

ADVANCED PLACEMENT COURSES

PROCESS & REQUIREMENTS FOR ENROLLING IN ADVANCED PLACEMENT COURSES

In this section you will find a one page description of each AP course offered at Gunn. The description contains information about course content, volume of reading and/or homework that can be expected and a list of specific prerequisites for each course.

There are also two general prerequisites required for students intending to take AP courses at Gunn

1. Each student applying for one or more AP courses must complete and sign a contract and, in addition, have the contract signed by his/her parent. Guidance counselors will distribute the contracts when they conduct classroom information sessions with students and they can also be picked up from the Guidance Office. This contract must be stapled to the student's course request form. A sample contract follows.
2. Students wishing to take Advanced Placement courses must participate in STAR testing in May and attain a score of Proficient or higher on the relevant State Standards tests.

ADVANCED PLACEMENT COURSE APPLICATION FORM

Name _____ Grade _____
(please print clearly)

Date of Birth _____ Telephone _____ Email _____

Counselor's Name _____

AP Courses requested in order of preference:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

I have read carefully the descriptions of the AP course(s) listed above and I understand the workload that it (they) will entail. I have also considered the total workload attached to them in the light of my other commitments and activities.

I meet the prerequisites as stated in the AP course descriptions for all the courses I have requested above.

I understand and will follow through on the specific application procedures indicated for the AP courses listed above. I am aware that I must meet any stated deadlines.

I understand that I am expected to earn a score of proficient or above on the state standards tests (STAR).

I understand that if I should find one or more of these courses too demanding and wish to drop the class(es) I will not be able to enroll in a regular class until the start of the next semester because of differences in curriculum. (For example, a student dropping AP US History or AP Economics would not be able to enroll in the regular US History or Econ program immediately but would have to wait until the start of the next semester and in some cases might have to attend summer school to complete the course.)

Signed _____ Date _____
Student

Signed _____ Date _____
Parent/Guardian

ADVANCED PLACEMENT ART HISTORY

Objectives: The primary objective of this course is to prepare students for the Art History Advanced Placement Examination. Through the study of major periods and movements in the History of Art, students will learn how geography, culture, religion, scientific discovery, and politics have been reflected in visual expressions from prehistoric times to our own era.

Curriculum Overview:

- **First Semester:** Prehistoric Through Baroque Art
- **Second Semester:** Mid 17th Century to Contemporary

Although the course is mostly centered around Western Art History, the artistic achievements of major non-western civilizations will also be addressed in the curriculum.

Texts: Gardner's *Art Through the Ages* and *The Annotated Mona Lisa*

Performance and Assessment: Art History is a demanding course of study. Regular review of information and visuals presented in class is much more effective in preparing for tests than "last minute cramming."

Students should plan on an average of 2-3 hours of homework per week.

Evaluation and Grades will be based on the following:

- Performance on examinations given after each major unit of study.
- Responses to short and long essay topics similar to those on the AP Examination.
- Completion of assigned chapters in the companion Study Guide for our primary text when they are due. A conscientious approach to this Study Guide will result in an excellent review tool for the AP Examination.

Attendance: Because class presentations will emphasize the most important aspects of each unit of study, consistent attendance is essential to success in this course.

ADVANCED PLACEMENT COLLEGE BIOLOGY

Course Overview and Content: AP Biology is structured to provide a survey of biological knowledge at an introductory college level. The course is arranged into units of study with a midterm exam at the end of each unit. A final examination is given at the end of the first semester, and students are strongly encouraged to take the AB Biology and SAT II Molecular Biology exams during May or June of the second semester. Because at least 95% of students comply with this request, an independent experimental research project is given in lieu of a second semester final.

Course grading policies and classroom procedures are commensurate with those of a college level course, requiring extensive student independence and self-motivation. The course follows the outline recommended by the College Board and thus enables students to successfully take the College Board Advanced Placement Examination.

Historically, 95% of students who complete this course earn scores of 4 or 5 on the AP Biology Examination. Students whose course grade and AP exam score meet the requirements of their college earn up to 10 college semester units of credit.

The class meets for one hour, four times weekly, with tutorial sessions held every Tuesday for one hour.

The topics covered in the course are: Animal behavior, evolution, diversity and phylogenetics, genetics and population genetics, molecular cell biology, molecular genetics, botany, comparative animal anatomy and physiology, ecology and population biology, and completion of all recommended AP Biology laboratory activities

College and District Standards: AP Biology meets the following standards: 1) School District Expected Schoolwide Learning Results: 1, 2, 3, 4, 5, 6, 7; 2) Laboratory Science requirements for campuses of the University of California and California State University systems (UC “d” course), 3) life science graduation requirements for Palo Alto Unified School District and 4) coverage of all topics in the State of California Biology Standards.

Homework: Homework is required, commensurate with that found in most college courses, and is estimated to be 6-8 hours each week. It includes: extensive reading (covering the entire textbook and laboratory manual), regular written lab reports, written essays and a year-end independent research project. All assignments are posted with at least two weeks advance notice using the internet-based InClass system. Students who do not have home computer access can use Science Department computers.

Prerequisites for Enrollment: Students must complete a short application to enroll and all applicants who meet the pre-requisites are guaranteed enrollment.

Students must complete a biology and chemistry course prior to enrolling in AP Biology, so enrollment typically comprises students in the 11th and 12th grades.

Prerequisite courses and the necessary minimum grade achieved are: Biology I (A), Biology IA (B+) or Biology IAC (B-) and either Chemistry I (B+) or Chemistry H (C+)

Consent of the instructor is required for any applicant who has not met the prerequisites.

ADVANCED PLACEMENT

AB CALCULUS

Course Prerequisites: “B-“ or better in IAC *or* “C” or better in Analysis Honors *or* seniors completing Algebra2/TrigH with a grade “B+” or better. A more detailed description is below.

Workload: Students are expected to read the book and complete homework to prepare for each lesson (30-45 minutes 4 times a week), write a weekly journal entry (20 minutes) and spend additional time to study and prepare for quizzes and tests (varies with student). Regular class attendance is essential.

UNIT	TITLE	DESCRIPTION
1	Overview & Introduction	With a graphing calculator, students explore the concepts of limit, derivative and definite integral graphically, numerically, algebraically and verbally. Prerequisite Knowledge: Transformations and families of functions, use of graphing calculator.
2	Limits	Students will determine limits graphically and numerically, calculate ϵ for given values of δ and define continuity. Prerequisite Knowledge: Advanced algebra skills solving inequalities, factoring and synthetic division. Graphing rational functions, end behavior asymptotes.
3	The Derivative	Students will explore the concept of derivative including the formal definition of derivative, power rule, chain rule. Prerequisite Knowledge: Unit circle, sinusoidal graphs in the form, $y = C + A \cos B(x - D)$, composition of functions, point-slope form.
4	The Derivative of Products & Quotients	Students work with more complex functions and use implicit differentiation to investigate the rate of change of relations. Students prove and apply the product rule, quotient rule, and 12 trigonometric forms (including inverses). Prerequisite Knowledge: Graphs of $\sin x$, $\cos x$, $\tan x$, $\cot x$, $\csc x$, $\sec x$, and the inverse trigonometric functions $\sin^{-1} x$, $\cos^{-1} x$, $\tan^{-1} x$, $\cot^{-1} x$, $\csc^{-1} x$, $\sec^{-1} x$, domain, range and properties of inverse functions.
5	Definite & Indefinite Integrals	Students calculate definite and indefinite integrals using a variety of strategies including u-substitution and trigonometric identities. Local linearization, differentials, Riemann sums, the Mean Value theorem and the Fundamental Theorem of Calculus are central ideas. Prerequisite Knowledge: Trigonometric identities, summation notation, substitution of variables.
6	Exponential & Logarithmic Function	Students define the natural logarithm function, e , and calculate the derivative and anti-derivative of exponential functions. L'Hopital's Rule and indeterminate forms are studied in more detail. Prerequisite Knowledge: Properties of logarithms and exponential functions, asymptotes.
7	Exponential Growth & Decay	Students solve separable differential equations algebraically and graphically using slope fields to solve application problems. Prerequisite Knowledge: Exponential growth and decay, interpreting word problems.
8	Calculus of Plane & Solid Figures	Students determine critical points and points of inflection both algebraically and graphically, calculate max/min values, determine the area of plane regions, and the volume of solids using the methods of disks, washers and shells. Prerequisite Knowledge: graphing polynomial functions, solving maximization/minimization problems using a graphing calculator.
9	Related Rates & Average Value	Students calculate average value of functions and solve related rate application problems and minimum path problems. Prerequisite Knowledge: Formulas for volume and surface area, similar figures, interpreting word problems.

ADVANCED PLACEMENT BC CALCULUS

Text: *Calculus* by Paul Foerster published by Key Curriculum Press, 1998 1st edition

Prerequisite Class: “B-“ or better in Analysis Honors, or permission

Prerequisite Skills: Work with functions (and their inverses) including trigonometric, polynomials, logarithmic, exponential. Work with sequences and series. Full course in trigonometry.

The objective of this course is to provide the student with the equivalent of the first year of college calculus. The course of study follows that of the AP Program. Students who satisfactorily complete the course will take an AP Exam in mathematics and possibly earn college credit. The course content includes the following: functions and limits, derivatives of algebraic functions, the definite and indefinite integral, area, volumes of revolution, differentiation of exponential, logarithmic and trig and inverse trig functions, methods of integration, infinite series, separable differential equations, slope fields, vectors and applications.

Homework Expectation: 4 hours a week

NOTE: *This is an AP class, which means that it will be challenging, but ultimately very rewarding. So while the main goal of this class is for you to become proficient with the concepts, vocabulary, applications, and manipulations of Calculus, a secondary goal is for everyone to get a "qualifying" (3, 4, or 5 for the UCs) score on the AP test in May.*

Materials for Class: Besides the usual supplies, you'll need the following two items:

1. Calculator: The officially recommended calculator for this course is a TI-83 Plus. Other calculators are probably OK (check with me) but I'll be gearing my lessons towards the TI 83 Plus. TI 89's are powerful because they perform symbolic manipulation. They are allowed on the AP test, but might be outlawed on some of our tests.
2. Journal: You will be required to keep a math journal or “diary” in this class. In it, you will respond to various math “prompts” throughout the year. When doing so, you will explain topics in your own words, and provide pictures and examples to demonstrate your mastery of the subject. Journals will be collected the day of each chapter test along with your homework packet. This journal should be a small composition book and should be separate from your normal notebook.

ADVANCED PLACEMENT CHEMISTRY

Instructor: Dr. Heather Mellows

Textbook: *Chemistry* by Brown & LeMay, 4th edition, 2006.

AP chemistry will be taught to students who have completed one year of high school chemistry (chemistry I with an A or chemistry honors with a B), to prepare them to take the AP chemistry test in May. It is a rigorous, lab-based course that requires students to work independently and in pairs to solve chemical problems by applying their fundamental knowledge. The approximate homework load is 8 hours per week outside of class on average with occasional (~1 hour, twice a month) supplemental lab time before or after school.

The structure of the course starts out with the very small: a study of the nucleus and nuclear chemistry including radioactivity and half life decay. The focus is widened to include atoms and atomic structure. Some mention of the history of the structure of the atom is included for context and process orientation. The first major lab is on the atomic emission spectra of elements, principally hydrogen.

From atomic structure the properties of atoms are studied in context of each other with periodic trends (atomic radius, electronegativity, ionization energy, etc). This gives the context from which to understand bonding. Here covalent, ionic and metallic bonding are revisited and the nomenclature that corresponds to each type. The properties of solids and liquids are connected to the bond type and back to the shapes and properties of the individual molecules. Hybridization and VSEPR are employed to more accurately explain polarity and molecular shape including molecules with expanded octets, trigonal bipyramidal and octahedral geometries.

As the temperature is increased, properties of gases are studied. Kinetic molecular theory helps to explain the experiments that led to the gas laws. Eventually the ideal gas law is revealed and the universal gas constant is derived in lab. Properties of real vs. ideal gases are compared and effusion and diffusion rates are calculated.

Identifying, balancing and predicting the products of reactions widens the scope towards the big picture. Reaction products and limiting reagents are quantitatively discussed in the context of stoichiometry. The concentrations and properties of solutions before and after reactions have occurred teach colligative properties. The understanding of reactions is deepened with the study of reaction kinetics including 0th, 1st and 2nd order reaction rates and mechanisms.

In the second semester reactions start to go backwards as well as forwards when equilibrium is introduced. Le Châtelier's principle is used to understand the forces that change the position of equilibrium and solubility. A study of K_{eq} and K_{sp} leads directly into K_w , K_a and K_b and acids and bases. Properties of acids, bases, salts and buffers will be reviewed and more complex systems of calculations will be performed. The standardization and titration of a strong base with an unknown weak acid will allow students to demonstrate their mastery of the topic.

Neutralization reactions often produce heat which leads us to the study of thermochemistry. The amount of heat that is produced or absorbed in an exo- or endothermic reaction is measured and quantified using calorimetry with concepts of heat capacity and specific heat.

Revisiting types of reactions, oxidation-reduction reactions are investigated further to quantify the potential and harness the movement of electrons to humanities benefit. The activity series will be discovered in the lab and reduction potentials will be quantified in electrolytic and galvanic cells.

Finally, a brief review of organic chemistry will cover nomenclature of branched alkanes, isomers, functional groups and benzene derivatives. Reactions covered will include polymerization, synthesis, and substitutions. The synthesis of esters will demonstrate a dehydrogenation synthesis of an alcohol and an aldehyde.

Also included through out the year, test taking techniques and strategies will be discussed and practiced for both sort answer and multiple choice questions.

Prerequisites: Successful completion of Chem H with a B or better, or Chem I with an A and completion of Algebra II or higher. Application is required.

AP CHEMISTRY SYLLABUS		
Approximate Week	Topics Covered	Labs
1 – Aug	Density, matter, scientific method, naming	
2 – Aug	Reactions and stoichiometry	Silver dime lab
3 – Sept	Nuclear chemistry	
4 – Sept	Atomic history, structure, electron config.	Atomic Emission Spectra
5 – Sept	Periodicity, activity series	
6 – Sept	Descriptive chemistry	Qualitative analysis
7 – Oct	Reaction types	
8 – Oct	Lewis structures, bonding, VSEPR	Molecular models
9 – Oct	Expanded octet, polarity	
10 – Oct	Gas Laws, kinetic molecular theory	Boyles, Charles, Gay-Lussac's laws on probeware
11 – Nov	Absolute zero, ideal gas law, real gasses	
12 – Nov	Intermolecular forces, phase change	Phase change diagram
13 – Nov	Properties of liquids and solids	
14 – Nov	Solutions and solubility	Precipitate lab
15 – Dec	Colligative properties	Freezing point depression
16 – Dec	Reaction products	
17 – Jan	Chemical Kinetics, 0 th , 1 st , 2 nd order reactions	Iodine clock reaction
18 – Jan	Mechanisms, rate limiting steps	
19 – Jan	Finals	
20 – Jan	Equilibrium, Le Chatlier's principle	Marshmallow lab
21 – Feb	Solubility, K_{eq}	
22 – Feb	Weak acids and bases, K_a , K_b	
23 – Feb	Acid/Base titration curve	Titration
24 – Feb	Equivalent mass, Buffers	
25 – Mar	Thermochemistry, ΔH , ΔS , ΔG	Hess's Law
26 – Mar	Heat capacity, calorimetry	
27 – Mar	Redox reactions, electrochemistry	Electrochemical cell
28 – Apr	Electrochemical cells, activity series, potentials	
29 – Apr	Organic chemistry – naming, structures	Synthesis of esters
30 – Apr	Polymers and reactions	
31 – Apr	Review for AP test	
32 – May	Review for AP tests	
33 – May	AP test	
34 – May	Lab refinement, study guide creation	
35 – May	Lab refinement, study guide creation	
36 – June	Final exams	

ADVANCED PLACEMENT CHINESE LANGUAGE & CULTURE

Prerequisite: Chinese Level III or recommendation of teacher

Course Description: This course is designed to deepen the student's immersion into the language and culture of the Mandarin Chinese-speaking world. Students will learn to understand conversations of a non-technical nature, speak and write about personal experiences, and read with understanding selected literary works. They will also develop their interpersonal, interpretative and presentational communication skills in Mandarin Chinese. Students will receive preparation and information about the format of the Chinese AP Language and Culture exam. The course will be aligned with all the AP Language courses at Gunn.

ADVANCED PLACEMENT COMPUTER SCIENCE

Prerequisites:

- Completion of **BOTH** Programming Concepts **AND** Intro to Java
OR
- Completion of the summer homework as described at:
http://gunn.pausd.org/~jpaley/AP_CS/entrance.html

NOTE: *Generally speaking, students find the AP class easier to adjust to if they have done the prerequisite courses. There are plenty of students who don't need those courses, but that's the hard way to do things.*

Objectives:

1. Develop higher-order thinking and skills set to hit the ground running at any university in the world in computer science.
2. Have a lot of fun.

AP credit is, of course, a core goal, but this course is also an opportunity to see what the beginnings of life as a Computer Science major might be like. The class is designed to ensure that the student will hit the ground running in CS at any university.

Curriculum Overview:

1. Up until roughly Thanksgiving, the class will cover about 2/3 of the content from UC-Berkeley's CS61A course. This will cover topics such as data and procedural abstraction, recursion, higher-order functions, list processing, data structures, the environment model, and box-and-pointer diagrams.
2. Between Thanksgiving and the end of the first semester, review of the bulk of the content for the AP CS A exam will be covered in the form of a project that incorporates most, if not all, of the big ideas for the exam such as object-oriented programming, sequential/procedural programming, loops, arrays, conditionals, and data types.
3. The second semester will dwell on algorithm and data structure implementation and analysis, followed by the AP test, followed by a project of interest proposed by the students.

Expected Homework Time: The expected number of hours of homework outside of class is 4 to 6 per week, but many students do fine with less and some spend far more than 6 hours per week because they like what they are doing.

Assessment: Half the grade is homework and projects. Half is tests.

Additional Information: For a glimpse of the current (or most recent) syllabus, see:
http://gunn.pausd.org/~jpaley/AP_CS

For policy-related items, such as grades, philosophy, etc., see: <http://gunn.pausd.org/~jpaley/policy>

ADVANCED PLACEMENT ECONOMICS

Teacher: Phil Lyons

Course Description and Main Goals: This course is a one-year introductory course for Microeconomics and Macroeconomics. It prepares students for both AP Exams. The course introduces students to the economic way of thinking and to the analysis that is used in analyzing economic concepts and “real world” phenomena. In Microeconomics the focus is on smaller segments of the economy with an emphasis on the profit maximizing behavior of different types of firms. Macroeconomics focuses on the economy as a whole. Examples of topics that are included, among others, are national accounting, the determinant of GDP, inflation, and unemployment. In both Microeconomics and Macroeconomics the topics in class are supplemented by current case studies that help bring the theory alive and put it into practice. A major goal of this course is to have students be able to think about and be more aware of the world they live in as well as be able to have an educated discourse about important social issues. The course’s textbook is: *Economics* by McConnell and Brue, fifteenth edition. *Note:* Microeconomics is covered from the beginning of the year until before winter break. Macroeconomics is covered after winter break until May, when the AP exams are scheduled. There will be a review sessions for both exams before students take the AP exams in May.

Course Sequence:

MICRO

AN INTRODUCTION TO ECONOMICS

Unit One (2 wks)	Chapter 1	The Nature and Method of Economics
	Chapter 2	The Economizing Problem
Unit Two (2 wks)	Chapter 3	Understanding Individual Markets: Demand and Supply

MICROECONOMICS OF PRODUCT MARKETS

Unit Three (1.5 wks)	Chapter 20	Demand and Supply: Elasticity and Applications
	Chapter 21	Consumer Behavior and Utility Maximization
Unit Four (1.5 wks)	Chapter 22	The Cost of Production
Unit Five (1.5 wks)	Chapter 23	Pure Competition
Unit Six (1.5 wks)	Chapter 24	Pure Monopoly
	Chapter 25	Monopolistic Competition and Oligopoly

MICROECONOMICS OF RESOURCE MARKETS

Unit Seven (2 wks)	Chapter 27	The Demand for Resources
	Chapter 28	Wage Determination
	Chapter 29	Rent, Interest, and Profit

MICROECONOMICS OF GOVERNMENT

Unit Eight (0.5 wks)	Chapter 30	Government and Market Failure: Public Good, Externalities
	Chapter 31	Public Choice and Theory of Taxation

MAGRO

NATIONAL INCOME, EMPLOYMENT, & FISCAL POLICY

Unit One (0.5 wks)	Chapter 7	Measuring Domestic Output, National Income and the Price Level
	Chapter 8	Macroeconomic Instability: Unemployment and Inflation

Unit Two (3 wks)	Chapter 9	Building the Aggregate Expenditure Model
	Chapter 10	Aggregate Expenditure: The Multiplier, Net Exports, and Government
Unit Three (3 wks)	Chapter 11	Aggregate Demand and Aggregate Supply
	Chapter 12	Fiscal Policy

MONEY, BANKING, & MONETARY POLICY

Unit four (1.5 wks)	Chapter 13	Money and Banking
	Chapter 14	How banks Create Money
Unit Five (1 wk)	Chapter 15	Monetary Policy

PROBLEMS & CONTROVERSIES IN MACROECONOMICS

Unit Six (2.5 wks)	Chapter 16	Extending the Analysis of Aggregate Supply
	Chapter 17	Disputes in Macroeconomic Theory and Policy
	Chapter 18	Economic Growth
	Chapter 19	Budget Deficits and Public Debt

INTERNATIONAL ECONOMICS & THE WORLD ECONOMY

Unit Seven (2.5 wks)	Chapter 37	International Trade
	Chapter 38	Exchange Rates, The Balance of Payments, and Trade Deficits

Prerequisites: Students should have passed at least Algebra 2 with a grade of B+ or better.

Expectations: AP Economics is a demanding class. Since this is a college level class the vast majority of the grade is based on tests. Most tests are multiple-choice in order to prepare the students for the style of the AP Exam. Students should expect tests to cover a large amount of material. Students are expected to be self-motivated and truly have a desire to learn about Economics.

Homework: Students should expect an average of 30 minutes of homework per day. However students should understand that some days they won't have homework and other days they might have more than 30 minutes of homework.

Homework consists of readings from the book, answering questions from the book, and doing research on a particular concept using outside resources.

ADVANCED PLACEMENT

ENGLISH LITERATURE & COMPOSITION

Content: “AP English Literature” covers all areas of the Language Arts curriculum – reading, writing and speaking – with particular emphasis on college-level literary analysis and expository writing. The course will follow the A/B curriculum rotation to cover the core titles from “English Masters I/H” or “American Classics I/H” on the appropriate year. Additionally, students will study *Crime and Punishment*, *The Sound and the Fury*, *King Lear* and selected poetry and shorter prose.

Students are expected to have (or be willing to put the time and effort into acquiring) a mastery of the conventions of writing and of strategies for reading without inappropriate assistance.

In the second semester, the class will also pay particular attention to formal and aesthetic study of poetry and practice in timed writing and timed reading comprehension.

Each student is expected to take the AP Examination in Literature and Composition *even if their intended colleges do not give credit for a passing score*. The exam takes the place of a final in the class.

Prerequisites: The class is intended for students for whom English is a *high academic priority*.

To enroll, students must be seniors, have successfully completed freshman, sophomore, and junior English, have been recommended for “English Masters I/H” or “American Classics I/H” by a current or former English teacher, and have been selected based on prior performance and the quality of a writing portfolio. The guidelines for the writing portfolio are available in the English office, L31, each spring; as part of the portfolio, students must include *graded* essays from previous English classes.

Out-of-Class Workload: No summer reading is required for enrollment in the course; students, however, are strongly encouraged to read challenging literature socially and for pleasure. Lists of recommended titles are available in the English Office on request.

Depending upon the length and the complexity of the literary work at hand, students should expect to read around 150-200 pages a week and write responses to their reading twice a week (both are averages). Students can expect to read less and write more around the end of a unit (usually four weeks) in preparation for a longer out-of-class essay.

ADVANCED PLACEMENT ENVIRONMENTAL SCIENCE

Course Overview and Content: AP Environmental Science is a yearlong course that integrates curriculum across a wide spectrum of sources including earth science, geology, astronomy, biology, chemistry, physics, economics, government agencies, policies, culture, religion, etc. Through a vastly integrated approach, the complex systems of Earth will be discussed throughout the year along with laboratories and activities to explore topics in depth.

College and District Standards: AP Environmental Science meets the following standards: 1) School District Expected Schoolwide Learning Results: 1, 2, 3, 4, 5, 6, 7; 2) Laboratory Science requirements for campuses of the University of California and California State University systems (UC “D” course); and 3) physical science graduation requirements for Palo Alto Unified School District

Homework: Homework is required, commensurate with that found in most college courses, and is estimated to be 4-6 hours each week. Along with reading in the course textbook, laboratories and activities are assigned each week to help augment learning of the course standards.

Prerequisites for Enrollment: Students must complete a short application to enroll and all applicants who meet the pre-requisites are guaranteed enrollment. Students must complete a biology and chemistry course prior to enrolling in AP Biology, so enrollment typically comprises students in the 11th and 12th grades.

Prerequisite courses and the necessary minimum grade achieved are: Biology (Bio I – A, Bio IA – B-, Bio IAC - C) AND Chemistry (Chem I – B+, Chem IH – C)

ADVANCED PLACEMENT FRENCH LANGUAGE

Prerequisites: French III (“A” or “B” grade or approval of instructor).

Course Description: Students in French AP Language learn to use French for active communication as they prepare for the AP French Language Exam. This course helps students develop the following: (1) the ability to understand spoken French in various contexts; (2) A French vocabulary sufficiently ample for reading newspaper and magazine articles, literary texts, and other non-technical writings without dependence on a dictionary; and (3) the ability to express themselves coherently, resourcefully, and with reasonable fluency and accuracy in both written and spoken French.

The course is organized thematically and reflects the intellectual interests shared by the students and teacher (the arts, current events, literature, history, and social issues). Materials include audio and video recordings, films, newspapers, novels, and plays. Students develop language skills (reading, writing, listening, and speaking) that can be used in various activities and disciplines.

Extensive training in the organization and writing of compositions is emphasized. Students also practice extensively in the language lab recording picture descriptions, narrations, and responses to opinion questions.

Homework: Students will have a variety of homework assignments depending on the focus of the material. Homework will include review grammar exercises, vocabulary study, essays, reading, and preparation for oral presentations. Daily homework will generally take 30-45 minutes.

Assessment: Students’ grades will be based on the following:

- 30% - Oral presentations and oral participation
- 30% - Compositions, projects, and daily homework
- 40% - Quizzes and tests

Textbook: *En Bonne Forme*, Simone Diedeker and Dominique Van Hoof

Supplementary Materials: *L’Etranger*, *Antigone*, *le Bourgeois Gentilhomme*, *La Cantatrice Chauve*, *Drôle de Mission*, *AP Language Exam Preparation*

ADVANCED PLACEMENT GERMAN LANGUAGE

Prerequisites: German III (“A” or “B” grade or approval of instructor).

Course Description:

This course is equivalent to the third year university German language course, and is based on the requirements and recommendations by the College Board. This class is conducted entirely in German. Students in German AP Language learn to use German for active communication as they prepare for the AP German Language Exam. This course helps students to develop the following:

- Fluency and accuracy in both spoken (25% of the exam) and written (30% of the exam) German in order to explain ideas and opinions, and to comment on a variety of disciplines and subject matter
- Proficiency in listening to native speakers, radio plays, news, podcasts, current music, films (20% of the exam)
- Reading comprehension (25% of the exam): short stories, newspaper/magazine articles, entire work of literature without dependence on dictionary
- Strong command of vocabulary and idiomatic expressions
- Continued appreciation of German language and cultures of German speaking countries
- The first semester is organized thematically and reflects the varying interests of the students. Current events, sports and the arts, for example, are topics that will constantly change to maintain student interest.
- In second semester students read, evaluate and analyze numerous short stories and/or an entire work of contemporary literature.

Homework: Students read 30-45 minutes daily from books of their choice from the “German” library existing on site. Frequently, students write reading reflections.

Assessment: Students collect their work in portfolios. Students’ grades will be based on the following:

- 30% - Oral work and participation
- 30% - Written work (e.g., compositions, reading reflections)
- 30% - Test, quizzes, projects
- 10% - Final (first semester: multiple choice part of a previous AP exam, second semester: project-based work)

Textbook: *Kaleidoskop-Kultur, Literatur und Grammatik*. Moeller, Liedloff, Adolph, Mabee. Fifth Edition, 1998, and a wide variety of supplementary materials.

ADVANCED PLACEMENT JAPANESE LANGUAGE & CULTURE

Instructor: Yukie Hikida

Course Overview: This course is built based on the National Standards for Japanese Language Learning. It is designed to be comparable to college/university courses that represent the point at which students complete approximately 300 hours of college-level classroom instruction. Emphasis will be placed on reading and oral comprehension, conversation in various situations, and appreciation of Japanese culture. Students will be expected to read simple stories and write short essays.

Objective: At the end of this course, students are expected to attain ACTFL (American Council on the Teaching of Foreign Language) Oral Proficiency of “Intermediate Low” to “Intermediate Mid” Levels. Also the course articulates the Standards for Foreign Language Learning in the 21st Century goals in terms of the Standards’ three modes of communication; interpersonal, interpretive, and presentational.

In addition to communication, the course also addresses the Standards’ other four goals; cultural competence, connections to other school disciplines, comparisons between Japanese language and its culture and those of the learners, and the use of the language within the broader communities beyond the traditional school environment.

The teacher uses Japanese almost exclusively in class and encourages student to do likewise.

Required Textbooks: *Genki: An Integrated Course in Elementary Japanese: The Japan Times, 2005*

Additional Materials:

- Genki workbook
- Genki Audio CD
- Dokkai 20 themes
- Daily listening audio tapes
- Authentic reading and writing materials

Testing: Quizzes and exams will be given regularly. There will be unit tests given after the completion of each chapter and short quizzes throughout.

Homework: Students are expected to write an essay every week and 3-4 hours homework will be required for a week.

Prerequisites: Completion of Japanese 4 Honors (or 4) or instructor’s approval.

ADVANCED PLACEMENT

(C) PHYSICS

AP (C) Physics is an award-winning, university-level course for students who intend to major in science or engineering. The course is well suited to students who enjoy math and science and excel in those subjects. This course prepares students to test out of TWO college-level physics courses: Mechanics, and Electricity and Magnetism.

Students in this class can expect a challenging, dynamic curriculum that helps them to understand the beauty and practical applications of physics. Students will have daily homework and frequent lab activities. AP (C) Physics is a fun and interesting class for students who are not afraid to work hard.

Prospective students are encouraged to speak with the instructor and/or current physics students to make sure that they are a good fit for this class.

This Course Fulfills Requirements for the Following:

- TWO AP Physics exams
- University of California Laboratory Science
- Cal State Universities Physical Science
- PAUSD and the State of California

Requirements for Enrollment:

- An A grade in at least one previous lab science course
- Concurrent or prior enrollment of BC Calculus, or AB Calculus plus the consent of the instructor
- A strong interest in math and science

Grading:

- 85% - Tests, Laboratory Assessment, and Quizzes
- 15% - Homework and Special Projects

Work Load:

- Daily Homework - 3-5 practice problems each night
- Challenging Midterm and semester exams
- Apposite lab work
- Year-end project

ADVANCED PLACEMENT PSYCHOLOGY

AP Psychology is open to Seniors. It is a two-semester course culminating in the AP Psychology test around mid-May. Students are expected to take this exam. Success on the exam may lead to advanced placement in psychology at the college or university level. As a prerequisite, students should have at least one “A” in social studies and have at least one “A” in a science course

AP Psychology is a comprehensive survey course of about 15 sub-fields within psychology. Example sub-fields are: History and Methods in Psychology, States of Consciousness, Neuropsychology, Learning, Development, Motivation and Emotion, Psychological Disorders and Therapy, Memory, Thinking and Language, Sensation and Perception, Social Psychology, and Stress and Health.

A central theme of AP Psychology is a thorough understanding of experiments and scientific methods. In-class demonstrations and experiments are woven into lectures, videos, activities and exercises in critical thinking. There is an expectation that students will be active participants in the class by engaging in discussions and group work. Unit tests, which are similar in form to the AP exam (a combination of Multiple Choice and Free-Response questions), will be given approximately every two to three weeks. These 15 unit tests will form the primary basis of the grade in the course, with class participation and projects comprising about 15% to 20% of the grade.

Students are expected to master the material at a college-level introductory psychology course. About 2 hrs of out-of-classroom work per week is estimated, with occasional spikes in time needed before exams and projects. The textbook is Myers' *Psychology* (6th Edition), a broadly adopted college text.

ADVANCED PLACEMENT SPANISH LANGUAGE

Prerequisites: Students must have completed Spanish III with “A” or “B” or with approval of the IS, after interview with instructor.

Course Description: Students enrolled in the class use the Spanish learned the previous years in effective and meaningful communication, as a way to prepare for the AP Exam.

Students in the class:

1. Develop the ability to understand authentic oral, from different Spanish-speaking countries with their corresponding accents.
2. Are exposed to plenty of reading material that reflects a variety of sources from the literary to authentic contemporary.
3. Are encouraged to communicate their ideas with appropriate meaning, accuracy and fluency

The class addresses the listening, speaking, reading, and writing skills, and it has been organized around six different themes ranging from personal characteristics to literary and challenging social topics, supported by a systematic grammar review.

Material:

- *Abriendo Paso*, Jose M. Díaz, Maria Nadel, Stephen J. Collins
- *AP Spanish*, José Díaz, Margarita Leicher-Prieto, Glenn Nadelbach
- *Album*, Rebecca M. Valette, Joy Renjilian-Burgy
- ^a Listening programs: Concierto Siniestro, Puerta de Sol, Authentik en español
- Movies excerpts, Web sites, newspapers, InClass responses to prompts

Homework: Students will be assigned weekly homework- including grammar exercises, essays, reading, chat participation, and tests as well as presentation preparations which vary in length from 30 to 50 minutes per day, including review and study time.

Evaluation:

- 33% - Daily Practice (Participation in class; homework; summaries of stories; grammar/comprehension exercises)
- 33% - Assessment (Exams; vocabulary; grammar and literary quizzes)
- 34% - Creative Expression and Interpretation (Presentations; skits; essays; recordings: comprehension, analysis and synthesis of written and spoken texts)

ADVANCED PLACEMENT SPANISH LITERATURE

Teacher: Sra. Stroessner

Course Description: This course prepares students to take the Spanish Literature AP test.

Prerequisite: Spanish Language AP

This course is equivalent to the third year university course “Introduction to Hispanic Literature”. The list of works is required by the College Board and covers works of Spanish and Latin American authors. Students read and analyze literature in written and oral form. The level upon completion of this course is comparable to university students who have completed the 5th and 6th semester of Spanish in composition, conversation and grammar.

The goal of the class is to prepare students to:

1. Comprehend a lecture in Spanish and participate actively in literary discussions.
2. Read in detail literary text in all Spanish genres.
3. Critically analyze the form and content of literary works (including poetry) orally and in written form using the proper terminology.

Textbook: Rodríguez, Rodney T. *Momentos cumbres de las literaturas hispánicas: Introducción al análisis literario*. Upper River, N.J: Pearson Education, 2004.

Students are required to take notes, answer questions and write a one page analysis for each piece of work studied in class. Presentations, quizzes, and essay writing are part of the assessment of their progress.

This class meets four times a week and the amount of homework per class is about 30 minutes per day, since most of the reading is done during class.

Grades: Grades are divided in three parts:

1. 33% - Daily homework and presentation of their notebooks.
2. 33% - Oral work in class and oral presentations.
3. 34% - Tests, generally in essay form of their oral presentations.

Daily attendance is perhaps the most important factor in determining the success in this class. We read, analyze, and discuss the classic works in class everyday, and by missing class students put themselves in serious jeopardy of being excluded of important information.

Homework is also extremely vital since extensive reading is required and helps with abstract literary analysis and reading comprehension.

ADVANCED PLACEMENT STATISTICS

Prerequisites: A student must be in 11th or 12th grade and have received a strong “B” or better in Algebra 2 or an equivalent course.

Textbook: David S. Moore, George P. McCabe. *Introduction to the Practice of Statistics*. Third Edition.

The objective of this course is to provide the students with the equivalent of an introductory college-level statistics course for which Advanced Placement credit is an option (pending successful completion of an AP Exam).

Course content involves examination of exploratory data analysis, experimental and survey design, sampling, the study of random variables (including some probability theory and simulations), and inferential statistics for one and two variables.

Graphing calculators and computers will be used extensively as an aide to statistical analysis. This course is specifically designed to use the statistical software package on the TI-83 graphing calculator. Graphing Calculators are required for every class.

Students are required to attend class daily, take notes, participate in group and classroom discussions, complete homework daily and participate in four group projects. The average amount of homework per week is 2.5 hours.

Projects are done in groups of 3 or 4 students. Some class time will be used to work on the project, but there will be some out of class time required. Students must be able to work within a group context and share responsibilities. Some of the group projects are also presentations.

This class involves a lot of writing, analysis and critical thinking. Students must be able to communicate both verbally and through the written word. Students will be required to interpret and draw conclusions based upon data analysis.

Grading: Grades are divided into four parts:

1. Tests & Quizzes
2. Homework
3. Projects
4. Final Exam

ADVANCED PLACEMENT STUDIO ART 2-D

Teacher: Deanna Messinger

Course Description: This college-level course is designed for highly motivated and disciplined art students at the secondary level. This Art Studio program consists of approximately 30 pieces in a variety of media. Portfolios of five (5) actual works and a series of twenty-four (24) slides are mailed directly, in a portfolio, to The College Board Advanced Placement Program. The final portfolio submission will likely take place within a two-year time span using artwork from Advanced Drawing and Painting.

Prerequisite: Successful completion of Advanced Drawing and Painting and consent of Instructor. Organizational skills and self-discipline are extremely helpful in developing your portfolio.

DRAWING PORTFOLIO

Quality: 5 Actual Works. Works that excel in concept, composition, and execution.

Concentration: 12 slides; 1-2 may be details. A series of works organized around a compelling visual concept or theme in drawing and painting.

Breadth: 12 slides; one slide each of 12 different works. Works that demonstrate a variety of concepts, media, and approaches. It is recommended that the majority of these pieces be completed outside the structure of this yearlong course.

Grading: The grade for this course is based on progress made, and the quality and completion of the work required for the portfolio. To maintain a position in this course, quarterly deadlines are assigned and must be met. The College Board will assign college credit for this course after their review in May-June, upon receiving a score of 3 or higher. The instructor will advise, guide and assess the process, while The College Board will evaluate the submitted portfolio work for college credit.

The Advanced Placement Program grading system is completely different from your grade received on your transcripts at Gunn High School. Portfolios are judged by readers using a 5-point grade scale: 5 = Highly Recommended; 4 = Recommended; 3 = Qualified; 2 = Not Recommended; 1 = Failed. You will receive a letter grade from your instructor as well. More information on grading comparability and procedures is available online in the "Technical Corner" of their Web site: <http://www.collegeboard.org/ap>

Meetings and Deadlines: Portfolio Assessment and Updates: The instructor will look at the entire body of work in the beginning of the first semester to consult student about which works will be suitable for the AP portfolio. A list should be made by the student to keep track of which works can fulfill portfolio requirements and which ones are to be completed. Completed work must be photo-ready by designated deadlines of the four photo shoots offered. The student is ultimately responsible for the requirements to be fulfilled by the deadline; however, assistance from the instructor to assess portfolio progression and development of concentration is available and highly recommended. Portfolio completion is due by the end of April, which includes prepared slides and Written Commentary for concentration.

ADVANCED PLACEMENT

STUDIO ART – DRAWING & PAINTING

(Photography, Digital or Graphic Design emphasis)

Course Preparation: Successful completion of Photo One and Advanced Photo. Admission may be granted to seniors who have completed Photo One or Art Spectrum and an advanced course in a different discipline.

The AP Art 2-D Studio Portfolio Consists of:

- 2-D Studio Art Portfolio – consists of artwork involving photography, mixed media, printmaking, and design.

Students who enroll in this college-level course must first successfully complete a review of their current portfolio with the 2-D Studio Art instructor for assessment, ideally by the end of the previous year. If the quantity and quality in the body of work reflects the necessary preparation, or summer plans indicate productive art making or instruction, then there is acceptance to proceed.

Approximately 30 completed pieces reflecting first-year, college-level standards are required in the portfolio by the first week of May, and should exhibit these areas of concern: Quality, Concentration and Breadth. Five actual pieces for the Quality portion are mailed in a portfolio to the AP College Board, to be returned.

Quarterly, one-on-one reviews are scheduled with instructor to monitor progress, guide the artistic process and evaluate conceptual development and mastery of drawing and painting. To maintain a position in this course, evidence of progress per quarter is upheld and a contract of commitment and responsible studio behavior is signed. The AP College Board will assign college credit for this course after their review in June, upon receiving a score of 3 or higher and completion of their form.

District ESLRs addressed in this course:

- ESLRS: 1, 4, 6
- The homework will depend greatly on how many art pieces the student brings to the AP course from their portfolio. It is recommended that students have at least seven to nine completed pieces for the breadth portion, prior to admission.

ADVANCED PLACEMENT UNITED STATES HISTORY

Teacher: Mr. Chris Johnson

Application Process Consisting of:

- Ability to meet a strict deadline
- Recommendation(s) from prior Social Studies teacher(s)
- One page typed letter explaining your qualifications, etc.
- Straight A's in ALL previous semesters of Social Studies

Prerequisites:

- High reading level, ability to read college-level works and understand them.
- Exceptional reasoning and analytical skills. The ability to demonstrate those skills in both writing and discussion formats.
- Knowledge and usability of historical concepts beyond just rote memorization.

Course Design and Purpose: The Advance Placement program in United States History is designed to provide students with the analytical skills and factual knowledge necessary to deal critically with the problems and materials of United States history. The course prepares students for intermediate and advanced college courses by making demands upon them equivalent to those made by full-year introductory college survey courses. It is a two-semester survey of American history from the age of exploration and discovery to the present. *Exemplary reading and writing skills, along with a willingness to devote considerable time (5 hours per week) to homework and study, are necessary to succeed.* Emphasis is placed on critical and evaluative thinking skills, essay writing, interpretation of original documents, and historiography. Students will learn to interpret and evaluate the relative significance of primary and secondary source material, and to present their evidence and conclusions clearly and persuasively in an essay format.

A major focus of this course is to prepare the students for the College Board AP US History Exam. All students will sign up and take the AP exam, no exceptions.

Success: This class requires strong reading and writing skills, along with a willingness to devote *a considerable amount of time to reading, homework and study of materials.* Emphasis is placed on using and further developing one's critical thinking skills, essay writing (in a historical sense), analysis / interpretation of historical documents and the ability to synthesize these into viable critical arguments.

Workload: Within a given week students will on average read between 75-125 pages of material as well as organizing that material into a usable format for in-class discussions, essay writing, debates, etc. This reading will come from the textbook as well as the other supplementary texts (both in print and electronic copies)

Grades: Grades are a compilation of total points.

Homework is not a regular component of the course grade. Grades are calculated based upon:

- Tests: At the end of each unit of study (2-3) weeks. Tests are Essay format (Free-Response or Document-Based Questions) 100 points.
- Quizzes: 25-50 points, once a week covering from 1-2 chapters of material.
- Projects: From 75-150 points, depending on the size and scope of the project.

Summer Preparation Work: Reading of the first 5 chapters of the textbook, extensive note taking, a 3-5 page essay based upon that reading as well as the reading of an additional college-level historical text. Students turn in their essays, notes and book evaluation on the first day of class and take an exam on their summer work.