

A.P. BIOLOGY

Grades: 11-12, West Campus

Prerequisites: A.P. Biology is designed to be taken by students after successful completion of high school biology and chemistry. It is recommended that students who enroll in A.P. Biology have earned grades of B or higher in honors biology and chemistry or A or higher in advanced biology and chemistry. Beginning with the 2012-2013 school year, to be successful in AP Biology, students should also have successfully completed a minimum of algebra I, geometry and have taken or be concurrently enrolled in algebra II.

COURSE DESCRIPTION

A.P. Biology is designed to be the equivalent of a two-semester college biology course take by biology majors during their first year. Students who take an AP Biology course will develop advanced inquiry and reasoning skills, such as designing a plan for collecting data, analyzing data, applying mathematical routines, and connecting concepts in and across domains. The result will be readiness for the study of advanced topics in subsequent college courses.

THE A.P. BIOLOGY EXAM

The A.P. Biology Exam is three hours in length and includes a 90 minute multiple-choice section and a 90 minute free-response Section. Part A of the multiple-choice section consists of 63 multiple-choice questions that represent the knowledge and science practices outlined in the AP Biology Curriculum Framework that students should understand and be able to apply. Part B of the multiple-choice section includes 6 grid-in questions that require the integration of science and mathematical skills. For the grid-in responses, students will need to calculate the correct answer for each question and enter it in a grid on that section of the answer sheet. For the free-response section, students should use the mandatory reading period of 10 minutes to read and review the questions and begin planning their responses. This section contains two types of free-response questions (6 short and 2 long), and the student will have a total of 80 minutes to complete all of the questions.

A.P. CHEMISTRY

Grades: 11-12, West Campus

Prerequisites: Chemistry and Advanced Algebra; completion or concurrent enrollment in Physics. It is recommended that students who enroll in A.P. Chemistry have earned grades of B or higher in honors chemistry or A or higher in advanced chemistry.

Course Description

The Advanced Placement Chemistry course is designed to be the equivalent of the general chemistry course taken during the first year of college. This course is equivalent to two semesters of college. The emphasis is on chemical calculations and the mathematical formulation of principles, and the kind of laboratory work done by students in college.

The A.P. Chemistry Exam

The AP Chemistry Exam is three hours in length and has 2 main parts, Section I and Section II, each weighted equally in the final exam grade. Section I includes 75 multiple-choice questions over a broad range of topics in chemistry. Section II consists of 6 free-response questions: three multipart quantitative questions, one question on writing balanced chemical equations and answering a short question for 3 different sets of reactants, and two quantitative multipart questions. A calculator may be used on some parts of Section II.

A.P. ENVIRONMENTAL SCIENCE

Grades: 11-12, West Campus

Prerequisites: The APES course is designed to be taken by students after the successful completion of courses in high school biology, chemistry and algebra.

COURSE DESCRIPTION

Advanced Placement Environmental Science is a rigorous course designed to be the equivalent of an introductory college course in environmental science. A.P. Environmental Science will 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 or preventing them. AP Environmental Science has a strong laboratory and field component to ensure that students learn about the environment through firsthand observation.

THE A.P. ENVIRONMENTAL SCIENCE EXAM

The AP Chemistry Exam is 3 hours long and divided equally between multiple-choice and free-response sections. The multiple-choice section includes 100 questions on environmental science. The free-response section emphasizes application of principles of environmental science, and includes 1 data-set question, 1 document-based question, and 2 synthesis and evaluation questions. The multiple choice section constitutes 60 percent of the exam grade, and the free response section 40 percent.

A.P. PHYSICS C: MECHANICS

Grades: 11-12, West Campus

Prerequisites: Above average achievement in Physics, and completion of or concurrent enrollment in, Calculus.

COURSE DESCRIPTION

Advanced Placement Physics is a second-year physics program for students who desire a college-level course. The content emphasizes problem-solving in mechanics, and will examine six central areas of physics: kinematics; Newton's laws of motion; work, energy and power; systems of particles and linear momentum; circular motion and rotation; and oscillations and gravitation. Advanced mathematics, including calculus, will be used. This course is designed for students interested in continuing study in fields such as engineering, astronomy, mechanical design, biophysics and physics.

The A.P. Physics C: Mechanics Exam

The AP Physics C Exam is 1 hour and 30 minutes long, and includes a 35-question multiple-choice section and a free response section. Time is divided equally between the two sections, and the two are weighted equally in determination of the exam grade. The multiple-choice questions cover the basic principles of physics, while the free-response questions emphasize the application of these principles in greater depth to solve extended problems.