Science

1111 Physical Science 1 year Grades 9, 10 1 credit
This class will provide students with basic knowledge and background in the physical sciences. Topics will include matter, chemical reactions, energy, waves, motion, and Newton's laws. Students will be made aware of their place in the physical world and the interactions that exist between humans and their environment as well as science and technology in society. (This course fulfills a physical science requirement.) Fee: $15

1110 Honors Physical Science 1 year Grades 9, 10 1 credit
This is a more rigorous course designed for students who want to pursue a science-related career. Students will take an in-depth look at a variety of topics such as matter, chemical reactions, motion, energy, and waves. Students will use critical thinking and reasoning skills to apply the basic concepts of physics and chemistry to real world problems. Failure of this course will result in automatic enrollment in Physical Science the following school year. Prerequisite: Algebra 1. (This course fulfills a physical science requirement.) Fee: $15

1121 Biology 1 year Grades 10, 11 1 credit
Students in this course use a basic, hands-on approach to high school biology. Classroom lessons are a mixture of lectures and labs. Topics will include cells, chemistry of life, genetics, plants, animals, and ecology. The interactions between people and their environment will be emphasized along with an ongoing attempt to connect the material to current events in our world. (This course or Honors Biology must be taken to fulfill the biological science requirement.) Fee: $15

1112 Honors Biology 1 year Grades 9*, 10 1 credit
This biology class offers an exciting look at life. Classroom lessons are a mixture of lectures and labs (experiments, microscope work and dissection). Topics studied include the cell, biochemistry, genetics, organic evolution as well as the diversity and classification of plants, animals and the other organisms. Prerequisite: *Grade 9 only with A's in science, math, and English. (This course or Biology must be taken to fulfill the biological science requirement.) Fee: $15

1113 Human Biology 1 year Grades 11, 12 1 credit
This course is designed to be a basic science course in which students will gain a practical understanding of the human body and its functions. Students will learn about the different systems of the human body and how the systems work together. The course will also include human disease, current health issues, and new developments in the field of medicine. Elective. Failure of this course will result in enrollment in Environmental Science or repeating Human Biology the following school year. Prerequisite: Passing score in Biology or Honors Biology. Fee: $15

1133 Environmental Science 1 year Grades 10, 11, 12 1 credit
This course is designed to study environmental issues from the local, regional, national and international perspectives. Students will work independently and in groups to study current issues such as global warming. Field experiences will be used, along with journals, discussions, and various problem-solving approaches. Part I will include labs and projects dealing with the principles of ecology. Part II will discuss people and the environment. Prerequisite: Biology or Honors Biology. Elective. Failure of this course will result in enrollment in Human Biology or repeating Environmental Science the following school year. Fee: $15

1136 Honors Environmental Science 1 year Grades 10, 11, 12 1 credit
Honors Environmental is a full year course that follows quicker and more in depth pace than Environmental Science. This is an intensive course consisting of lecture, discussion, and detailed lab work. Specific topics include resource use, changes to the planet, population, ecosystem structure, and pollution. Grades will be taken from tests, projects, and lab reports. Students will be expected to complete some assignments outside of the regular class period. The goal of the class is to prepare the students for college level work and exposing them to the various careers in Environmental Sciences. . Prerequisites include: B or better in Honors Biology or successful completion of any of the other advanced science courses. Fee: $15.00

1123 Chemistry 1 year Grades 10, 11, 12 1 credit
Chemistry is the study of matter. Through the use of laboratory experiments and mathematics, the students will investigate topics such as atomic structure, quantum theory, heat flow, and the properties, behavior, and bonding of elements, compounds, gases, liquids, and solids. Metrics and dimensional analysis will be stressed in solving problems involving unit conversion, molecular weight, moles, and stoichiometry. Emphasis is placed on developing reasoning skills and powers of observation. Prerequisites: Grade of "B" or higher in Honors Biology and Algebra I. (This course fulfills a physical science requirement.) Fee: $20

1135 Honors Chemistry 1 year Grades 10, 11, 12 1 credit
This course is intended for students who have shown an aptitude for science and mathematics, and who have exhibited interest in and enthusiasm for science in general and chemistry in particular. Topics to be studied include chemistry laboratory skills, classification and structure of matter, chemical reactions, physical chemistry, solutions and acid-base chemistry, kinetics and equilibrium, thermodynamics, and electrochemistry. Critical thinking (the ability to carry out systematic thought processes in making decisions and solving problems), inquiry (solving problems through scientific investigation) and science ethics are stressed in this class. Special emphasis will be placed on applying mathematics and critical thinking skills to problem solving in chemistry. This course is an alternative to Chemistry I for more advanced students and will prepare students for the option of AP Chemistry. Prerequisites: Grade of "B" or higher in Honors Biology and Algebra I. (This course fulfills a physical science requirement.) Fee: $20

1131 Physics I 1 year Grades 10*, 11, 12 1 credit
The goal of this course is for students to gain a fundamental understanding of the principles which govern our interactions with nature. Students will develop this understanding through hands-on investigation, classroom discussion, and mathematical exercises which challenge the student to use conceptual reasoning and critical thinking in applying the principles of physics to common situations. Topics of study include: forces, motion, momentum, energy, waves and energy transfer, sound, optics, and electricity and magnetism. Failure of this course will result in enrollment in Environmental Science or Human Biology the following school year. Prerequisite: Grade of "B" or higher in Algebra I and/or Geometry and "C" or higher in Honors Biology and/or Chemistry. (*Grade 10 only with recommendation from math and most recent science teacher.) Fee: $15

1134 Human Anatomy/Physiology 1 year Grades 11, 12 1 credit
This course is designed for those students considering careers in science, biology, medicine, or any health-related field (physical therapy, nursing, sports medicine, etc.). However, it would also be appropriate for any college-bound junior or senior interested in thoroughly preparing for the future. Topics covered include biochemistry, endocrinology, cells, molecular genetics (DNA), human anatomy and human physiology. The teaching format consists of a mixture of lecture and lab (dissection, microscope work, and experiments). Prerequisite: Grade of "C" or higher in Honors Biology and Chemistry or Physics. Fee: $25

1132 AP Physics 1 year Grades 11, 12 1 credit
AP Physics is designed to be equivalent to a first-semester introductory college course in algebra-based physics. This course provides a more in-depth look at the main principles of physics and emphasizes the development of conceptual understanding, problem-solving ability, and critical inquiry. Main topics covered include: Newtonian mechanics (including rotational dynamics and angular momentum), work energy, power, and mechanical waves and sound. This course will also introduce electric circuits. Prerequisite: Grade of "B" or higher in Honors Chemistry, Physics I, and Advanced Math or Honors Advanced Math. *Recommendation from math teacher and meeting with course advisor required for enrollment without Physics I. Fee: $20 & Advanced Placement Test Cost