

AP COURSES

AP ART HISTORY (1 credit)

Grade: 12

The AP Art History course is a yearlong survey of art and architecture across centuries, cultures, and styles. In this course students will cover art and architecture created from the Ancient World to the 20th Century and beyond.

They will develop an appreciation and understanding of art and architecture using these seven key concepts: Identification and Attribution, Visual Analysis, Contextual Analysis, Finding Meaning, Interdisciplinary Awareness, Reading Skills, and Writing Skills. By using these concepts, students will be able to identify works of art, artists, and styles.

AP Exam: Exam fees are to be paid by the student or by school district. The individual school district orders the exam on behalf of the student and administers it.

AP CALCULUS AB (1 credit)

Grade: 12

Students in this course will walk in the footsteps of Newton and Leibnitz.

An interactive course framework combines with the exciting on-line course delivery to make calculus an adventure. The course includes a study of limits, continuity, differentiation, and integration of algebraic, trigonometric, and transcendental functions, and the applications of derivatives and integrals.

AP Exam: Exam fees are to be paid by the student or by school district. The individual school district orders the exam on behalf of the student and administers it.

Required Materials: Graphing calculator

Pre-requisites: Algebra I, Geometry, Algebra II, Pre-Calculus or Trigonometry/Analytical Geometry

AP CALCULUS BC (1 credit)

Grades: 12

Calculus BC can be offered by schools where students are able to complete all the Pre-requisites before taking the course. Calculus BC is a full-year course in the calculus of functions of a single variable. It includes all topics taught in Calculus AB plus additional topics, but both courses are intended to be challenging and demanding; they require a similar depth of understanding of common topics. The Calculus AB subscore is reported based on performance on the portion of the Calculus BC Exam devoted to Calculus AB topics. Pre-requisites before studying calculus, all students should complete four years of secondary mathematics designed for college-bound students: courses in which they study algebra, geometry, trigonometry, analytic geometry, and elementary functions. These functions include linear, polynomial, rational, exponential, logarithmic, trigonometric, inverse trigonometric and piecewise-defined functions. In particular, before studying calculus, students must be familiar with the properties of functions, the algebra of functions, and the graphs of functions. Students must also understand the language of functions (domain and range, odd and even, periodic, symmetry, zeros, intercepts, and so on) and know the values of the trigonometric functions at the numbers 0, $\frac{\pi}{6}$, $\frac{\pi}{4}$, $\frac{\pi}{3}$, $\frac{\pi}{2}$, and their multiples.

AP Exam: Exam fees are to be paid by the student or by school district. The individual school district orders the exam on behalf of the student and administers it. **Required Materials:** Graphing calculator

Pre-Requisites: Algebra I, Geometry, Algebra II, Pre-Calculus or Trigonometry/Analytical Geometry.

AP COMPUTER SCIENCE A (1 credit)**Grades: 11-12**

The AP® Computer Science A course is equivalent to the first semester of a college level computer science course. The course involves developing the skills to write programs or part of programs to correctly solve specific problems. AP® Computer Science A also emphasizes the design issues that make programs understandable, adaptable, and when appropriate, reusable. At the same time, the development of useful computer programs and classes is used as a context for introducing other important concepts in computer science, including the development and analysis of algorithms, the development and use of fundamental data structures, and the study of standard algorithms and typical applications. In addition an understanding of the basic hardware and software components of computer systems and the responsible use of these systems are integral parts of the course.

Technology Requirements: *Students must have access to a computer system that represents relatively recent technology (PIII). Schools need to have Java and Bluj software already installed on a designated machine(s) before the course starts and enough memory in their lab machines (128 MB) so that students will be able to compile and run Java and BluJ programs efficiently.*

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Pre-requisites: *Algebra I is required. Algebra II is highly recommended.*

Pre-requisite: *Students must have taken and successfully passed Web Design and JavaScript.*

AP ENGLISH LANGUAGE AND COMPOSITION (1 credit)**Grades: 11-12**

An AP course in English Language and Composition engages students in becoming skilled readers of prose written in a variety of periods, disciplines, and rhetorical contexts and in becoming skilled writers who compose for a variety of purposes. Both their writing and their reading should make students aware of the interactions among a writer's purposes, audience expectations, and subjects as well as the way generic conventions and the resources of language contribute to effectiveness in writing. The college composition course for which the AP English Language and Composition course substitutes is one of the most varied in the curriculum.

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Pre-Requisites: *Teacher recommendation, English I, II (honors), with a B+ average*

AP ENVIRONMENTAL SCIENCE (1 CREDIT)**Grades: 11-12**

This course provides students with a global view of their world and their role in it. It examines the scientific principles and concepts required to understand the interrelationships between ocean, land, and atmosphere that guide the natural world and allow Earth to be a planet suitable for life.

Required Materials: Student will be responsible for supplying the materials needed for the labs. Calculator, paper, pen/pencil, newspaper or wax paper water-based marker, spray bottle, digital camera, plastic cups, navy beans, kidney beans, black beans, black-eyed peas, marker.

AP Exam: Exam fees are to be paid by the student or by school district. The individual school district orders the exam on behalf of the student and administers it.

AP EUROPEAN HISTORY (1 CREDIT)**Grades: 11-12**

In AP European History students investigate significant events, individuals, developments, and processes in four historical periods from approximately 1450 to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical comparisons; and utilizing reasoning about contextualization, causation, and continuity and change over time. The course also provides six themes that students explore throughout the course in order to make connections among historical developments in different times and places: interaction of Europe and the world; poverty and prosperity; objective knowledge and subjective visions; states and other institutions of power; individual and society; and national and European identity.

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AP HUMAN GEOGRAPHY (1 credit)**Grades: 11-12**

Explore the patterns and processes that impact the way humans understand, use, and change Earth's surface. Geographic models, methods, and tools help you examine the effect that human social organization and interconnections have on our world.

AP Exam: Exam fees are to be paid by the student or by school district. The individual school district orders the exam on behalf of the student and administers it.

AP MACROECONOMICS (1 credit)**Grades: 11-12**

This course places particular emphasis on the study of national income and price-level determination, and also familiarizes students with economic performance measures, the financial sector, stabilization policies, economic growth and international economics. Solid math and writing skills, along with a willingness to devote considerable time to homework and study, are necessary to succeed. Emphasis is placed on critical and evaluative thinking skills.

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AP MICROECONOMICS (1 credit)**Grades: 11-12**

This course is designed to give students a thorough understanding of the principles of economics that apply to the function of individual decision-makers, both consumers and producers, within larger economic systems. It places primary emphasis on the nature and function of product markets. It also examines factor markets and the role of government in promoting greater efficiency and equity in the economy. Solid math and writing skills, along with a willingness to devote considerable time to homework and study, are necessary to succeed. Emphasis is placed on critical and evaluative thinking skills.

AP Exam: Exam fees are to be paid by the student or by school district. The individual school district orders the exam on behalf of the student and administers it.

AP PSYCHOLOGY (.1 credit)**Grades: 11-12**

AP Psychology is a college-level course providing students with an overview of the development of human behaviors and thoughts. Along with preparation for the AP Psychology exam, the goals of this course are to immerse students in modern psychological investigation techniques, to accentuate the ethics and morality of human and animal research, and to emphasize scientific critical thinking skills in application to the social sciences. Psychology is a diverse social and biological science with multiple perspectives and interpretations. The primary emphasis of this course is to help students develop an understanding of concepts rather than memorize terms and technical details; the ultimate goal is to prepare students to successfully take the AP Psychology examination offered in May.

AP Exam: Exam fees are to be paid by the student or by school district. The individual school district orders the exam on behalf of the student and administers it.

AP STATISTICS (1 credit)**Grade: 12**

Advanced Placement Statistics is designed to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Topics introduced include the exploratory analysis of data and numerical techniques to study patterns, methods of valid data collection, probability as the tool for anticipating what distributions of data should look like, and confirming models through statistical inference.

AP Exam: Exam fees are to be paid by the student or by school district. The individual school district orders the exam on behalf of the student and administers it.

Pre-requisites: Algebra I & II

AP US GOVERNMENT & POLITICS (1 credit)**Grade: 12**

This course includes both the study of general concepts used to interpret U.S. government and politics and the analysis of specific examples. It also requires familiarity with the various institutions, groups, beliefs, and ideas that constitute U.S. government and politics.

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AP US HISTORY (1 credit)**Grades: 11-12**

The AP U.S. History course focuses on the development of historical thinking skills (chronological reasoning, comparing and contextualizing, crafting historical arguments using historical evidence, and interpreting and synthesizing historical narrative) and an understanding of content learning objectives organized around seven themes, such as identity, peopling, and America in the world. In line with college and university U.S. history survey courses' increased focus on early and recent American history and decreased emphasis on other areas, the AP U.S. History course expands on the history of the Americas from 1491 to 1607 and from 1980 to the present. It also allows teachers flexibility across nine different periods of U.S. history to teach topics of their choice in depth.

AP Exam: Exam fees are to be paid by the student or by school district. The individual school district orders the exam on behalf of the student and administers it.

AP WORLD HISTORY (1 credit)**Grades: 11-12**

Structured around the investigation of five course themes and 19 key concepts in six different chronological periods, from approximately 8000 B.C.E. to the present. Provides a clear framework of six chronological periods viewed through the lens of related key concepts and course themes, accompanied by a set of skills that clearly define what it means to think historically.

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