



PHY 101 General Physics I (PHYS 1305)

Course Description

General Bulletin Description: Presentation with a minimum of mathematics of the basic concepts of mechanics, light and sound. May not be used to meet graduation requirements by students majoring in the College of Sciences and Mathematics. Computation of lecture and laboratory grades into one grade; same grade recorded for both lecture and laboratory.

This course presents a broad survey of the principles of wave motion, sound, light, and mechanics and will illustrate the logic and reasoning upon which these principles are based. A great deal of emphasis is placed on the understanding of these concepts. Students should become more aware of the fantastic natural phenomena that are occurring around them everyday.

Number of Credit Hours - 3 for lecture, 1 for lab

Course Corequisite

General Physics I Laboratory (PHY 101L)

Specific Course Requirements

Textbook Requirements

See current semester textbook list at <http://www.physics.sfasu.edu/docs/books.pdf>

Program Learning Outcomes

There are no specific program learning outcomes for this major addressed in this course. It is a general education core curriculum course and/or a service course.

General Education Core Curriculum Objectives/Outcomes

- To understand and apply method and appropriate technology to the study of physical science
- To identify and recognize the differences among competing scientific theories
- To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies
- To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture

Student Learning Outcomes

By the end of the course, successful students will be able to:

- Recognize that the world in which they exist can be described by a few natural laws.
- Demonstrate a basic familiarity with concepts of waves, sound, light, and mechanics.
- Describe natural phenomena in a conceptual manner rather than mathematically.

Outline of Topics

- Sound (25%) - Vibrations and Waves, Sound, Musical Sounds
- Light (25%) - Properties of Light, Color, Reflection and Refraction, Light Waves, Light Emission
- Mechanics (50%) - Newton's Laws of Motion, Linear and Nonlinear Motion, Momentum, Energy, Rotational Motion, Gravity

Laboratory

The PHY 101 laboratory and lecture are fully integrated and share the same learning outcomes and course objectives.