



Science Department Course Offerings

Pre-AP Biology

Course #: 5031

Grade: 9 & 11 ('23-'24 & '24-'25)

Prereq: None

Credit: 1 Core Sci

Weight: Honors (.5)

Students will study basic biology surveying the structure and interrelationships of living organisms. Areas of study include cellular biology; the molecular basis of heredity; evolution, and interdependence of organisms; the basis of disease; matter, energy, and organization of living things; and biological responses from molecules to organisms. Emphasis will be on the practical application of biological concepts, current events, and in-depth laboratory activities.

Pre-AP Chemistry

Course #: 5055

Grade: 10

Prereq: 5031

Credit: 1 Core Sci

Weight: Honors (.5)

Chemistry is the study of matter and how and why matter changes under certain conditions such as exposure to heat, light or pressure, or other matter (a chemical reaction). This course will focus on the development of the student's scientific skills, including theory, problem-solving, written and oral communication, data interpretation, and laboratory skills. All students will learn to write formal laboratory reports.

AP Biology

Course #: 5035

Grade: 10-12

Prereq: 5031

Credit: 1 Core Sci

Weight: AP (1)

AP Biology is an introductory college-level biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore the following topics: evolution, cellular processes, energy and communication, genetics, information transfer, ecology, and interactions. The AP Biology course is equivalent to a two-semester college introductory biology course for biology majors.

AP Chemistry

Course #: 5055

Grade: 11-12

Prereqs: 5051, 24412

Credit: 1 Core Sci

Weight: AP (1)

The AP Chemistry course provides students with a college-level foundation to support future advanced coursework in chemistry. Students cultivate their understanding of chemistry through inquiry-based investigations, as they explore content such as: atomic structure, intermolecular forces and bonding, chemical reactions, kinetics, thermodynamics, and equilibrium. The AP Chemistry course is designed to be the equivalent of the general chemistry course usually taken during the first college year.

AP Physics 1

Course #: 5213

Grade: 10-12

Prereq: 4520

Credit: Any Science

Weight: AP (1)

AP Physics 1 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of physics through inquiry-based investigations as they explore these topics: kinematics, dynamics, circular motion and gravitation, energy, momentum, torque and rotational motion, simple harmonic motion, and fluid dynamics.. AP Physics 1 is a full-year course that is the equivalent of a first-semester introductory college course in algebra-based physics.

AP Environmental Science

Course: 5121

Grade: 11-12

Prereqs: 5031, 5051, 24412

Credit: Any Science

Weight: AP (1)

The AP Environmental Science course is designed to engage students with the scientific principles, concepts, and methodologies required to understand the interrelationships within the natural world. The course requires that students identify and analyze natural and human-made environmental problems, evaluate the relative risks associated with these problems, and examine alternative solutions for resolving or preventing them. Environmental science is interdisciplinary, embracing topics from geology, biology, environmental studies, environmental science, chemistry, and geography. The AP



Environmental Science course is designed to be the equivalent of a one-semester, introductory college course in environmental science.

AP Physics 2

Course #: 5214

Grade: 11-12

Prereq: 5213

Credit: Any Science

Weight: AP (1)

AP Physics 2 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of physics through inquiry-based investigations as they explore these topics: electric charge and electric force, electrical circuits, magnetism and electromagnetic induction, mechanical waves and sound, thermodynamics, geometric and physical optics, and quantum, atomic, and nuclear physics. AP Physics 2 is a full-year course that is the equivalent of a second-semester introductory college course in algebra-based physics

Human Anatomy & Physiology

Course #: 5220

Grade: 10-12

Prereqs: None

Credit: Any Science

Weight: None (0)

Human Anatomy and Physiology is a course in which students study the organization of the human body, the covering, support, and movement of the body, regulation, integration of the body, and body maintenance. An extensive unit involving dissection is a possible component of the course

Botany & Zoology

Course #: 5040

Grade: 10-12

Prereq: None

Credit: Any Science

Weight: None (0)

This course will emphasize Botany, a course in which students study the history of botany, the evolution of plants, the diversity of the plant kingdom, plant classification and characteristics of plants, and learn more about horticulture in the HCP Garden facility. The course will also emphasize Zoology, which is a dissection-based course in which students study the history of zoology, the diversity of the animal kingdom, animal classification, and characteristics of animals/vertebrates. An extensive insect collection is a required semester project.