Miami Dade College

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 submitting completed written reports that reflect by:

1. Organized presentation of materials.
2. Calculating correctly done.
3. Graphing correctly plotted, with calculations of slopes and other parameters, when needed.
4. Measuring In selected labs, calculations that indicate how measuring errors can affect the results of an experiment.
5. Interpreting 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 when called for, propose a formula or simple generalization that applies to the measurements made.

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.

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Solve problems using critical and creative thinking and scientific reasoning
- Use quantitative analytical skills to evaluate and process numerical data