

PHYS 111

Physical Science Lab

1 Credit

Community College of Baltimore County Common Course Outline

Description

PHYS 111 – Physical Science Lab: introduces students to the application of the scientific process in order to connect how experimentation leads to the derivation of physics concepts. Topics include motion, matter, electricity and magnetism, and optics.

Co-requisite: Concurrent enrollment in, or successful completion with a C or better of, PHYS 105

Overall Course Objectives

Upon completion of this course, students will be able to:

1. work collaboratively to collect and record observations from experiments in the laboratory;
2. analyze data from each experiment completed in the lab and relate the results to basic physics principles;
3. read and record data from measuring instruments;
4. plot data to create linear graphs and determine the slope and y-intercept from them;
5. use appropriate technology for data analysis;
6. apply general physics concepts to new situations;
7. find, evaluate, use, and document informational resources to research physics topics;
8. discuss how developments in physics and the global community have influenced each other and how they have adapted over time;
9. evaluate professional behavior within the scientific community and explain the ramifications of misconduct;
10. distinguish between principles related to physics that are evidence based versus non-evidence based;
11. link physics principles with the methods of experimentation through which they were derived; and
12. present physics information using effective written and/or oral communications.

Major Topics

- I. Linear Graphs
- II. Measurements
- III. Calculation of Acceleration due to Gravity
- IV. Equilibrium of Forces
- V. Projectile Motion
- VI. Torque

The Common Course Outline (CCO) determines the essential nature of each course.
For more information, see your professor's syllabus.

- VII. Energy
- VIII. Rotation
- IX. Density
- X. Electricity and Magnetism
- XI. Optics
- XII. Global Developments in Physics

Course Requirements

Grading will be determined by the individual faculty member, but shall include the following, at minimum:

- Twelve laboratory exercises
- Attendance will be taken each class period as per college policy but no points will be rewarded solely for attendance. However, assignments may be given that can only be completed within a certain class period.
- The total extra credit given in this class can increase a student's percentage grade by no more than two percentage points.

Written assignments and research projects: Students are required to use appropriate academic resources in their research and cite sources according to the style selected by their professor.

Other Course Information

This course is an approved 1-credit General Education course in the Biological and Physical Sciences and fulfills the laboratory requirement if taken with its companion lecture course, PHYS 105: How Things Work. PHYS 105 infuses the CCBC General Education Program Outcomes into the course; the formal assessment of those outcomes occurs in the requisite lecture course.

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