

What **Science** Could You Take Next Year?

If you've passed Honors Biology (& SOL) & Chemistry, you could take:

Honors Human Anatomy & Physiology

AP Biology

If you've passed Algebra I (& SOL) and passed Geometry (& SOL):

AP Environmental Science

If you've taken Earth Science and/or Biology, AND you've had Algebra I, you could take:

Honors Physics

AP Physics (*If you've had or are currently enrolled in Algebra II*)

If you've taken Biology, you could take 2 of these semester courses:

Genetics (*this course is usually paired with Forensic Science*)

Forensic Science (*this course is usually paired with Genetics*)

Marine Biology (*this course is usually paired with either Zoology or Ecology*)

Ecology (*this course is usually paired with either Marine Biology or Zoology*)

Zoology (*this course is usually paired with either Marine Biology or Ecology*)

If you've taken Biology and/or Earth Science, & you've successfully passed Algebra I, you can take:

Honors Chemistry

If you've taken & passed Algebra I (& SOL) and Honors Chemistry (& SOL), you can take:

AP Chemistry

If you've taken & passed Honors Biology and Chemistry or AP Biology



Science

Honors Molecular and Cell Biology

If you've taken & passed Honors Molecular and Cell Biology you can take:

Honors Research and Application Methods for Cellular Processes

****Please Note:**

Students that are highly motivated, have excelled in previous Science classes and passed all of their previous Science SOLs, can seek approval for taking one of the higher level Science classes through their guidance counselor, without meeting all of the pre-requisites. Approval will be required by the Science teacher for the class. A meet and greet with the student and teacher may be required before approved. Please talk to your guidance counselor for more information.

Science Course Descriptions:

Honors Anatomy & Physiology

Consists of a survey of the 11 human organ systems. Lecture, hands-on labs and projects are used to help students learn about the many aspects of the human body. Mandatory dissections: Brain, Eye, Heart, Kidney, and Cat or Rabbit.

AP Biology

An in-depth study of Biology, starting on the molecular level, including cells, tissues, systems & organisms, continuing on up through the external environment to ecosystems. Many labs and hands-on experiments and activities – with college credit opportunity! Dissections include the Fetal Pig. SINGLE BLOCKED!!!

AP Environmental Science

This course covers the scientific principles, concepts, and methodologies of relationships within the natural world; students identify and analyze environmental problems, evaluate relative risks associated with these identified problems, and examine alternative solutions for resolving and/or preventing similar problems facing the global environment. Lots of field trips, technology & labs – with college credit opportunity.

Honors Physics

A study of the physical world around us. Learn about motion, waves, energy, sound, light, heat and quantum mechanics. Want to know how your cell phone works? Take physics! Many hands-on activities and labs involving physics toys!

AP Physics

AP Physics B is an introductory, college-level course. Topics include classical as well as modern physics. Emphasis is placed on conceptual knowledge as well as problem solving skills utilizing algebra and trigonometry in conjunction with laboratory exercises to develop critical thinking skills that are necessary for success in college or a variety of technical careers – with college credit opportunity!

Genetics

A 1 semester course that studies molecular, classical and population genetics. Learn about DNA, bio-technology, patterns of inheritance and genetic disorders. No dissections, but a lot of hands-on labs and activities.

Forensic Science

A 1 semester course that studies the techniques used for gathering and analyzing evidence from crime scenes. Learn the science behind DNA fingerprinting, blood & hair analysis, fingerprinting, as well as understanding the technology used in crime labs to process the evidence.

Marine Biology

A 1 semester course that studies the ocean and its properties. This course includes a survey of the organisms living and interacting within this aquatic ecosystem. Relationships and interactions between the ocean, humans and marine organisms will be addressed. Dissections include the squid and the shark.

Ecology

A 1 semester course that studies the relationships between organisms and humans within an ecosystem; Focusing on how these interactions impact the local environment, specifically how they affect the Chesapeake Bay. A historical overview of Government Policies and Laws related to the environment will also be addressed. No dissections, however, many hands-on activities and labs, including several class trips outdoors.

Zoology

A 1 semester course that takes students through the various groups of Invertebrate animal phyla and Vertebrate classes. Lecture and hands-on dissections are a key part of this course. Mandatory dissections include: worm, grasshopper, crayfish, squid, fish, fetal pig.

Honors Chemistry

A study of the fundamental concepts of general inorganic chemistry including formula naming, atomic structure, stoichiometry, gas laws, solutions, equilibria, redox, acid-base theory and nuclear chemistry. Many hands-on lab experiments. This course includes an SOL given in May.

AP Chemistry

Ever wonder how batteries work, or how acids dissolve seashells? No? Me neither, but hey you want to get into your first choice college, right? Yeah you do. Well, you're going to have to stand out in the crowd, to do that, you need to show your university that you aren't scared of a hard class. Sign up for AP Chemistry and set yourself apart. AP Chemistry is taught partially flipped, meaning your only homework is to watch YouTube. In class we'll do experiments, and test out the theories you learned. Let's be honest, we're just going to throw science at the wall and see what sticks. See you in the lab.

Honors Molecular and Cell Biology

The course provides an in depth study of the molecular basis of cellular processes and the interrelationships in living systems through inquiry based experimentation and modeling. Students will cover topics including: biochemistry, cell structure and functions, cell membrane structure and transport across the membrane, cellular communication, energetics, molecular genetics, cell organization and movement, and cell cycle. Students will be taught the content, lab techniques and critical thinking skills to be successful in a college biology course.

Honors Research and Application Methods for Cellular Processes:

The course focuses on research design, applied math and statistics culminating in a student capstone research project with a molecular cell emphasis. Students develop research skills including science based literature research, developing a research proposal, experimentation, data analysis, scientific writing and oral presentation skills. The class will present group research projects at the end of the semester.

**IF YOU HAVE ANY QUESTIONS ABOUT SCIENCE COURSES PLEASE
TALK TO A SCIENCE TEACHER OR GUIDANCE COUNSELOR! WE ARE
HERE TO HELP YOU.**