

CUMBERLAND COUNTY COLLEGE

Course: PI 123 Fundamentals of Physics

Credits: 4

Prerequisite: MA 094

Description:

This course is an algebra based physics course with lab. Fundamentals of physics provides exposure to the laws of mechanics, heat, thermodynamics, waves and oscillation. The course satisfies physics requirements for many disciplines in science including but not limited to pre-medicine and physical therapy.

Learning Outcomes:

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

- Distinguish vector and scalar quantities
- Apply laws of motion
- Describe conservation laws
- Discuss heat and state of matter
- Explain kinematic of an object
- Assess the outcome of simple experiments
- Collect and analyze experimental data
- Prepare a concise report

Topical Outline:

- Vectors and vector algebra
- Kinematics
- Force and laws of motion
- Impulse and momentum and conservation of momentum
- Work, Energy, and conservation of energy
- Work-Kinetic energy theorem
- Circular and rotational motion
- Torque and moment of inertia
- Oscillations and waves
- Heat and thermodynamics

Text:

Physics by Cutnell & Johnson. Wiley Publishing

Student Assessment:

In the course of this semester three hour-examinations will be given in addition to a comprehensive final exam. These exams in addition to the weekly quizzes, laboratory reports, and workshop problems constitute the basis for student assessment. Your course grade will be calculated as follows:

The three hour-exams	45%
Weekly quizzes.....	10%
Final exam	25%
Laboratory Reports	15%
Workshop Assignments	5%

Academic Integrity:

Plagiarism is cheating. Plagiarism is presenting in written work, in public speaking, and in oral reports the ideas or exact words of someone else without proper documentation.

Whether the act of plagiarism is deliberate or accidental [ignorance of the proper rules for handling material is no excuse], plagiarism is, indeed, a “criminal” offense.

As such, a plagiarized paper or report automatically receives a grade of **ZERO** and the student may receive a grade of **F** for the semester at the discretion of the instructor.

Tutoring & Project Assist:

If you are having difficulty with work in this class tutoring is available through the Center for Academic & Student Success. If you think that you might have a learning disability, contact Project Assist at 856.691.8600 x 1282 for information on assistance that can be provided to eligible students.

Before Withdrawing From This Course:

If a student experiences adverse circumstances while enrolled in this course and considers withdrawing, s/he should see an advisor (division or advisement center) BEFORE withdrawing from the class. A withdrawal may cause harmful repercussions to completion rate standards and overall GPA, which can limit or eliminate future financial aid in addition to causing academic suspension.