

## **ADVANCED PLACEMENT ENGLISH**

### **English Language and Composition/English Literature and Composition**

Grade: 12

#### **Prerequisite: Honors English 11 & Department Approval**

As a yearlong class, AP English prepares the students for the Language and Composition test. The emphasis includes AP Composition and the close analysis of complex literary texts, poetry, and non-fiction pieces joined in a thematic nature. Students begin the course with an intensive six week “Boot Camp” which allows the instructor to closely examine their writing ability through weekly short analysis essays based on increasingly complex short stories. Part of the emphasis of the course is on the writing process and includes writing refinements such as concise expression, complicated mechanics, essay, and structure. In addition, students learn MLA style citation, which is necessary for source documentation in college writing. Entering students are expected to know the rudiments of the writing process, the review of which is the beginning point of class. From there, students progress to the writing of different types of essays and the exploration of organization, development and style. It is an elective credit.

## **AP CALCULUS**

Grade: 11, 12

#### **Prerequisite: Pre-Calculus, Instructor Approval**

The course covers the following topics: Limits and Their Properties, Differentiation, Applications of Differentiation, Integration, Logarithmic, Exponential and Others Transcendental Functions, Differential Equations, Applications with Integration, Integration Techniques, L’Hopital’s Rules and Improper Integrals, Infinite Series and Conics, Parametric Equations and Polar Coordinates. The course also incorporates the technology of the Texas Instrument Inspire calculators. At the end of the course, students will have an opportunity to take the Advanced Placement Test. This course is taught over a 3-trimester period.

## **AP STATISTICS**

Grade: 12

#### **Prerequisite: Algebra II**

Throughout the year, students will be exposed to four broad conceptual themes, Exploring Data, Planning A Study, Anticipating Patterns, and Statistical Inference. The course requires a “mathematical maturity” and interpretive and reasoning skills which the students may not have fostered as much in previous math courses. The course goes beyond the Common 48 Core Standards, and involves a more in-depth study of Statistics. At the end of the course, students will have an opportunity to take the Advanced Placement Test.

## **ADVANCED PLACEMENT CHEMISTRY**

Grade: 11, 12

### **Prerequisite: Chemistry**

Microbiology is an extension of the Biology and Honors Biology programs. The program is designed to last two trimesters and cover the following topics: Microbiology Laboratory Skills and Safety, Microbial Growth, Microscopy and Staining of Organisms, Selective Media, Differential Tests, Medical and Food Microbiology, Microbial Genetics, and Identifying Unknowns. Daily activities are designed around hands-on laboratory experiences, brief lectures and demonstrations. Students will be required to keep a written laboratory notebook of all class exercises. Evaluation will be based upon successful completion of various activities and instructor observations. Trimester 1 Final will be a written exam and Trimester 2 will be evaluated upon successful identification of an unknown organism.

## **ADVANCED PLACEMENT BIOLOGY**

Grade: 11, 12

### **Prerequisite/Concurrent: Chemistry and Physiology**

The Advanced Placement Biology course is designed to be the equivalent of a college introductory Biology course usually taken by Biology majors during their first year of college. AP Biology includes those topics covered in a college Biology course. AP Biology differs from Honors Biology with respect to the kind of textbook used, the range and depth of topics covered, the kind of laboratory work done by students, and the time and effort required of students. At the end of the AP Biology year, students are encouraged to take the AP Biology college board exam which may allow for the acquisition of college credit (score of 3,4 or 5). Students who have enrolled in the AP program must have successfully completed Biology and Chemistry. AP Biology goals are provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal with the rapidly changing science of Biology. The AP Biology curriculum focuses on Four Big Ideas and Seven Science Practices, as assessed on the AP College Board Exam.

## **ADVANCED PLACEMENT PHYSICS**

Grade: 11, 12

### **Prerequisite: Honors Physics, Pre-Calculus**

The Advanced Placement Physics course will be taught on a level of difficulty equal to that of the college freshman, Calculus-based, Physics course. The topics covered will include only Mechanics, Electricity, and Magnetism since this is what the AP Physics C Exam

## **ADVANCED PLACEMENT U.S. GOVERNMENT AND POLITICS**

Grade: 11, 12

### **Prerequisite: None**

The American Government courses are designed to provide the student with information and activities that will generate an interest in becoming an active citizen of the United States. Each class includes the basic core program and individual teachers will follow the core program and provide for advanced assignments as the course demands. Text and materials will be used to help students evaluate the current domestic and foreign affairs of our American Government. Phase 4 (Advanced Placement American Government) provides instruction directed at students reading above grade level. This course is designed to prepare the student for the Advanced Placement Exam.

## **ADVANCED PLACEMENT PSYCHOLOGY**

Grade: 12

### **Prerequisite: None**

The goal of the AP Psychology course is to provide the student with a learning experience that mirrors most college introductory psychology courses. Students will gain knowledge of key theories and concepts of the many subfields within psychology, and they will apply skills in understanding and critiquing psychological research. Emphasis will be made on the development of critical psychological reasoning skills that challenge students to think, as well as improving communicative skills.

## **ADVANCED PLACEMENT U.S. HISTORY**

Grade: 9, 10, 11, 12

### **Prerequisite: Teacher Recommendation**

This course in United States History is designed for qualified students who wish to complete studies in secondary school equivalent to a college introductory course in U.S. history. The course is designed to provide students with the analytic skills and factual knowledge necessary to deal critically with the problems and materials in United States history. The program prepares students for the Advanced Placement United States History Examination, which is given in May.

## **ADVANCED PLACEMENT MACRO/MICRO ECONOMICS**

Grade: 11, 12

### **Prerequisite: None**

The Economics courses are designed for the students who will continue their education in college or technical studies. Economics deals with the study of how society, using limited resources, goes about producing, distributing, and consuming goods and services in order to satisfy their unlimited wants. Each class includes the basic core program and individual teachers will follow the core program and provide for advanced assignments as the course demands. Students will participate in a Computer Economic Simulation in competition against students from throughout Michigan. Phase 4 advanced placement Economics provides instruction for students who read above grade level. This course is intended to prepare the student for the AP Exam.

## **ADVANCED PLACEMENT WORLD HISTORY**

Grade: 10, 11, 12

### **Prerequisite: None**

The purpose of the Advanced Placement (AP) course in World History is to prepare qualified students in understanding the evolution of global processes and contacts, in interaction with different types of human societies. This understanding is advanced through a combination of selective factual knowledge and appropriate analytical skills. Focused primarily on the past thousand years of the global experience, the course builds on an understanding of cultural, institutional, and technological precedents that, along with geography, have set the stage for the world of the 21st Century. The program <sup>57</sup>

prepares students for the mandatory Advanced Placement World History Examination and the mandatory Advanced Placement European History Examination, which are both given in May. Students who perform satisfactorily on either one or both of the exams are granted college credits and/or advanced placement by more than 2900 colleges and universities worldwide.