

ADVANCED PLACEMENT CALCULUS

Grade 11 - 12 Elective 1,2, or 3 Trimesters ½ to 1½ Credits

Prerequisite: Trig and "B" average in pre-calculus or recommendation of the pre-calculus teacher

Note: This course is intended to prepare students to take the College Board Advanced Placement Calculus A/B Exam. Extensive use of the graphing calculators will be a part of this course.

Objectives:

- ❖ To understand simple antiderivatives, Riemann Sums, and the definite integral.
- ❖ To reinforce the concepts learned in calculus and build on those concepts.
- ❖ To understand the definite integral, Fundamental Theorem of Calculus, and applications of the integral.
- ❖ To solve applications of the antiderivative, the Second Fundamental Theorem of Calculus, and the Trapezoidal Rule.
- ❖ To review and further develop skill using logarithmic, exponential, and the natural log functions.
- ❖ To use the definite integral to solve applications.
- ❖ To develop integration techniques using more than one rule including L'Hopital's Rule.

AP CHEMISTRY/DUAL CREDIT

Grade 11 – 12 Elective 3 Trimesters 1 Credit

Prerequisite: Chemistry 1 Honors or Specific Recommendation of Chemistry 1 Teacher

Objectives:

- ❖ To develop a better appreciation for the various aspects of chemistry.
- ❖ To prepare college bound students planning on majoring in the sciences or engineering for higher-level chemistry classes.
- ❖ To better prepare students for the AP Chemistry Exam with a course covering material included in and at the level of a college General Chemistry Course
- ❖ To develop the student's understanding of the following chemistry topics: molecular structure, organic chemistry, acids and bases, molecular geometry, advanced stoichiometry and equation writing.
- ❖ To develop the student's problem solving ability in the following areas: chemical formulas and equations, gases and the mole, reaction rates, and oxidation-reduction, molecular geometry and organic chemistry.

ADVANCED PLACEMENT PHYSICS

Grades 11-12 Elective 3 Trimesters 1½ Credits

Prerequisite: Biology, Chemistry, Algebra 2 (enrollment in Precalculus or Calculus is recommended).

Note: Because of the nature of this course, these are the guidelines followed when advising students considering Advanced Placement Physics:

- Realize that this is a college level course.
- Be prepared to move at a fast pace.
- Understand that extra work including outside class assignments will be required.
- Be prepared to learn how to use high-level math skills.

Objectives:

- ❖ To develop an in-depth understanding of the laws and principles governing the physical world (including studies of motions, forces, momentum, energy, work, waves, heat, light, electricity, and resolution).
- ❖ To prepare formal lab reports based on careful measurements and data analysis.
- ❖ To utilize algebra, geometry and trigonometry in problem solving.

ADVANCED PLACEMENT SPANISH LANGUAGE

Grade 12 Elective 3 Trimesters 1½ Credits

Prerequisites: Spanish 3 and recommendation

Note: Students who intend to take the national Advanced Placement examination will be expected to develop the ability for audio comprehension of native speakers.

Objectives:

- ❖ To place emphasis on reading and writing skills along with a study of Spanish and Latin American writers.
- ❖ To practice detailed comprehension and discussion of written Spanish.
- ❖ To improve knowledge through structure drills, oral practice and review, vocabulary drills, and creative exercises to further develop composition and discussion skills.
- ❖ To develop the student's ability to converse, write and read well enough for a general understanding of the Spanish language with knowledge of an appreciation for the influence of Spanish and Hispanic culture.

ADVANCED PLACEMENT MODERN WORLD CIVILIZATION

Grade 10 Elective 3 Trimesters 1½ Credits

Requirements: Must have a 93% or above in Freshman English or be signed in by a member of the History Department

Note: Students considering this course must:

- Realize this is a college level course.
- Be prepared to move at a fast pace.
- Understand extra work, including reading and outside class assignments, will be required.

Objectives:

- ❖ To give students a college experience in world civilization.
- ❖ To heighten the ability to see relationship and distinction in world political, social, economic, and intellectual history.
- ❖ To develop the ability to extract from primary documents and secondary sources research instruments that will demonstrate interpretative and analytical ability.
- ❖ To read historical materials in a discriminating way and to write effectively.
- ❖ To develop within the student the ability to weigh evidence and reach conclusions on the basis of facts, not prejudice.
- ❖ To handle the discipline of college level work and to prepare for the Advanced Placement exam.

ADVANCED PLACEMENT UNITED STATES HISTORY

Grade 11

Elective

3 Trimesters

1½ Credits

Note:

Students considering this course must:

- Realize this is a college level course.
- Be prepared to move at a fast pace.
- Understand extra work, including reading and outside class assignments, will be required.

Objectives:

- ❖ To give students a college experience in United States history.
- ❖ To study United States history in depth from 1400 to 1970.
- ❖ To find cause and effect relationships in the facts of United States history.
- ❖ To prepare students for the Advanced Placement exam.
- ❖ To sharpen students' skills in writing and document interpretation.

ADVANCED PLACEMENT UNITED STATES GOVERNMENT

Grade 10-12

Elective

2 Trimesters

1 Credit

Note:

AP Government will be taught the second and third trimesters. It will cover a variety of topics relating to government. Topics to be discussed in class will be origins of American Government, political beliefs and behavior, political parties, interest groups, mass media, government institutions, public policy, and civil rights and liberties. Students will see how these institutions work together and how they check on each other.

Students will be required to read not only the textbook, but will have outside readings such as newspapers, journals, and using the internet for research. Students will also be required to participate in classroom discussions as well as complete projects that will be assigned during the course of their study. Students must realize that this is a college level class and we move at a fast pace going into some detail.

Objectives:

- ❖ Know important facts, concepts, and theories pertaining to US Government and politics
- ❖ Understanding typical patterns of processes and behavior and their consequences
- ❖ Be able to analyze and interpret basic data relevant to US Government and politics
- ❖ Be able to critically analyze relevant theories and concepts, apply them appropriately, and develop their connections across the curriculum

These objectives were taken from the AP US Government and Politics Workshop Handbook approved by the College Board

ADVANCED PLACEMENT PSYCHOLOGY

Grade 12

Elective

3 Trimesters

1½ Credits

Note:

Students considering this course must:

- Realize this is a college level course.
- Be prepared to move at a fast pace.
- Understand extra work, including reading and outside class assignments, will be required.
- Have a sincere interest in psychology.
- Be able to work independently with minimal supervision.

Objectives:

- ❖ To give students a college experience in psychology.
- ❖ To study the historical development of psychology.
- ❖ To study the basics of research, experimentation, and descriptive statistics.
- ❖ To study cognitive processes such as learning, memory, and thought.
- ❖ To study the biological bases of behavior including the brain and nervous system.
- ❖ To study motivation and emotions.
- ❖ To explore the alteration of consciousness, including chemical and non-chemical methods such as hypnosis and sensory deprivation, sleeping and dreaming.
- ❖ To study personality theory.
- ❖ To study the breakdown of the personality, neuroses, and psychoses.
- ❖ To prepare for the Advanced Placement exam.

ADVANCED PLACEMENT ART

Grade 12

Elective

3 Trimesters

1½ Credits

Prerequisite:

Recommendation and completion of a minimum of 6 pieces of art over the summer prior to entering AP Art.

Objectives:

- ❖ To produce work in a much more self-guided manner in the fashion of a professional artist.
- ❖ To increase drawing and rendering proficiency through a new emphasis on the figure.
- ❖ To continue developing the fundamentals of making and understanding art.
- ❖ To prepare and assist students in the development of a portfolio during their senior year.
- ❖ To greatly increase the professionalism of the students' work.
- ❖ To gain a basic understanding of art as a profession.
- ❖ To begin questioning the purpose of making art as it relates to professionals and themselves.
- ❖ To gain a continued understanding of the function of the sketchbook by working in it everyday during the trimester (minimum 15 minutes daily, logged times and dates). It should demonstrate expected evolution and development beyond their Art Three sketchbook.
- ❖ To complete an eight piece portfolio demonstrating the student's breadth in both technique and media. This portfolio will have a much greater emphasis on theme than the Art 2 or Three portfolios. This portfolio should also demonstrate expected evolution and development beyond their Art Three portfolio. Students will use this portfolio to compete in the Scholastic's Art competition in January. Students will complete a 10 – 15 piece portfolio by May to be used in the annual art show.
- ❖ To produce an Advanced Placement studio portfolio and submit for review in May.

* All work described in aforementioned portfolios may be used congruently, i.e. the Scholastic's portfolio can be a part of the AP Portfolio, etc.