

# PHYS& 114 : General Physics I with Lab

**Credits** 5

**Quarter Offered** Fall

Basic principles of physics presented without use of calculus. Suitable for students majoring in technically oriented fields other than engineering or the physical sciences. Mechanics. Working knowledge of algebra and trigonometry: one year high school physics is recommended. This class may include students from multiple sections. (Natural Sciences with Lab, Elective)

**Prerequisites**

Eligibility for [ENGL& 101](#); [MATH 98](#) or equivalent high school mathematics

**Course Outcomes**

Describe, explain, and use concepts of one-dimensional motion to solve 1-d motion problems.

Describe, explain, and use concepts of momentum and energy (and their associated conservation laws), along with Galilean relativity in solving complex motion problems, including collisions between objects.

Describe, explain, and use Newton's laws with the concept of forces in explaining everyday phenomena, as well as solving dynamics problems, including work-related problems.

Describe and explain movement in a plane versus rotational motion and be able to translate linear kinematics and dynamics to angular kinematics and dynamics to solve problems in an accelerated reference frame.

Carry out and interpret experiments in the laboratory to answer mechanics-related questions during lab, as well as on assessments.