



West High School

Advanced Placement Courses

Advanced Placement American Government

AP American Government is an intensive study of the American national government. The goals of this course are to increase understanding of the American political system, including its framework, traditions and values. The course is concerned with the nature of the American political system, its development over the past 200 plus years, and how it continues to function into its third century. The principal processes and institutions through which the political system functions, as well as some of the public policies which these institutions implement, are studied in detail.

Advanced Placement Art History

AP Art History is designed to provide the same benefits to secondary school students as those provided by an introductory college course in art history, namely an understanding and enjoyment of architecture, sculpture, painting, and other art forms within historical and cultural contexts. In the course, students examine major forms of artistic expression from the past and present and from a variety of cultures. They learn to look at works of art critically, with intelligence and sensitivity, and to articulate what they see or experience.

Advanced Placement Art Studio

AP Art Studio is a rigorous college-level program intended for highly motivated students who are seriously interested in the study of art. Study areas and directions are mutually agreed upon. Students keep sketchbooks, write essays, and develop their ability to talk about their art. Students submit a digital portfolio to the College Board of Examination Committee.

Advanced Placement Biology

AP Biology is a challenging and stimulating course equivalent to a two semester college introductory biology course. This course covers the major topics in biology with an emphasis on molecular biology, genetics, and anatomy. Topics covered include the study of molecules, cells, genetics, evolution, organisms and populations. Also included are twelve rigorous labs that help develop analytical reasoning skills.

Advanced Placement Calculus AB

This course includes an in-depth study of extension of differential and integral calculus. AP Calculus AB prepares students for the AB version of the AP Calculus exam and covers content from the first semester of college calculus.

Advanced Placement Calculus BC

This course is a rigorous and compacted study of Calculus AB that includes differential and integral calculus. In addition, the course includes the study of indeterminate forms, sequences and series, and non-Cartesian functions. This course prepares students for the BC version of the AP Calculus exam which is the equivalent of two semesters of college calculus.

Advanced Placement Chemistry

AP Chemistry is a challenging and stimulating course equivalent to a two semester introductory college chemistry course. Topics covered include structure and states of matter, reactions, stoichiometry, bonding, equilibria, kinetics, thermodynamics, acid-base chemistry, and electrochemistry. Laboratory exercises are used to illustrate and reinforce concepts.

Advanced Placement Computer Science Principles

AP Computer Science Principles introduces students to the central ideas of computer science, instilling the ideas and prescribing practices of computational thinking and inviting students to understand how computing changes the world. This rigorous course promotes deep learning of computational content, develops computational thinking skills, and engages students in the creative aspects of the field. The course is based on the following big ideas: creativity, abstraction, data and information, algorithms, programming, the Internet, and global impacts of computing.

Advanced Placement Human Geography

The AP Human Geography course introduces students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students learn to employ spatial concepts and landscape analysis to examine human socioeconomic organization and its environmental consequences. They also learn about the methods and tools geographers use in their research and applications.

Advanced Placement English Language and Composition

The purpose of AP Language and Composition is to improve students' proficiency with advanced content, skills and processes through classical analysis of the rhetorical transaction in both fiction and nonfiction genres; composition of research-based essays; and discourses designed to state and defend an argument. The overarching purpose is to enable students to write effectively and confidently in their college courses across the curriculum and in their personal and professional lives.

Advanced Placement English Literature and Composition

Students will read a wide range of challenging works of literature (primarily novels, plays and poetry) and will work to develop their skills of analysis through discussing and writing about those works. The required reading will include many selections of recognized literary merit by major authors from British, American, and world literature. There is primary focus on development of close reading skills and skills of inference, on understanding and application of literary terms, and on a reasonably knowledgeable acquaintance with a wide body of challenging literature.

Advanced Placement Photography

AP Photography is a rigorous college-level program intended for highly motivated students who are seriously interested in the study of art. Study areas and directions are mutually agreed upon. Students keep sketchbooks, write essays, and develop their ability to talk about their art. All students will create and build a portfolio. Students in this course make photography their main focus. Students who are interested in other forms of digital work (movies, graphic design, package design) are also encouraged to take this course.

Advanced Placement Physics 1

AP Physics 1 is a year-long algebra-based course that covers one semester of college-level physics which will explore the following topics: Newtonian mechanics; work, energy, and power; mechanical waves and sound; and introductory simple circuits. Students will develop scientific critical thinking and reasoning skills through inquiry based learning.

Advanced Placement Physics 2

AP Physics 2 is a year-long algebra-based course that covers one semester of college-level physics which will explore the following topics: fluids; thermodynamics; electrostatics; electrical circuits with capacitors; magnetic fields; electromagnetism; physical and geometric optics; and quantum, atomic, and nuclear physics. Students will develop scientific critical thinking and reasoning skills through inquiry-based learning.

Advanced Placement Physics C: Electricity and Magnetism

AP Physics C: Electricity and Magnetism is a stimulating calculus based physics course, equivalent to a one semester introductory college physics class. Students should be highly motivated, independent learners with skills in trigonometry and calculus. The topics presented include electrostatics, electric circuits, magnetic fields, and electromagnetism.

Advanced Placement Physics C: Mechanics

AP Physics C: Mechanics is a stimulating calculus based physics course, equivalent to a one semester introductory college physics class. Students should be highly motivated, independent learners with skills in trigonometry and calculus. The topics presented include kinematics, dynamics, work and energy, momentum, and rotational motion.

Advanced Placement Psychology

This course will introduce students to the scientific study of behavior and mental processes. Students are exposed to the psychological facts, principles and phenomena associated with the major sub-fields within psychology. Higher order thinking skills will be commonly employed as students apply psychological principles to their own lives. Students will learn about the methods psychologists employ in their science and practice.

Advanced Placement Research

This course is the second half of AP Capstone and provides students an opportunity to engage in rigorous scholarly practice of the core academic skills necessary for successful college completion. AP Research follows and expands on AP Seminar. In this course, students refine their in-depth, discipline specific study provided through AP courses and bring together what they have learned in those courses into one coherent experience. AP Research cultivates curious, independent, and collaborative scholars and prepares them to make logical, research-based decisions, and to communicate those decisions effectively through speaking, writing and mixed media.

Advanced Placement Seminar

This course is the first half of AP Capstone and provides students with opportunities to think critically and creatively, research, explore, pose solutions, develop arguments, collaborate and communicate using varied media. Students explore real world issues through a cross-curricular lens and multiple points of view. They develop deep understandings of complex issues and make connections between these issues and their own lives. There is flexibility in what themes are chosen for exploration, based on student interest.

Advanced Placement Statistics

Students will study the major concepts and tools of the following topics:

- Exploring Data: Describing patterns & departures from patterns (20-30%)
- Sampling and Experimentation: Planning & conducting a study (10-15%)
- Anticipating Patterns: Exploring random phenomena using probability and simulation (20-30%)
- Statistical Inference: Estimating population parameters and testing hypotheses (30-40%)

Advanced Placement United States History

Content will include the breadth of U.S. History from European discovery and settlement through contemporary trends and events. In addition to the historical content that students will acquire, this course will require students to analyze and interpret primary sources, including documents, maps, statistics, and pictorial and graphic evidence of historical events.

Advanced Placement World Languages:

Advanced Placement French Language and Culture

Advanced Placement German Language and Culture

Advanced Placement Spanish Language and Culture

In the sixth level of world language, students will continue to refine their listening, speaking, reading and writing skills. This course emphasizes critical reading skills and oral and written analysis of authentic materials. Grammar is taught and used in context. Advanced work challenges students to be more analytical and creative through assignments, real world applications and enrichment opportunities.