

# Science - Advanced Placement

## Science - Advanced Placement Courses

### AP Biology

AP Biology is designed to be the equivalent of a first-year introduction college biology course. AP Biology is designed for students who have successfully completed foundation courses in biology and chemistry. This course aims to provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of biology. At least 25% of instructional time is dedicated to hands-on laboratory investigations. Students are expected to take the AP Biology examination in May. With a satisfactory score, students may be eligible to receive some credit for college-level biology.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),

Weighted (1.0W)

**Schools**

Battlefield High School

Colgan High School

Forest Park High School

Freedom High School

Gainesville High School

Hylton High School

Osbourn Park High School

Patriot High School

Woodbridge High School

**Prerequisites**

[Biology 1](#)

[Chemistry 1](#)

[Algebra 1](#)

[Geometry](#)

Successful completion of at least two laboratory sciences

**Corequisites**

[Algebra 2](#)

### AP Chemistry

AP Chemistry is intended to provide a second level of chemistry comparable to the general chemistry course usually taken during the first year of college. Topics include atomic structure and theory, chemical bonding, states of matter, chemical reactions, stoichiometry, equilibrium, kinetics, thermodynamics, and descriptive chemistry. At least 25% of instructional time is dedicated to hands-on laboratory investigations. Students enrolled in this course are encouraged to pursue an Advanced mathematics sequence. Students are expected to take the AP Chemistry examination in May. With a satisfactory score, students may be eligible to receive some credit for college-level chemistry.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),

Weighted (1.0W)

**Schools**

Battlefield High School

Colgan High School

Forest Park High School

Freedom High School

Gainesville High School  
Hylton High School  
Osborn Park High School  
Patriot High School  
Potomac High School  
Woodbridge High School

**Prerequisites**

[Chemistry 1](#)

[Algebra 2](#)

## AP Environmental Science

AP Environmental Science utilizes students' mathematics and scientific skills in a systems approach to the environment. Major systems include aquatic and terrestrial ecosystems, the atmosphere, and resource allocation/distribution. In addition to laboratory work, some fieldwork is required. Students will take the Earth Science I Standards of Learning (SOL) assessment at the end of this course only if they have not yet earned a verified science credit for graduation. Students are expected to take the AP Environmental Science examination in May. With a satisfactory score, students may be eligible to receive some credit for college-level environmental science.

**Credits 1**

**Grades**

11, 12

**Course Designation**

Weighted (1.0W),

Advanced Placement (AP)

**Schools**

Battlefield High School  
Colgan High School  
Forest Park High School  
Freedom High School  
Gainesville High School  
Hylton High School  
Osborn Park High School  
Patriot High School  
Woodbridge High School

**Prerequisites**

[Biology 1](#)

[Chemistry 1](#)

[Algebra 2](#)

## AP Physics 1

AP Physics is an algebra-based course that is representative of topics covered in similar college physics courses, as determined by periodic surveys. This course could be taken by students with no previous high school experience in physics but who possess strong study skills required for college-level classes. The course covers the following general areas: Newtonian mechanics; work, energy, and power; mechanical waves, and sound. At least 25% of instructional time is dedicated to hands-on laboratory investigations. Students who have taken this course may enroll in either AP Physics 2 or AP Physics C: Mechanics.

**Credits 1**

**Grades**

11, 12

**Course Designation**

Weighted (1.0W),

Advanced Placement (AP)

**Schools**

Battlefield High School  
Colgan High School  
Freedom High School

Gainesville High School  
Hylton High School  
Osborn Park High School  
Patriot High School  
Woodbridge High School

**Prerequisites**

[Geometry](#)

**Corequisites**

[Advanced Algebra 2](#)

## AP Physics 2

AP Physics 2 is an algebra-based course that is representative of topics covered in similar college physics courses, as determined by periodic surveys. The course covers five general areas: fluid mechanics; thermodynamics; electricity and magnetism; optics; atomic and nuclear physics. At least 25% of instructional time is dedicated to hands-on laboratory investigations. Schools could offer this course as a single or a double block class, with extended time for lab inquiry activities. Students are expected to take the AP Physics 2 examination in May. With a satisfactory score, students may be eligible to receive some credit for college-level physics.

**Credits 1**

**Grades**

12

**Course Designation**

Advanced Placement (AP),

Weighted (1.0W)

**Schools**

Osborn Park High School

**Prerequisites**

[Physics 1](#), [AP Physics 1](#), or [AP Physics C: Mechanics](#)

## AP Physics C: Mechanics

AP Physics C: Mechanics ordinarily forms the first part of a college sequence that serves as the foundation in physics for students interested in the physical sciences or engineering. Strong emphasis is placed on solving a variety of challenging problems, requiring some calculus that is presented to students during instruction. At least 25% of instructional time is dedicated to hands-on laboratory investigations. Schools could offer this course as a single or a double block class, with extended time for lab inquiry activities. Students are expected to take the Advanced Placement Physics C examination in May. With a satisfactory score, students may be eligible to receive some credit for college-level physics.

**Credits 1**

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),

Weighted (1.0W)

**Schools**

Battlefield High School  
Forest Park High School  
Gainesville High School  
Hylton High School  
Osborn Park High School  
Patriot High School  
Woodbridge High School

**Prerequisites**

[Calculus \(DE\)](#)

(or concurrent enrollment in Calculus)