



SCIENCE MISSION STATEMENT

It is the mission of the K-12 science program to provide all students with worthwhile learning experiences which will form a foundation for a life-long ability to function effectively in an increasingly complex, technological world. Our program seeks to blend science knowledge and processes which will awaken in students a sense of wonder, excitement, and intellectual power of science.

→ **AP BIOLOGY (6650C)**

Grade Level: 11-12
Length: Year Credit(s): 1.0

Prerequisite: Biology and Chemistry I

Course Fee: No

If you register for this course, you will automatically be enrolled in both Honors Advanced Biology (full year course) and BBG (semester). By taking both courses, students will learn about all topics in the AP Biology curriculum and should be well prepared to take the AP Biology exam. Recommended: Grade of B or better in Biology and Chemistry.

→ **AP CHEMISTRY (6455)**

Grade Level: 11-12
Length: Year Credit(s): 1.0

Prerequisite: Chemistry I and Honors Chemistry II.
Honors Chemistry II can be taken at the same time as AP Chemistry but must be taken first semester

Course Fee: No

This course will provide the student with advanced knowledge and understanding of the chemistry curriculum. Topics to be addressed are similar to those of both Chemistry I and Honors Chemistry II but will be covered in more depth. This course is designed to prepare students to write the AP Chemistry examination in the spring.

→ **AP PHYSICS (6560)**

Grade Level: 11-12
Length: Year Credit(s): 1.0

Prerequisite: A grade of B or higher in Honors Physics or consent of the instructor

Course Fee: No

This course is a college-level introduction to the main principles of physics and emphasizes the development of problem solving skills. The student should be familiar with Algebra and Trigonometry. This course is designed to prepare students to take the AP Physics B exam in the Spring. The following topics will be covered: kinematics, Newton's laws of motion and gravity, work, energy, momentum, circular motion, fluid mechanics, thermodynamics, electricity, magnetism, waves, optics, and atomic and nuclear physics. Lab activities are included in the course.

→ **AVIATION & SPACE EDUCATION (6325)**

Grade Level: 10-12
Length: Semester Credit(s): 0.50

Prerequisite: Biology

Course Fee: No

This course is for those interested in flight in and out of the earth's atmosphere. Major topics covered include: career opportunities, aerodynamics, aircraft performance, meteorology, airports, aviation and cross-county planning, and aviation safety. Preparation for the FAA private pilot written examination included in the curriculum.

*May not be accepted as a college preparatory course.

→ **BIOLOGY (6300)**

Grade Level: 9
Length: Year Credit(s): 1.0

Course Fee: No

This course focuses on six unifying principles of biology: 1. Evolution, 2. Homeostasis, 3. Energy, Matter and Organization, 4. Continuity, 5. Development and 6. Ecology. Students are expected to write in a journal (notebook) as they respond to open-ended questions, design and report on original labs, and create various projects to demonstrate their understanding of major concepts. Note: This course contains approved Human Growth & Development content.

→ **CHEMISTRY I (6400)**

Grade Level: 10-12
Length: Year Credit(s): 1.0

Prerequisite: A grade of "C" or better in Algebra I

Course Fee: No

Chemistry is a college prep class intended for students who will further their science education in college. Students will use concepts from Algebra I. The class is taught in a lecture format requiring intense listening skills. Labs will be integrated into the lectures. Class of 2012: Students earning an A in Freshman Science, may take Chemistry and Biology together Sophomore year.

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→ **CONCEPTUAL PHYSICS (6500)**

Grade Level: 10-12
Length: Year Credit(s): 1.0

Course Fee: No

This is a course in physics which covers the following topics: motion, heat, energy, momentum, waves, sound, light, and electricity. Although there is much less math in this class than in the usual physics course, basic mathematical concepts are used. Conceptual Physics should not be taken as a primary physics course for students planning on majoring in math, science, or engineering in college. Conceptual Physics is recommended for students going to technical college and for those students planning on majoring in a non science major in college.

→ **ECOLOGY & ENVIRONMENTAL SCIENCE (6200)**

Grade Level: 10-12
Length: Semester Credit(s): 0.50

Pre-Requisite: Biology

Course Fee: No

Students in this lab-based course will study environmental interactions and their impact on the Earth and its inhabitants. Some topics covered in this class include: population, global warming, resources, pollution, and ecosystems of the world. Students will apply scientific thinking skills to think critically about current issues and events affecting the Earth today.

→ **H ADVANCED BIOLOGY (6600C)**

Grade Level: 11-12
Length: Year Credit(s): 1.0

Prerequisite: Biology and Chemistry I

Course Fee: No

This course is designed to prepare students for advanced study at the college level. Topics to be covered include: chemistry of life, cells, cell energetics, diversity of organisms, structure and function of plants and animals, and ecology. Recommended: Grade of B or better in Biology and Chemistry I.

→ **H BACTERIA, BIOTECH & BAS GEN (6330)**

Grade Level: 10-12
Length: Semester Credit(s): 0.50

Prerequisite: Biology

Course Fee: No

In BBG (Bacteriology, Biotechnology and Genetics) students learn how to safely handle and observe bacteria, perform many state-of-the-art biotechnology experiments (three that include using their own DNA) and learn about inheritance in humans. Recommended: Grade of A or B in Biology.

→ **H CHEMISTRY II (6450)**

Grade Level: 11-12
Length: Semester Credit(s): 0.50

Pre-requisite: A grade of "B" or better in Chemistry I

Course Fee: No

This course is for the above average chemistry student who wants an additional semester of chemistry beyond Chemistry I. This course is a prerequisite for AP Chemistry, but includes topics and labs that are not in the AP Chemistry curriculum. Students may take the course 1st semester concurrently with AP Chemistry. Lectures and labs are more intense than those found in Chemistry I.

→ **H PHYSICS (6550)**

Grade Level: 10-12
Length: Year Credit(s): 1.0

Course Fee: No

This is a traditional course in physics which requires a better than average ability in mathematics. Students planning on careers in science, mathematics, medicine or engineering should definitely register for this class. The following topics will be covered: motion, energy, momentum, thermodynamics, wave properties, light, and electricity. Lab activities are included in the course. Mathematical problems will be assigned in each chapter, and there will be an emphasis on correct solutions and problem solving techniques.

→ **HUMAN ANATOMY & PHYSIOLOGY (6335)**

Grade Level: 10-12
Length: Semester Credit(s): 0.50

Course Fee: No

Students will compare the anatomy of several animals to that of humans. By doing this, students will learn vocabulary used by medical personnel to describe the human body and how it works. Students make slides from animal tissues and research specific diseases. This class is recommended for students interested in health careers. (Students perform several dissections. Students concerned about dissection should not sign up for this course.) Recommended: Grade of C or better in Biology.