Miami Dade College

Course Description

PHY2053L | Physics (without Calculus) 1 Laboratory | 1.00 credits

Laboratory course for PHY2053. 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 by:

1. Organizing presentation of materials
2. Ensuring calculations are correctly done
3. Making sure graphs are correctly plotted, along with calculations of slopes and other parameters, when needed
4. Indicating 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 conflictwith his/her preconceptions
2. Proposing a formula or simple generalization that applies to the measurements made
3. Applying and verifying physics principles in a laboratory setting
4. Performing experiments in kinematics, mechanics, and waves

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information