PHYS 2211: Principles of Physics I

3 Credit Hours

Prerequisite: MATH 1190 or (MATH 1179 and MATH 1189)

This course is an introductory calculus-based course on classical mechanics, waves, and special relativity. The student will be able to apply Newton's laws and conservation of energy and momentum to various problems in kinematics and dynamics, use the law of universal gravitation to analyze the behavior of falling objects and objects in orbital motion, describe simple harmonic motion, oscillations, and waves, and explain the basic ideas of special relativity.

PHYS 2211K: Principles of Physics and Lab I

4 Credit Hours

Prerequisite: A grade of "C" or higher in MATH 1190

An introductory course which will include mechanics (kinematics, dynamics, work and energy, momentum and collisions, and rotational motion and statics), and may also include thermodynamics and waves. Elementary calculus will be used.
This course is managed through the cooperative academic agreement known as eCore.

PHYS 2211L: Principles of Physics Laboratory I

1 Credit Hours

Corequisite: PHYS 2211

PHYS 2211L is an introductory laboratory for the calculus-based course on classical mechanics, and waves. The student will be able to apply Newton's laws and conservation of energy and momentum to various problems in the laboratory, and perform measurements of simple harmonic motion, oscillations, and waves. The analysis of sources of error and formal propagation of uncertainties will also be developed, as well as graphical techniques and the method of least-squares fits.