

PHYSICS (PHYS)

PHYS-100 Survey of Physics From Classical Antiquity to Modern Physics

3 Credits

Lecture: 3 hours per week

Offering: Fall and Spring Only, All Years

This course offers a broad exploration of physics, surveying the development of key concepts from antiquity to modern times. Designed for non-science majors, it covers fundamental principles, notable experiments, and influential theories that have shaped our understanding of the universe. Students will gain insight into the scientific process and its role in shaping both technological advances and society. The course includes occasional hands-on experiments to help illustrate fundamental principles, making complex ideas accessible and relevant to everyday life. Through this comprehensive approach, students will see the diverse impact of physics on human progress and culture.

PHYS-101 Fundamentals of Physical Science

4 Credits

Lecture: 3 hours per week, **Lab:** 2 hours per week

Offering: Fall and Spring Only, All Years

This course is designed for the non-science major interested in an overview of the physical sciences and in developing an appreciation for the nature of the physical universe. It includes physics, chemistry, astronomy, and geology and their relation to the world and universe in which we live.

Corequisites: PHYS-101L

PHYS-103 Elementary Astronomy

4 Credits

Lecture: 3 hours per week, **Lab:** 2 hours per week

Offering: Fall, Spring, and Summer, All Years

This course is an introductory study of astronomy. Topics include the history of astronomy; the motions and physical properties of the sun, moon, and Earth; the electromagnetic spectrum; solar system planets, satellites, and minor bodies; stars; galaxies; evolution of the solar system; the universe; and cosmology.

Corequisites: PHYS-103L

PHYS-111 General Physics I

4 Credits

Lecture: 3 hours per week, **Lab:** 2 hours per week

Offering: Fall and Spring Only, All Years

This course is the study of mechanics, sound, linear and rotational motion momentum, energy, vectors, elasticity, vibration, and mechanical wave motion.

Prerequisites: MATH-143 and MATH-144, or MATH-147, or an appropriate score on a placement test.

Corequisites: PHYS-111L

PHYS-112 General Physics II

4 Credits

Lecture: 3 hours per week, **Lab:** 2 hours per week

Offering: Spring Only, All Years

This course is the study of electricity and magnetism, light, optics, and modern physics.

Prerequisites: PHYS-111 or PHYS-211

Corequisites: PHYS-112L

PHYS-211 Engineering Physics I

5 Credits

Lecture: 4 hours per week, **Lab:** 3 hours per week

Offering: Fall and Spring Only, All Years

This course envelops the study of kinematics and dynamics, Newton's Laws, work and energy, rotational dynamics, linear and angular momentum, collisions, static equilibrium, oscillations, gravity, central forces, fluid dynamics, and sounds waves.

Prerequisites: MATH-147, or MATH-143 and MATH-144, or an appropriate score on a placement test.

Corequisites: PHYS-211L

Pre/Corequisites: MATH-170

PHYS-212 Engineering Physics II

5 Credits

Lecture: 4 hours per week, **Lab:** 3 hours per week

Offering: Spring Only, All Years

This course is the study of heat and thermodynamics, electric and magnetic fields and potentials, DC and AC circuits, electromagnetic waves, and geometric and physical optics.

Prerequisites: MATH-170, PHYS-211

Corequisites: PHYS-212L

Pre/Corequisites: MATH-175