

## AP Course Offerings at Millikan High School 2008 – 2009

### AP Art History

Are you curious about why the Greeks depicted human figures as the nude? Or exactly why is the Mona Lisa so famous? Have you wondered why dripping paint on a canvas is considered a great painting? If so, then AP Art History might be the course for you. Though PowerPoint presentations and class discussion the course begins at prehistoric times to the present day. An understanding of architecture, sculpture and painting with diverse historical and cultural contexts are introduced. Students are expected to do nightly reading homework with homework questions that help guide your reading from a college level textbook. Students are also expected to write essays based on looking at works of art critically and analyze what they see. College credit is received when passing a test that includes multiple choice questions, short answer questions, and 2 long essays.

### AP Biology

Grade 11 or 12

AP Biology is a year-long advanced biology course which is equivalent to a two-semester, college level introductory biology course for biology majors. Students are required to attend before and after school study and lab sessions as well as selected Saturday sessions and experiences. The class consists of lecture, hands-on labs, and discussion. Students are introduced to new and challenging topics that help to develop vocabulary and background knowledge needed to hold discussions. Students are required to analyze and synthesize the knowledge gained through lecture and outside reading in order to gain a deeper understanding of the material and how it related to the major overarching themes of the class.

### AP Calculus

Grade 11 or 12

*"With the calculus mankind has an instrument commensurate with his capacity to wonder." David Berlinski (A Tour of the Calculus)*

The quote above tries to capture the power and beauty that imbues calculus. It is the language of science. Engineers speak only calculus. All of the physical sciences and much of biology and economics depend heavily upon it. The University of California requires at least one semester of calculus for 1/3 of their majors. At base calculus is just an extension of slope finding (differential calculus) and area finding (integral calculus). The approach is straight forward: Motivate the development of each branch, develop the mechanics of the operations and work pertinent applications. All this will take place within the framework of the AP syllabus.

Students should take calculus if they are interested in:

- Majoring in engineering (top salaries with only a bachelor's degree).
- Majoring in the sciences (including professional schools e.g. medical, dental, veterinary).
- Getting a major UC requirement for many majors taken care of.
- Seeing how our understanding of the universe was and still is being developed.

### AP Chemistry

Grade 12

AP Chemistry is a second year chemistry course designed to fulfill college level chemistry requirements. This course has three major components that often overlap: Lecture, Lab, and Problem solving.

The hands on laboratory component takes place every 5<sup>th</sup> meeting which constitutes 20% of class time. The lecture and problem solving make up the remaining

80% of class time. The lecture component introduces students to the concepts of study and develops the vocabulary and rationale for chemical and physical properties and behaviors. The laboratory and problem solving components emphasize chemical calculations and the mathematical formulation of principles as well as provide a means for students to acquire skills and apply their growing understanding of chemistry in a laboratory setting.

### **AP Economics**

Grade 12

The study of economics is one of the richest and most rewarding in the field of social studies. This is the subject you thought you wouldn't like but will fall in love with by the end of the semester. If you have every wondered about any of the following questions, AP Economics is the class that will provide the answers:

- Why does it cost so much to fill up my car?
- How come the value of the U.S. dollar declined so dramatically in the last year?
- Why do some countries seem to constantly repeat a cycle of poverty and despair?
- Why is the U.S. debt climbing about \$1.5 billion (yes billion) a day?
- Why do problems in other parts of the world impact the U.S. economy?
- How come minimum wage laws increase unemployment rates?
- What exactly do my parents mean when they talk about inflation?
- How does a business decide what to charge for its product?
- What is outsourcing and why do economists think it is a good thing?
- What is a stock and how does the stock market work?

Students should be able to read, on average, approximately one chapter in a college level text every week. The central focus of the class is lecture and follow up activities that allow students to practice and apply learned skills in a risk-free environment. In addition, regular school attendance, good math skills, ability to work independently, good note taking skills, and an understanding of how to study for tests are also needed for success.

### **AP English Language and Composition**

Grade 11

AP English Language and Composition helps students become skillful readers of prose and skillful writers of composition. Students become far more aware of a writer's purpose, audience, and the resources of language that are used to contribute to effectiveness in writing. Students read primary and secondary sources carefully to synthesize material from these texts in their own compositions, and to cite sources using proper conventions.

Students are required to read approximately 800 – 1000 pages per quarter of college-level texts and write approximately 4000 – 5000 words per quarter in informal, formal, and timed compositions.

### **AP English Literature and Composition**

Grade 12

This course fulfills a-g English requirements for the UC and CSU. AP English Lit is designed to develop your communication skills as a writer and a speaker. There is a great deal of reading and a great deal of discussion. Other than reading 1000 pages every 10 weeks, homework is occasional but generally lengthy and difficult when given. We study literature from the ancient world, through the Renaissance, to current times. Your writing and critical thinking skills will improve. Students in AP Lit/Comp take the College Board AP Literature test in May. Passing this test will get college credits for English.

### **AP Environmental Science**

Grades 11 & 12

APES is a year-long course studying the dynamics of living on our planet, Earth. It is an elective course that addresses the global issues, pollution, energy and resource management, economics and politics, facing our planet today, while offering you the opportunity to earn college credit upon successful completion! Prerequisites: Completed both semesters of SSC 5-6 with at least a "B" average, or completed one (1) year of biology and one (1) year of chemistry with at least a "B" average. QUEST students should have completed one (1) year of biology with at least a "B" and will be concurrently enrolled in chemistry.

### **AP French Language**

Grades 11 & 12

Course Description: AP French Language is the equivalent of the Third Year of a French college course. The class is conducted exclusively in French and encourages students to do likewise. The course provides opportunities for students to integrate the four language skills, listening comprehension, speaking, reading, and writing. Students do oral presentations, participate in partner work, keep journals, and listen to French music. They also watch French films and current events as reported on TV5, the French news station. Because the AP French Exam requires speaking as well as writing, there are many other activities that prepare the student to those ends.

Who should sign up?

- Students interested in earning college credit
- Students who have maintained at least a B+ average in French 5-6
- Students who are interested in refining their French speaking skills
- Students who wish to pursue a career in international business, diplomacy, or language studies

### **AP German Language**

Grade 12

AP German Language is a rigorous course in studying advance vocabulary and grammatical structures. In order to achieve a high level of fluency, the course is conducted entirely in German. The course provides excellent opportunities to integrate the four language skills, listening, speaking, reading and writing. In order to prepare for the AP Exam the students will i.e.:

- read original German Literature (non-fiction and fiction)
- interpret and recite German poetry
- listen to and understand traditional as well as contemporary German music
- retell and act out stories
- watch German films as well as current events as reported on Deutsche Welle (German TV)
- write essays
- hold discussions in German on a variety of topics (group/partner work)

Furthermore students are expected study vocabulary and work on reading and writing assignments independently at home.

This course is recommended for students who are interested in refining their German language skills, and who wish to pursue a career in international business, technology, diplomacy or language studies.

## **AP Psychology**

Grades 11, 12

Students interested in learning about the science of human behavior and relationships are encouraged to take AP Psychology. This is a year-long course that mirrors the curriculum in an introductory Psychology course at the college level. There are 14 units of instruction including Development, Motivation, Abnormal Psychology, Memory, and Personality, to name just a few. Content will include some of the most recent research studies in human behavior, particularly in the area of brain research. An underlying theme that goes across all 14 units is the role played by the mind and brain shaping our behavior such as the chemical reactions that occur when we fall in love or the impact of brain chemicals on disorders such as depression and schizophrenia. Because of the breadth of units, the course is fast paced. Students should be willing and able to read, on average, approximately one chapter in a college level text every 1.5 weeks. The central focus of the class is the lectures and corresponding discussions that are rich and rewarding with student input. Successful completion of this course requires a mature ability to participate in class lectures. In addition, good reading abilities, the ability to work independently, note taking skills, an understanding of how to study for tests are also needed for success.

## **AP Spanish Language**

Advanced Placement Spanish Language covers the equivalent of a third-year college course in advanced Spanish composition and conversation. It encompasses aural/oral skills, reading comprehension, grammar, and composition. The course seeks to develop language skills that are useful in themselves and that can be applied to various activities and disciplines rather than to the mastery of any specific subject matter. Extensive training in the organization and writing of compositions must be an integral part of the Advanced Placement Spanish language course. Students who enroll should already have a basic knowledge of the language and culture of Spanish-speaking peoples and should have attained a reasonable proficiency in listening comprehension, speaking, reading and writing.

Prerequisites: A grade of "C" or better in Spanish 5-6, 7-8, or Spanish Speakers 5-6 or 7-8.

## **AP Spanish Literature**

The AP Spanish Literature course provides a perfect curriculum for college-bound students to learn to read critically, write and speak clearly, and become acquainted with the characteristics of major literary movements. The works are both accessible and interesting and provide an opportunity to reinforce Spanish skills. Students will learn the socio-cultural context necessary to fully comprehend each piece, and the reflection questions go beyond factual recall, requiring students to engage in deep analytical thinking. Other course activities provide students with the opportunity to accomplish an accurate reading of literature in Spanish, in addition to the ability to comprehend formal and informal spoken Spanish, to compose expository passages, and to express ideas orally with fluency and accuracy.

The course covers Hispanic literature from the medieval period through the twentieth century. Lectures are exclusively in Spanish and include an introduction to authors and historical periods in which they flourished. Students are required to do the readings at home prior to discussing them in class.

Who should sign up?

¿Te gustaría leer obras maravillosas y compartir tus ideas y experiencias para hacer conexiones relevantes con los relatos?

Students who have passed the AP Spanish Language course/exam

## **AP Statistics**

AP Statistics is one of *the most practical* courses (not just math courses) that you will ever take. Every day in the newspaper there are several articles describing statistical studies: surveys, psychology studies, political polls, medical research, and other experiments. In Statistics, we will be looking at these articles and results and become savvy consumers of information. We will be designing our own studies, collecting our own data, and drawing our own conclusions...just like the multi-million-dollar companies which are well paid for their opinions.

Statistics is also one of the most widely applied courses you will ever take. The list of college majors requiring Statistics is growing. Current students will tell you that taking AP Statistics has already helped them in their psychology and biology courses.

It is a fresh start in mathematics. You don't need to remember how to factor a polynomial, graph a sine curve, or prove that triangles are congruent. However, this doesn't mean the class will be easy! This is a college-level class that, with a high enough score on the AP Stat test, could be accepted by your college in lieu of their own Introduction to Stat course.

You will never ask: "When will we ever use this?" Statistics is applied mathematics, not abstract mathematics. It is more verbal than a traditional mathematics course. This means more reading and writing!

It is a challenging class that will teach you how to think critically about claims made in the media. In this Age of Information, this is a skill none of us should be without.

## **AP Studio Art, AP Three-D Art**

If you are an advanced art student who wants to challenge your creative thinking process as an artist, architect, or designer, then consider taking AP Studio Art. This course will expand your ability to think creatively, refine natural talents, and prepare you to become a visual leader in the 21st century. Passion and talent are prerequisites.

## **AP United States Government and Politics**

Grade 12

This college level course covers the operation and institutions of United States government. Through lecture, debate, simulations, and video clips, students will be fully immersed in the workings of the national government. Course culminates in a mock AP exam at the end of the semester.

## **AP United States History**

Grade 11

Learn about the history of the United States from the age of discovery to the present while preparing for the College Board Advanced Placement Exam. This two-semester course is designed to provide students with the analytical skills and enduring understanding necessary to deal critically with the problems, issues and materials in United States history. Students in this course will learn through the use of interactive assignments, analysis and interpretation of primary documents, discussion and debate of topics, and develop and enhance writing and research skills.

## **AP World History**

Grade 10

Do you ever wish you knew more about cultures and traditions from around the world? Have you ever wondered why some countries are very advanced while others are poor? Or what causes conflicts and wars between different groups of people? If so, then AP World History might be the class for you. This rigorous college-level course spans 10,000 years of world history, from the earliest human communities to the present day. In

order to cover this vast time period in a single school year, we focus on broad patterns of development, interaction, and changes over time. In addition to learning about cultures around the world, students will develop skills in examining issues from multiple perspectives, analyzing documents, and writing historical essays. This course is recommended for students with an interest in world history and strong reading and writing skills. Students who pass the AP Exam at the end of the year may receive college credit for the course.

**AP Computer Science (was not offered 2008-09; we hope to resume it in 09-10)**

Grades 11 & 12

*Course description: The content of Computer Science A emphasizes object oriented programming methodology with an emphasis on problem solving and algorithm development. It is the equivalent of a college level semester course in Computer Science. It also covers the study of data structures, design and abstraction. The course emphasizes the design issues that make programs understandable, adaptable and reusable.*

*Who should sign up?*

- *Students interested in receiving college credit*
- *Students planning on going to college for engineering or science.*
- *Students with problem solving skills interested in a class that will extend those skills into the realm of computer programming.*
- *Students interested in pursuing programming as a career.*