

Science

Course Title	Prerequisite	Grade Level	Length of Course	Credits Per Year	Meets Graduation Requirement in:
Honors Chemistry	Biology	10-12	2 semesters	1.0	SC, NCAA, EL

The purpose of this first-year Honors Chemistry course is to allow students to study the mechanisms of matter, the interactions of different forms of matter, and the impact of energy on the changes that occur in matter. Upon completion of the course, the student should have a clear understanding of the chemistry content required to be successful on the NGSS/OAKS science test that is administered to all students at the end of their junior year. In addition, this course has a stronger math emphasis which is designed to prepare students for AP Chemistry and other college-level chemistry courses. Topics include matter and energy, atomic structure, the periodic table, chemical bonding and reactions, stoichiometry, the behavior of gasses, solutions, equilibrium, and acid/base chemistry. In addition to these topics, students will explore the uses of chemistry in various careers, gain an ability to cope with chemical questions and problems related to personal needs and social issues, and have an understanding of laboratory safety. To achieve these goals, a significant amount of time will be spent in the laboratory.

Advanced Biology	Biology	11-12	2 semesters	1.0	SC, NCAA, EL, HD
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Advanced Biology is an integrated study of biology including a discussion of the nature of science, evolution, cell biology, genetics, physiology and ecology of plants and animals, including man. The first semester focuses on the invisible world within cells. Topics will include basic chemistry, macromolecules, cells, classical genetics and cell division. The second semester focuses on the living world around us. Topics include molecular genetics, evolution, speciation, classification, surveying phyla and anatomy/physiology. This should be taken by students who have an interest in science as a profession.

Forensic Biology	Biology Chemistry	11-12	2 semesters	1.0	SC, EL, NCAA HD
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This course will be a wide consideration of all aspects of Forensic Biology ranging from general considerations to the latest in molecular techniques. This course will also review current literature, discuss case studies and look at some mass-market publications on crime scene investigation. There will be mock murder investigations and crime scene set ups. This course is designed to offer an insight into the career of a forensic biologist or crime scene investigator.

Physics	Algebra 2 Chemistry is recommended	11-12	2 semesters	1.0	SC, NCAA, EL, HD
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This course is designed to give students a solid background in the scientific field of physics. The philosophy of this class is to cover the cornerstone topics of physics in depth, rather than cover many topics superficially. Topics will include one dimensional kinematics, two dimensional kinematics, forces, laws of motion, work, energy, momentum, rotational motion, and gravity. Physics A & B will be taught as an inquiry-based class with a very strong lab component, where students are expected to apply the scientific principals learned in class to lab and real world scenarios.