



SCIENCE

Biology and Honors Biology

This freshman-year course is designed to provide a broad presentation of the diversity of life on earth, the structures, and processes necessary for life, the physical commonalities among organisms, and the relationships among living things. Topics will include the structure and function of the cell, genetics, plant structure and function, major systems of animal life, and ecology. Students will apply this knowledge in the contexts of laboratory experiments, reports, tests, and class discussion. The order and detail of God's creation will be highlighted throughout the year.

(1 credit)

Prerequisite for Honors Biology: teacher recommendation

Chemistry and Honors Chemistry

This sophomore-year course aims to enhance student appreciation and knowledge of the foundational principles of chemistry. The course will focus on the structure of matter, reactions between substances, and the measurement of chemical systems. Students will apply this knowledge in the context of laboratory experiments, reports, tests, and class discussion. Through the study of chemistry students discover the building blocks of God's creation and learn how God put these building blocks together in an orderly fashion to create a beautiful world of living and nonliving things.

(1 credit)

Prerequisite for Chemistry: completion of Biology

Prerequisite for Honors Chemistry: successful completion of Honors Biology and teacher recommendation; success in Honors Geometry and placement in Honors Algebra 2 are strongly preferred.

Physics and Honors Physics

This junior-year course is designed to introduce students to the foundational principles of physics through laboratory activities, textbook readings, and class discussions. Laboratory activities will emphasize careful data collection and analysis. Students will investigate mechanics, heat, wave motion, electricity, and magnetism. They will demonstrate their understanding of these concepts through lab reports, tests, and class discussions. Throughout the year, the order and harmony of God's creation will be highlighted.

(1 credit)

Prerequisite for Physics: completion of Geometry and concurrent enrollment in Algebra 2
Prerequisite for Honors Physics: successful completion of Honors Algebra 2 or A average in on level Algebra 2 and concurrent enrollment in Pre-Calculus

AP Chemistry

This junior-year course is designed to be the equivalent to a general chemistry course taken during the first year of college. It focuses on the basic structures of matter, the foundational interactions between substances, and the energy changes involved in physical and chemical processes. The course includes a strong laboratory component through which students will develop skills using glassware and instruments as well as collecting and analyzing real-life data. Students enrolled in this course are required to take the AP Chemistry exam.

(1 Credit)

Prerequisite: Honors Chemistry, Honors Algebra II (strongly preferred), an approved PSAT score, and teacher recommendation

Anatomy & Physiology

This year-long, senior-year science elective course focuses on human anatomy semester 1 and human physiology semester 2. Semester 1 takes an in-depth look into the structure and function of the human body as the organ systems are broken down, discussed, and dissected. Students will gain knowledge of the body's organs as well as the roles of bones and muscles as they work together to create movement. Students will do an in-depth study of the nervous system and its role in regulating the body. Semester 2 focuses on body systems that work to maintain the internal equilibrium necessary for life. Topics include the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems as well as metabolism, nutrition, acid-base balance, and fluid and electrolyte balance.

(1 credit)

Prerequisite: Biology and Chemistry

AP Biology

This senior-year course is a college equivalent survey course designed to give students a broad understanding of the basic structures and processes that make life possible and the relationships among living things and their respective environments. Regular laboratory investigations will be incorporated to enhance the understanding of topics, to improve students' laboratory skills, and to allow students to practice collecting and analyzing experimental data. The topics studied will provide basic information that can be combined with biblical perspective to tackle difficult issues, such as human cloning and stem cell research. Students enrolled in this course are required to take the AP Biology exam and must be concurrently enrolled in a Lab during a Free Period.

(1 credit; lab, .5 credit)

Prerequisite: Biology, Chemistry, Physics, an approved PSAT score, and teacher recommendation

AP Physics C: Mechanics

This senior-year course (designed to be equivalent to a freshman-level college physics course) will survey the foundational principles of mechanics. Topics will include Newton's Laws of Motion, rotational and circular motion, energy, momentum, gravitation, and simple harmonic motion. Students will investigate these topics through laboratory experiments, class discussion and textbook readings. The student will learn to evaluate a variety of problems using the laws of physics, calculus, and data analysis. Students enrolled in this course are required to take the AP Physics C exam.

(1 credit)

Prerequisites: Successful completion of Pre-Calculus or Honors Pre-Calculus, concurrent enrollment in AP Calculus AB or higher, and teacher recommendation