



### Social Studies AP Course Descriptions

#### AP United States History

Grades 9 / 11-12

This course is for students desiring a freshman college-level survey course in United States history. The course is a survey of our country's history from 1607 to the present, using a college level text and requiring college-level writing and discussion. 9<sup>th</sup> Graders may take this course to meet their U.S. history graduation requirement. 9<sup>th</sup> Graders who take this course should have had Advanced United States History in Middle School. Upperclassmen are encouraged to take this course as an elective. This course prepares all students for the AP U.S. History examination.

#### AP European History

Grades 11–12

AP European History is a detailed study of the history of the major nations of Europe from the Renaissance to contemporary Europe. Rather than simply focusing on broad generalizations, AP European history will delve into the intricacies that shaped one of the richest, most densely populated, and influential parts of the world. In addition to exploring the political and diplomatic events through which the elites shaped western civilization, AP European history will explore the cultural and social history of the continent and will examine how everyday people lived their lives amid world changing events. AP European history will prepare student to sit for the AP European history exam for which student could earn up to six college credits.

#### Advanced Placement World History A and B

Grades 11–12

This course is for students who desire a college-level course in world history. Students use college-level textbook and additional high level reading materials. The purpose of the AP World History course is to develop greater understanding of the evolution of global processes and contacts that brought about change in all human societies. Students trace major historical issues such as gender relations, cultural and

economic shifts, and imperialism over time and all over the world. The course focuses on broad conceptual themes. Taking AP World can take the place of Modern World History for graduation credit. The chronological time frame is from 8000 BCE to the present. This course also prepares students for the AP World History examination.

#### AP Psychology 1 and 2

Grades 11–12

Advanced Placement Psychology is a two semester introduction to the field of psychology. It is modeled after, and may substitute for, first level college courses if the student earns a score of 3 or higher on the Spring AP Psychology Examination. Students learn about the systematic and scientific study of the behavioral and mental processes of humans and animals. The course covers thirteen prescribed topics related to psychological facts, principles and the phenomena associated with each of the major subfields within psychology. Students use a college textbook, examine topics in greater depth, read professional journals, participate more frequently in class discussions and group presentations, analyze research and write more extensively. Strong reading skills and the ability to work independently are essential.

#### AP United States Government and Politics, with National State and Local Government

Grades 10 / 11–12

This is a year long freshman level college course in American Government. Students use a college level textbook and engage in seminars, simulations, discussions, and debates. This course is a broad survey of the structure and function of American government and politics, beginning with an in depth analysis of the Constitution as the foundation of the American political system. Students study the three branches of government as well as administrative agencies that support each branch, the role of political behavior in the democratic process, and the workings of political parties and interest groups. Additionally, objectives for National, State, and Local Government A and B will be covered in this year long course preparing 10<sup>th</sup> students for the Maryland HSA exam.

## **English AP Course Descriptions**

### **AP English Language and Composition** Grade 11

AP English Language and Composition is for students who want to become skilled readers of prose written in a variety of ways, and who want to become skilled writers who compose for a variety of purposes. Students who take this class should be highly motivated to accept the challenges of an AP English course. One goal of the course is to teach students to read, explore ideas, consider strategies, analyze, and write in a manner recognized by colleges and universities. Another is to teach students to complete college-level research. Students will have the opportunity to receive college credit by taking the AP Language and Composition exam at the end of the course. Many colleges give course credit for a score of 3 or higher on the exam.

### **AP English Literature and Composition** Grade 12

AP English Literature and Composition is for students who enjoy reading in an effort to better understand themselves and the world around them. Students who take this course should be highly motivated to accept the challenges of an AP English course. One focus is the study of major authors, periods, genres, or themes; the reading typically concentrates on imaginative literature—poetry, fiction, and drama. Another key element is the continued development of the writing skills necessary to be successful at the college or university level. Students will have the opportunity to receive college credit by taking the AP Literature and Composition exam at the end of the course. Many colleges give course credit for a score of 3 or higher on the exam.

## **Foreign Language AP Course Descriptions**

### **AP Spanish Language**

In AP Spanish language class students are immersed in the language exclusively. This class prepares students to speak in front of an audience, enhance grammar and vocabulary skills, write essays using written and auditive sources, develop various business letters, and updates students with world issues in an academic setting. AP Spanish language class is also packed with super fun activities where students learn about the Spanish speaking culture through field trips, videos, music, food, authentic newspapers and magazines as well as native speaker instructors. Since 2004, most students in AP Spanish language score 4 and 5 on the College Board Exam which gives participants up to 12 college credits.

### **AP Spanish Literature**

In AP Spanish Literature students lose their fear of poetry and classical readings. This course instills in students the love and passion for literature. Its focus is quality not quantity. Class time consists of discussions, analysis, and fun vocabulary acquisition through group work, role playing, videos, and power point presentations. Although students are very reluctant to study poetry, this is done throughout the entire year in different units and with tons of examples and modeling. In AP Literature the authors come to life with the study of their biographies. Also, students leave each class with a sense of accomplishment because AP Literature is like learning another language within a language.

## **AP French Language**

Welcome to AP French Language. You have just embarked upon a world of French cuisine, arts, sciences, poetry, music, and film. As we move through these thematic units, you will expand your knowledge of French literature and enhance your vocabulary.

AP French Language cultivates an authentic environment in which you learn to express yourself with ease, and communicate freely to your peers. It is a hands-on course wherein you will taste, smell, hear, and see elements that make up the Francophone world. In addition, you will receive extensive preparation and training for the Advanced Placement exam. A score of a "3" or better on the AP French Exam will earn you college credit at most collegiate institutions. In order to pursue AP French, you must have at least 3 years of experience of academic French.

## **Math AP Course Descriptions**

### **AP Statistics**

Grades 12

This course is a non-calculus based college course in introductory statistics. Students will explore analysis of data using both graphical and numerical techniques. We will generate conjectures about the relationships between variables. We will also distinguish between association and causation. Students are expected to produce appropriate models using probability, simulation, and statistical inference. These models will be used to draw conclusions from data. Furthermore, data will be used to support or discredit models using inferential methods.

### **AP Calculus AB**

Grades 11 and 12

The topics studied in AP Calculus AB are those traditionally offered in the first year of calculus in college. This course is designed for students who wish to obtain credit for one semester of college calculus. Topics studied include limits, continuity, derivatives, and integrals of algebraic and transcendental functions, their applications, and elementary differential equations.

### **AP Calculus BC**

Grades 11 and 12

The AP Calculus BC course covers all of the topics in the AB course, as well as convergence tests for series, Taylor and Maclaurin series, vectors, polar, and parametric functions. Students who pass the AP exam generally receive two semesters of college calculus credits.

## Science AP Course Descriptions

### AP Physics B

Grades 11 and 12

The Physics B course includes topics in both classical and modern physics. Knowledge of algebra and basic trigonometry is required for the course; the basic ideas of calculus may be introduced in connection with physical concepts, such as acceleration and work. Understanding of the basic principles involved and the ability to apply these principles in the solution of problems should be the major goals of the course. Consequently, the course should utilize guided inquiry and student-centered learning to foster the development of critical thinking skills. Physics B should provide instruction in each of the following five content areas: Newtonian mechanics, fluid mechanics and thermal physics, electricity and magnetism, waves and optics, and atomic and nuclear physics. A more detailed topic outline is contained in the "Learning Objectives for AP Physics," which can be found on AP Central.

The Physics B course should also include a hands-on laboratory component comparable to introductory college-level physics laboratories, with a minimum of 12 student-conducted laboratory investigations representing a variety of topics covered in the course. Each student should complete a lab notebook or portfolio of lab reports.

### AP Biology

Grades 10, 11 and 12

The two main goals of AP Biology are to help students develop a conceptual framework for modern biology and to help students gain an appreciation of science as a process. The ongoing information explosion in biology makes these goals even more challenging. Primary emphasis in an AP Biology course should be on developing an understanding of concepts rather than on memorizing terms and technical details. Essential to this conceptual understanding are the following: a grasp of science as a process rather than as an accumulation of facts; personal experience in scientific inquiry; recognition of unifying themes that integrate the major topics of biology; and application of biological knowledge and critical thinking to environmental and social concerns.

## AP Environmental Course Description

Grades 11 and 12

The goal of the AP Environmental Science course is to provide students with the scientific principles 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 and/or preventing them. This class uses labs, field trips, class simulations, environmental service learning and peer teaching to enhance the course work.

Environmental science is interdisciplinary; it embraces a wide variety of topics from different areas of study including biology, geology, chemistry, earth-space, math, economics, global & cultural studies, law, history and government. Yet there are several major unifying constructs, or themes, that cut across the many subject areas including the scientific process, energy, physical earth, soil, water, atmosphere, living organisms, human interaction, poverty, population growth and sustainable future models.

### AP Chemistry

Grades 11 and 12

The AP Chemistry course is designed to be taken only after the successful completion of a first course in high school chemistry. This course is designed to be the equivalent of the general chemistry course usually taken during the first college year. For some students, this course enables them to undertake, as freshmen, second-year work in the chemistry sequence at their institution or to register for courses in other fields where general chemistry is a prerequisite. For other students, the AP Chemistry course fulfills the laboratory science requirement and frees time for other courses.

## **AP Computer Science**

Grades 10-12

The AP Computer Science is designed to provide clear and concise lessons in topics such as object-oriented programming, algorithms, static and dynamic data structures, sequence, repetition, conditions, methods, one- and two-dimensional arrays, and recursion. The course is also designed to prepare students in programming methodology to produce quality computer-based solutions to real problems. This is achieved by helping students learn to combine technological knowledge and programming skills with problem-solving skills. Challenges experienced during the course by students which include hands-on lab exercises and worksheets are added in order to enable them to become experienced Java programmers. After completing this course, students will be able to write code in the Java programming language; understand and use object-oriented programming with appropriate data structures to solve problems; use current methodologies to analyze a problem; develop program specifications; design solution to problems using top-down methodology and stepwise refinement; implement the solution using a high-level language (Java); utilize program verification, and create program documentation. One text book is not enough to cover all the materials required for this program, as a result, student will be recommended a text book: Big Java, but will also be asked to use the Internet as backup. Prerequisites for AP Computer Science include Algebra I, C++ Programming or other computer programming language, and an experience in problem solving.