Syllabus

PHY 101 - Introduction to Physics

General Information

Date January 10th, 2023

Author Trevor Johnson-Steigelman

Department Science and Technology

Course Prefix PHY

Course Number 101

Course Title Introduction to Physics

Course Information

Catalog Description An introductory course in physics for students who have not had high school physics, designed for non-science majors as well as those who plan to take College Physics or General Physics. Emphasizes measurement, mechanics, and thermodynamics; includes selected topics from sound and light as they relate to our daily lives. Provides prerequisite for PHY 118, PHY 119, and PHY 151 and fulfills laboratory science requirements for non-science degrees

Credit Hours 4

Lecture Contact Hours 3

Lab Contact Hours 2

Other Contact Hours 0

Grading Scheme Letter

Prerequisites

None

Co-requisites

None

First Year Experience/Capstone Designation

This course DOES NOT satisfy the outcomes applicable for status as a FYE or Capstone.

SUNY General Education

This course is designated as satisfying a requirement in the following SUNY Gen Ed category
Natural Sciences (and Scientific Reasoning)

FLCC Values

Institutional Learning Outcomes Addressed by the Course
Inquiry, Perseverance, and Interconnectedness

Course Learning Outcomes

Course Learning Outcomes

1. Apply Newton’s laws of motion and the conservation laws in the study of mechanical systems.
2. Make, analyze, and report measurements of physical phenomena, applying the proper use of units, dimensions, statistics, uncertainty, graphing, and calculation.
3. Apply arithmetic, algebraic, and geometric principles to the analysis of mechanical physical systems.
4. Connect physics to other sciences, the arts, and everyday life.

Outline of Topics Covered

Units, Conversions, and Dimensional Analysis
Precision, Accuracy, and Uncertainty Analysis
Graphing
Problem Solving
Kinematics in One Dimension
Force and Motion
Newton’s Laws and Applications
Conservation Laws
Impulse and Momentum
Work and Energy
Torque and Rotational Motion
Static Equilibrium

Gravitation

Introduction to Vectors and Components

Kinematics in Two Dimensions

Heat, Temperature, Thermal Expansion

Vibrations and Waves

Sound

Light