposing a formula or simple generalization that applies to the measurements made, when called for

Competency 4: The student will demonstrate an ability to apply and verify physics principles in a laboratory setting by:

1. Performing experiments in the areas of electricity, magnetism, and optics

General Education Learning Outcomes:

1. Use quantitative analytical skills to evaluate and process numerical data
2. Solve problems using critical and creative thinking and scientific reasoning
3. Formulate strategies to locate, evaluate, and apply information