

HHS Science Courses

Biology

This course is an introductory life science course that involves a study of the structure and function of organisms and interactions with their environment. Course includes core topics of diversity, cells, heredity, and interdependence. Laboratory investigation and other activities are an essential part of this course. Biology is a requirement for graduation.

Pre AP/Honors Biology

Prerequisite : Instructor approval

This course covers the same topics as Biology but has a higher emphasis on critical thinking and examination of living organisms. Students enrolled in Pre AP courses will receive an additional 0.5 quality point per course. A \$15 fee is required for this class.

Physical Science

This course is a study of matter and energy. Topics include the structure of matter, periodic charts, metric system, scientific measurements, aspects of motion, writing and balancing equations, magnetism and electricity. This course meets the physical science requirement for graduation, but will not fulfill the requirement for the advanced diploma.

Chemistry I

Prerequisite : Biology, Algebra I, and instructor approval

Chemistry presents the concepts associated with the properties and changes in matter, structure of atoms, periodic table, solutions, and the interactions between matter and energy. Students write equations, solve mathematical problems related to chemistry, and perform laboratory experiments. This course fulfills the physical science requirement for graduation with an Advanced Diploma. It is an advanced class and success in Algebra I (Grade of C or better) is strongly recommended. A \$15 fee is required for this class.

Pre AP/Honors Chemistry I

Prerequisite : Pre AP/Honors Biology, Algebra I, and instructor approval

This course covers the same topics in Chemistry I but has a higher emphasis on critical thinking and will be taught at an accelerated pace. Students enrolled in Pre AP courses will receive an additional 0.5 quality point per course. A \$15 fee is required for this class. A grade of B or better in algebra is strongly recommended.

Forensics

Prerequisite : Biology

Forensic science is the application of scientific methods to those criminal and civil laws that are enforced by police agencies in a criminal justice system. The course is intended to enhance interest in science by incorporating forensic knowledge into lab experiences involving mysteries. Students will develop problem solving and critical thinking skills by applying science concepts to solving real world problems. Students will expand these critical and logical thinking skills about relationships between real science and explanations by providing sound, scientific arguments to their theories. This course is not accepted as a requirement for the Advanced Diploma. A \$15 fee is required for this class.

Earth and Space Science

This is a course designed to familiarize the student with the planet Earth. A broad range of subjects will be studied. Areas of study will include: rocks and minerals, erosion and deposition, weather, plate tectonics, pollution and the environment. The relationship of the earth with the moon and planets will be covered.

Pre AP Human Anatomy and Physiology

Prerequisite : Biology & Chemistry

Human Anatomy and Physiology is an in depth coverage of the structure and function of the ten major body systems, furnishing an excellent background for students planning careers in medical or related fields. Students who desire a challenging college preparatory course will also benefit. Human Anatomy and Physiology fulfills a science requirement for the Advanced Diploma. Because life functions are chemical reactions, successful completion of Chemistry is required before enrolling in this class. Students enrolled in this courses will receive an additional 0.5 quality point per course. A \$15 fee is required for this class.

Environmental Science

Prerequisite : Biology

This course is a study of environmental problems and issues with development of the scientific background facts and concepts necessary for analyzing these issues and problems. This science course will NOT count toward Advanced Diploma.

AP Environmental Science

Prerequisite : Biology, Chemistry I, and instructor approval

The goal of the AP Environmental Science course is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them with hands on lab activities. Students enrolled in AP courses will receive an additional 1.0 quality point per course. The AP Exam for this course is required and will be administered in May. A \$20 fee is required in all AP courses.

Pre AP/Honors Physics

Prerequisite : Algebra II with Trig and instructor approval

Physics is concerned with the properties of physical matter and its relationship to energy. Topics studied are motion, forces, energy, heat, light, sound, fluids, electricity, and magnetism. Students apply mathematical solutions to physical problems. Since much problem solving is involved, students should have a strong math background. This course fulfills the requirement for the Advanced Diploma. Students enrolled in this courses will receive an additional 0.5 quality point per course. A \$15 fee is required for this class.

AP Physics 1

Prerequisite : Precalculus and instructor approval

AP Physics 1 is the equivalent to a first semester college course in algebra based physics. The course covers Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; and mechanical waves and sound. It will also introduce electric circuits. The course provides for hands on explorations of physics content and inquiry labs. Students enrolled in AP courses will receive an additional 1.0 quality point per course. The AP Exam for this course is required and will be administered in May. A \$20 fee is required in all AP courses.

AP Chemistry (2 class periods per day)

Prerequisite : Pre AP/ Honors Chemistry I or Chemistry I, Algebra 2/Trig, and/or instructor approval

This course is intended to be the equivalent of the college freshman chemistry course. It is a very demanding course with topics and labs completed on a college level. The laboratory work is extensive and often requires extra time to complete. Students enrolled in AP courses will receive an additional 1.0 quality point per course. The AP Exam for this course is required and will be administered in May. A \$20 fee is required in all AP courses.

AP Biology (2 class periods per day)**Prerequisite : Biology and Chemistry I, and instructor approval**

The AP Biology course is designed to be the equivalent of a two semester college introductory biology course usually taken by biology majors during their first year. The following topics are studied: Molecules and Cells, Heredity and Evolution, and Organisms and Populations. This course is much more in depth than high school biology and will require much more reading and studying. This course is recommended for students who are self motivated regardless of whether they plan to pursue a science major in college. Students enrolled in AP courses will receive an additional 1.0 quality point per course. The AP Exam for this course is required and will be administered in May. A \$20 fee is required in all AP courses.