



Maui Preparatory Academy  
2011-12  
Upper School Course Description Booklet

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## Graduation Requirements

Courses	Credits Required for Graduation
English	4
History	3
Modern Language	3
Mathematics	3
Science	3
* Physical Education	2 1/3
Visual/Performing Arts	1
Technology	2/3
College Explorations	1/3
Health/Human Development	1/3
Senior Project	1
Electives / Additional Classes	2
<b>Total Credits</b>	<b>24</b>

\* Physical Education courses are MIL sports. Each season is worth 1/3 credit. Students are required to do two seasons each year (seniors year - 1 season).

## Academic Course Sequence

Department	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup> /12 <sup>th</sup> (A-Year)	11 <sup>th</sup> /12 <sup>th</sup> (B Year)
<b>English</b>	Hawaiian and Asian Literature	World Literature	English 11/12A (US Lit) <u>or</u> Honors US Lit	English 11/12B <u>or</u> AP English Lit
<b>Social Studies</b>	Modern Hawaiian & Asian Cultures	World History	US Hist. or AP US History	S.S. Electives <u>or</u> AP European History
<b>Math</b>	Algebra 1 Geometry Algebra 2	Geometry Algebra 2 Pre-Calc	Geometry Algebra 2 Pre-Calc AP Calc	Algebra 2 Pre-Calc AP Calc electives
<b>Science</b>	Biology	Chemistry	Enviro. Sci <u>or</u> Engin. Sci	Marine Sci <u>or</u> Physics <u>or</u> AP Physics B
<b>Foreign Language</b>	Japanese 1 through 5			
<b>Fine Arts</b>	1 fine arts credit is required			
<b>PE</b>	2/3 credit per year/ 1/3 senior y (MIL Sports) = 2 1/3			
<b>Senior Project</b>	1 credit during senior year (Senior Seminar)			
<b>Electives</b>	1/3 Health, & 1/3 College Explorations are required			

## **English Ninth**

1 credit – 9<sup>th</sup> Grade

English Ninth is an integrated approach to reading, writing, listening, and speaking curriculum. This course is a balanced, comprehensive program that develops skill in reading and writing, speaking and listening and fosters the appreciation of language arts. Students will continue to apply the knowledge and skills acquired in the eighth grade, but in a more refined and sophisticated form.

Students in English Ninth will learn:

- **Word Analysis, Fluency, Systematic Vocabulary Development:** Students will identify and use the literal and figurative meanings of words and understand word derivations; distinguish between the denotative and connotative meanings of words. Vocabulary development is based on new words encountered in reading and the study of Latin and Greek roots.
- **Reading comprehension:** Students will synthesize the content from several sources or works by a single author dealing with a single issue; paraphrase the ideas and connect them to other sources and related topics to demonstrate comprehension, and extend ideas presented in primary or secondary sources through original analysis, evaluation, and elaboration.
- **Literary Response and Analysis:** Students will analyze interactions between and among characters and explain the way those interactions affect the plot, determine character traits by what characters say about themselves and others, compare words that express a universal theme, analyze time and sequence, recognize various literary devices, explain how voice affects characters, and describe the function of dialogue, setting, asides, and character foils in dramatic literature.
- **Writing:** Students will use clear research questions and appropriate research methods, synthesize information from various sources, identify different perspectives, integrate quotations, and use appropriate citation style. Students revise their writing to improve the organization, word choice and tone.
- **Writing Applications:** Students will write biographical and autobiographical narratives, communicate the significance of the sequence of events, describe sensory details, and pace action. Students write expository compositions, persuasive compositions, and responses to literature.
- **Written and Oral English Conventions:** Students will use clauses, phrases and advanced mechanics of punctuation. They will appropriately utilize and vary sentence structure, diction and syntax.
- **Listening and Speaking:** Students will choose logical patterns of organization to inform and to persuade, by soliciting agreement or action, or to unite audiences behind a common belief or cause, and choose appropriate techniques for developing the introduction and conclusion.

## English Tenth

1 credit – 10<sup>th</sup> Grade

Through the study of world literature, students are challenged to develop their critical thinking skills, their capacity to read and interpret literature, and their ability to express that understanding in conversation and writing. The course focuses on topics such as identity, race, class and social change. Issues in World History and society are discussed and studied. These include conflict, and ideas about power, money and leadership.

Students in English 10 will learn:

- **Word Analysis, Fluency, Systematic Vocabulary Development:** Students apply their knowledge of word origins both to determine the meaning of new words encountered in reading materials and to use those words accurately.
- **Reading comprehension:** Students will learn comprehension strategies while reading grade-level materials and literature and increase their ability to apply these strategies in encountering new material. They will read, understand, and analyze literature and informational materials. Students will compare literary themes and make logical and thoughtful connections between literary works or information collected within their own lives.
- **Literary Response and Analysis:** Students will analyze interactions between main and subordinate characters in literary text (e.g., internal and external conflicts, motivations, relationships, and influences) and determine characters' traits by what they say about themselves in narration, dialogue, dramatic monologue, soliloquy. They will compare works that express a universal theme, and provide evidence to support the ideas expressed in each work and recognize and understand the significance of a wide range of literary elements and techniques, including figurative language, imagery, allegory, and symbolism, and explain their appeal.
- **Writing:** Students will write coherent and focused texts that convey a well-defined perspective and tightly-reasoned argument. Student writing will demonstrate awareness of audience and purpose and use of the stages of the writing process, as needed.
- **Writing Applications:** Students will combine the rhetorical strategies of narration, exposition, persuasion, and description to produce text of at least 1,500 words, when appropriate. Student writing will demonstrate a command of standard English and research, organizational, and drafting strategies as well as develop multimedia presentations.
- **Listening and Speaking:** Students can distinguish between inductive and deductive reasoning, syllogisms and analogies, logical, ethical and emotional appeals, expressive language, and different kinds of technology to enhance presentations.

## **English 11/12-A**

(American Literature)

1 credit – 11<sup>th</sup> & 12<sup>th</sup> Grade

A-Year Course

Issues in contemporary American History and Society are discussed in English 11/12-A and studied in conjunction with American History. Students develop their critical thinking skills, their capacity to read and interpret literature, and their ability to express that understanding in conversation and writing. Major texts are representative of contemporary and classic American literature. Students also study one Shakespearean play. Students in American Literature will learn:

- **Word Analysis, Fluency, Systematic Vocabulary Development:** Students understand nuances of words, and use etymology and the history of the English language to understand significant terms.
- **Reading Comprehension:** Students analyze the way in which clarity of meaning is affected by the patterns of organization, hierarchical structures, repetition of the main ideas, syntax, and word choice in the text. They use analytical and critical thinking skills to understand and explain literary and historical texts.
- **Literary Response and Analysis:** Students analyze characteristics of subgenres (e.g., satire, parody, allegory, pastoral) that are used in prose, plays, novels, short stories, essays, and other basic genres within the context of history.
- **Writing:** Students master the structure of the essay, can use point of view, characterization, ideas and arguments in a sustained and precise manner.
- **Writing Applications:** Students write responses to literature, reflective compositions, historical reports, and develop multimedia presentations.
- **Listening and Speaking:** Students can distinguish between inductive and deductive reasoning, syllogisms and analogies, logical, ethical and emotional appeals, expressive language, and different kinds of technology to enhance presentations.

## **English 11/12-B**

1 credit – 11<sup>th</sup> & 12<sup>th</sup> Grade

B-Year Course

Issues in History and Society are explored in English 11/12. Students develop critical thinking skills through close reading, analysis of literature, and the ability to express themselves in conversation and writing. Both contemporary and classic Literature texts are studied. To gain a global perspective, students study works from Europe, North America, Asia, and Africa. To broaden exposure to styles of literature, students also study graphic novels. Students will also study one Shakespearean play.

Students will learn:

- Systematic vocabulary development
- Fluency in word analysis and etymology
- Analytical and critical thinking skills to understand and explain texts
- Literary Response: Students analyze characteristics of subgenres that are used in prose, plays, novels, short stories, and poetry
- Writing:
  - \*Structure of an essay
  - \*Organization of an essay
  - \*Research paper
  - \*Reading response
  - \*Dialectical journals
  - \*Mechanics and Conventions
- Development of multimedia presentations
- Effective use of technology

## **English 11/12-A (Honors)**

(Honors American Literature)

1 credit – 11<sup>th</sup> & 12<sup>th</sup> Grade

A-Year Course

Issues in contemporary American History and Society are discussed in English 11 and studied in conjunction with American History 11/12. Students develop their critical thinking skills, their capacity to read and interpret literature, and their ability to express that understanding in conversation and writing. Major texts are representative of contemporary and classic American literature. Students also study one Shakespearean play. Students in American Literature will learn:

- **Word Analysis, Fluency, Systematic Vocabulary Development:** Students understand nuances of words, etymology, and usage.
- **Reading Comprehension:** Students analyze the way in which clarity of meaning is affected by the patterns of organization, hierarchical structures, repetition of the main ideas, syntax, and diction in the text. They use analytical and critical thinking skills to understand and explain literary and historical texts.
- **Literary Response and Analysis:** Students analyze characteristics of subgenres (e.g., satire, parody, allegory, pastoral) that are used in prose, plays, novels, short stories, essays, and other basic genres within the context of history.
- **Writing:** Students master the structure of the essay, can use point of view, characterization, ideas and arguments in a sustained and precise manner.
- **Writing Applications:** Students write responses to literature, reflective compositions, and develop multimedia presentations
- **Creative Writing:** Students write original short stories, poems, with emphasis on literary devices, poetic terms, meter, and structure.
- **Performance:** Students perform monologues, poems and prose passages with focus on delivery, understanding of character and text, and audience impact.

## **AP English Literature and Composition**

1 credit – 11<sup>th</sup> & 12<sup>th</sup> Grade

B-Year Course

The course is designed to be a college/university course and will provide the course load of an undergraduate English course. The course includes intensive study of representative works from various genres and periods from the sixteenth to the twenty-first century. The students are lead through a timeline of important historical movements and its consequent effect on the literature of the period. Each novel and play chosen is paired with poetry from that period to discuss, analyze, compare, and contrast. Students will read works from several genres and periods but, more importantly, they get to know a few works well. In addition to considering a work's literary artistry, students reflect on the social and historical values it reflects.

Writing is an integral part of the AP English Literature and Composition course and exam. Writing assignments will focus on the critical analysis of literature and include expository, analytical, and argumentative essays. Writing instruction includes attention to developing and organizing ideas in clear, coherent, and persuasive language. It includes study of the elements of style. It attends to matters of precision and correctness as necessary.

Throughout the course, emphasis is placed on helping students develop stylistic maturity, which is characterized by a wide-ranging vocabulary used with denotative accuracy and connotative resourcefulness; a variety of sentence structures; a logical organization; a balance of generalization with specific illustrative detail; and an effective use of rhetoric.

Writing assignments in this course include numerous opportunities for students to write and rewrite. Some of this writing is informal and exploratory, allowing students to discover what they think in the process of writing about their reading. Some of the writing involves research, perhaps negotiating differing critical perspectives. Much writing involves extended discourse in which students develop an argument or present an analysis at length. In addition, some writing assignments should encourage students to write effectively under the time constraints they encounter on essay exams in college courses in many disciplines.

## **Non-Western History**

### **9<sup>th</sup> Grade History**

1 credit – 9<sup>th</sup> Grade

Non-Western History is designed to develop a solid understanding of the historical concepts of China, Japan, and Hawaii. The course design is as follows:

- Trimester 1 focuses on the dynamics of Chinese history from the last dynasty through the Communist regime and then to the current 2 systems, 1 country philosophy. China's emergence of as a global leader is examined through a historians lens as students consider the role that religion, philosophy, politics and social systems have played in building modern China.
- Trimester 2 focuses on the complexities of Japan on the world stage from the Meiji era to modern day, with emphasis placed on Japan's pre and post WWII relations with China and the US.
- Trimester 3 focuses on Hawaii from contact, through the monarchy to the overthrow and eventual annexation of the Kingdom; the events that lead to Hawaiian statehood; and critical analysis of present day social, economic and political issues.
- Students analyze a South East Asian or Middle Eastern country as a final project, applying the historical, anthropological and philosophical lenses in order to produce a case study of how movement of the aforementioned entities impacted the development of that country over the past two centuries.
- Foundations are laid for the interdisciplinary study of history with the 9<sup>th</sup> grade English, Japanese and Science classes.
- Participate in the National History Day research project.

Students in Non-Western History will learn to:

- Examine how the migration of people, animals, material good, knowledge and technology impacted the non-western world over the past 200 years
- Consider the dynamically changing political, economic and social systems of Hawaii, China, Japan, Southeast Asia and the Middle East focusing on the manner in which each region has asserted itself in today's global economy and determining if its own people have forced increased participation or if influences from the west drove each country's emergence onto the world stage.
- Efficiently and effectively utilize both electronic and hard bound primary and secondary sources for the writing of a major research paper and three primary source document analysis projects.
- Skills emphasized include: synthesize information, identify central themes, predict consequences, perceive cause and effect, identify propaganda, identify assumptions, distinguish relevant from irrelevant material and detect historical bias.

**World History**  
**10<sup>th</sup> Grade History**  
1 credit – 10<sup>th</sup> grade

World History is designed to develop a solid understanding of the historical concepts of World History. Students in World History will learn to:

- Identify and describe significant historical periods and patterns of change within and across cultures from the European Renaissance to present time
- Analyze and explaining the ways groups, societies, and cultures address human needs and concerns
- Apply an understanding of culture as an integrated whole that explains the functions and interactions of language, literature, the arts, traditions, beliefs and values, and behavior patterns
- Develop a geographic literacy in which students understand the concepts, skills and practical uses of geographic terms and reasoning.
- Research, from an historian's view, the development of world religions and its impact on social interaction
- Apply key concepts such as time, chronology, causality, change, conflict and complexity to explain, analyze, and show connections among patterns of historical change and continuity
- Effectively use electronic and hard-bound sources to research topics
- Write effective research papers using APA standards
- Learn to make polished individual and group presentations
- Participate in the National History Day research project.

## **American History**

1 credit – 11<sup>th</sup> & 12<sup>th</sup> Grade  
A-Year Course

American History is designed to develop a solid understanding of the historical concepts of American History. Students in American History will learn to:

- Trace the development of modern America from the Reconstruction Era to the present.
- Identify and describe significant historical periods and patterns of change from the Reconstruction Era to the present.
- Utilize a variety of sources including interactive web-quests, oral histories, primary and secondary source documents, film and readings to trace the social, political and economic development of America.
- Articulate ideas through various multimedia, artistic and interpersonal mediums.
- Analyze and explaining the ways groups, societies, and cultures address human needs and concerns.
- Apply an understanding of culture as an integrated whole that explains the functions and interactions of language, literature, the arts, traditions, beliefs and values, and behavior patterns.
- Develop a geographic literacy in which students understand the concepts, skills and practical uses of geographic terms and reasoning.
- Apply key concepts such as time, chronology, causality, change, conflict and complexity to explain, analyze, and show connections among patterns of historical change and continuity.
- Effectively use electronic and hard-bound sources to research topics.
- Learn to make polished individual and group presentations.
- Participate in the National History Day research project.

# **AP American History**

1 credit – 11<sup>th</sup> & 12<sup>th</sup> Grade  
A-Year Course

## **Course Overview**

APUSH is an introduction to US history. It is a rigorous and intensive course that moves at a rapid pace. The scope of the course begins with the emergence of Colonial America in the 1490s and ends in the late 20<sup>th</sup> century. The course demands that students seek patterns of social, political, economic, and technological change and continuity. Students enrolled in this course are expected to do a considerable amount of reading from both the major text and from supplementary sources.

## **Course Organization**

Although the course will be approached chronologically, themes and trends will be emphasized. In this regard the course is fairly traditional in format. Class time will be spent in a variety of ways, all of which are designed to aid students in academic and Advanced Placement success.

## **Assignments and Assessments**

The most taxing component of APUSH is the reading schedule. Students are expected to have read text assignments thoroughly and attentively take notes each night. Each chapter will be assessed through Advanced Placement style multiple choice questions. Class time will be spent analyzing perspectives of primary and secondary sources, relating content and ideas to the themes of the course. Unit exams will be comprehensive and include both multiple-choice questions and a document based question or a free response question.

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## **Objectives**

1. To develop an appreciation for the study of United States history
2. To develop an understanding for processes and methods of historical inquiry
3. To construct a personal understanding of United States history
4. To improve writing, research, and critical thinking skills
5. To hone thinking skills, analyzing and identifying multiple sides to arguments
6. To develop a better understanding of the present day United States and the relationship of the individual citizen to the country

# **AP European History**

1 credit - 11<sup>th</sup> & 12<sup>th</sup> Grade  
B-year Course

The study of European History since 1450 introduces students to cultural, economic, political, and social developments that played a fundamental role in shaping the world in which they live. In addition to providing a basic narrative of events and movements, the goals of AP European History are to develop (a) and understanding of some of the principal themes in modern European History, (b) an ability to analyze historical evidence and historical interpretation, and (c) an ability to express historical understanding in writing.

Students will learn how to analyze and discuss the following categories or developments through several chronological periods:

## **1. Political:**

- Relations between Europe and other parts of the world: colonialism, imperialism, decolonization, and global interdependence
- Growth and changing forms of nationalism
- Forms of political protest, reform, and revolution
- Relationship between domestic and foreign policies
- Efforts to restrain conflict: treaties, balance-of-power diplomacy, and international organizations
- War and civil conflict: origins, developments, technology, and their consequences

## **2. Economic**

- The development of commercial practices, patterns of mass productions and consumption, and their economic and social impact
- The origins, development, and consequences of industrialization
- The growth of competition and interdependence in national and world markets
- Private and state roles in economic activity

## **3. Religious**

- Changes in religious thought and institutions
- Secularization of learning and culture

## **4. Social**

- The role of urbanization in transforming cultural values and social relationships
- The shift in social structures from hierarchical orders to modern social classes: the changing distribution of wealth and poverty
- Changing definitions of and attitudes towards mainstream groups and groups characterizes as the “other”
- Gender roles and their influence on work, social structure, family structure, and interest group formation
- Development and transformation of racial and ethnic group identities
- Developments in literacy, education, and communication

## **5. Intellectual**

- Intellectual and cultural developments and their relationships to social values and political events
- Developments in social, economic, and political thought
- The diffusion of new intellectual concepts among different social groups

## **6. Arts**

- Major trends in literature and the arts
- Impact of global expansion on European culture

## **Current Issues**

1/3 credit – 11<sup>th</sup> & 12<sup>th</sup> Grade  
B-Year Course

Current Issues is a one-trimester Social Studies elective course that examines current issues and events as they unfold across the globe. Students will utilize historical and geographic skills and knowledge as they discuss and examine the causes, implications and effects of global issues. Current issues students will learn to:

- Enhance skills in questioning and formulating hypotheses, using a variety of resources
- Engage in critical reading and active reading
- Enhance critical thinking and problem solving skills through a variety of activities
- Engage in enhancing summarizing and paraphrasing skills
- Engage in critical reading to closely examine arguments
- Analyze the use of persuasion, argument, and dispute when discussing current issues
- Distinguish between facts and inferences, and evaluate the relevance of data
- Analyze the role of media in shaping world events and influencing public opinion
- Discuss and learn about topics such as abortion, affirmative action, censorship, gay marriage, gun control, death penalty, drug laws and terrorism
- Explain and analyze the major implications of local, national, and international events
- Trace the historical development of a problem
- Identify current crucial issues in the United States and world-wide, and the key people in these issues
- Describe the relationships between historical events and contemporary issues
- Compare and contrast the various points of view on a given current events situation
- Analyze the impact of cultural differences in seeking solutions to current even situations
- Identify and discuss the geographic areas in which current situations have arisen, and why these issues have arisen
- Describe the current relationship the United States has with certain nations, selected through class discussion
- Identify research, formulate hypothesis and propose solutions for a selected current event problem
- Write essays and reports analyzing a current issue situation

# Comparative Government

1/3 credit – 11<sup>th</sup> & 12<sup>th</sup> Grade  
B-Year Course

Comparative Government is an introductory course on the Government and Politics of three nations, designed for 11<sup>th</sup> and 12<sup>th</sup> grade students. While the content of general comparative government courses varies from school to school, this course will focus on the governmental and political processes of the United States, Russia, and the People's Republic of China. Course material will be taught through a variety of means including: lecture and note taking, class discussion, intensive reading, group and individual projects, and current events.

The course deals with five major topics presented - by country - in this order:

1. The historical roots of politics and government
2. Political economy and development
3. Governance and policy making
4. Representation and participation
5. Political trends and challenges

This course is designed to provide students with a basic knowledge of the purpose, structure, and operation of the national and state governmental systems of these nations. The primary content of study is the Federal system and its underlying principles as they are related on National, State, and local levels. Students will learn how to analyze and discuss the following themes or developments of the following aspects of government:

- **A World of States** highlights the importance of state formation and the interstate system for political development
- **Governing the Economy** analyzes state strategies for promoting economic development and stresses the effects of economic globalization on domestic politics
- **The Democratic Idea** explores challenges posed by citizen's demands for greater control and participation in both democracies and non-democracies.
- **The Politics of Collective Identities** considers the political consequences of race, ethnicity, gender, religion, and nationality and their complex interplay with class based politics.

## **Psychology**

1/3 credit – 11<sup>th</sup> & 12<sup>th</sup> Grade  
B-Year Course

This course focuses on the study of human behavior. As an introduction to the field of psychology, this course includes consideration of psychological principles, terminology, major theories, careers, methods of experimentation, and practical applications. Special topics include personality development, problem solving, group dynamics, and motivation. Students in Psychology will learn to:

- Understand the various approaches to psychology
- Analyze the historical approaches of psychology
- Evaluate the various professions in the field of psychology
- Interpret data collected through research.
- Understand how knowledge changes through the process of assimilation and accommodation.
- Understand gender differences.
- Analyze how in late adulthood, life transitions are often negative and reduce responsibilities and increase isolation.
- Describe the functions of the nervous system.
- Summarize research on the effects of heredity and environment on behavior.
- Discuss the stages of sleep and periods of dreaming.
- Understand that sensations occur anytime a stimulus activates a receptor and discuss how sensations allow humans to understand reality.
- Describe classical conditioning, the learning procedure in which associations are made between an unconditioned stimulus and a neutral stimulus.
- Understand motivation and why we experience it in different ways.
- Psychological tests, reliability, validity, and standardization

# Algebra 1

1 credit – 9<sup>th</sup> to 11<sup>th</sup> Grade

Algebra I is designed to develop a solid understanding of the abstract concepts of algebra and a mastery of necessary skills of a math program normally taught at the high school grade level.

- Simplify numeric and algebraic expressions with rational numbers
- Solve multi-step equations and inequalities
- Solve and apply proportions to problem solving involving basic geometry, percents, and probability
- Develop an understanding of relations and functions
- Develop an understanding of linear functions including solving systems of equations, graphing, and solving application problems
- Develop an understanding of exponents including zero and negative exponents, scientific notation, multiplication properties of exponents, graphing exponential functions, and solving application problems
- Develop an understanding of polynomials and quadratic functions including multiplying and factoring, solving quadratic equations, graphing, and solving application problems
- Develop an understanding of radical expressions and square root functions including simplifying radicals, using the Pythagorean Theorem, basic trigonometry, and graphing square root functions.
- Make connections to the real-world with applications of abstract mathematical concepts through creative individual and group projects. Projects will be driven by student-interest and aimed to garner an audience beyond the classroom.

## Geometry

1 credit - 9<sup>th</sup> to 12<sup>th</sup> Grade

This course covers topics traditionally covered in high school level Geometry. Students in Geometry will learn to:

- Use postulates about segments, points, lines, planes, and angles to measure segments and angles
- Use deductive reasoning, postulates, and laws of logic to write formal proofs involving triangles and other polygons.
- Prove and use properties of parallel lines, prove the sum of the angles in a triangle is 180 degrees, and find the formula for a polygon with  $n$  sides
- Apply postulates and theorems to prove congruent triangles including SSS, SAS, ASA, AAS, Hypotenuse Leg Theorem, and Isosceles Triangle Theorem.
- Extend relationships within a triangle to prove relationships in other figures using midpoints, angle bisectors, perpendicular bisectors, altitudes, medians, and inequalities.
- Apply triangle relationships, algebraic techniques, and methods of proof to the study of quadrilaterals.
- Prove similarity in triangles and other polygons using properties of ratios and proportions.
- Use the Pythagorean Theorem and trigonometric ratios to find missing sides of triangles.
- Examine transformations on a plane including reflections, translations, rotations, dilations, and combine them as compositions of transformations and glide reflections.
- Extend prior concepts of triangles, quadrilaterals, other regular polygons and circles to develop area formulas.
- Examine three-dimensional figures including prisms, cylinders, pyramids, cones, and spheres.
- Build on prior knowledge of circles by studying properties of tangents, secants, chords, and arcs.

## Algebra 2

1 credit – 9<sup>th</sup> to 12<sup>th</sup> Grade

Algebra II is designed to develop a solid understanding of the abstract concepts of algebra and a mastery of necessary skills for preparation into college level Calculus. In addition, students explore real-life practical applications of mathematics such as finance, design, and scientific analysis. Students in Algebra 2 will learn to:

- Simplify numeric and algebraic expressions with rational, irrational, and complex numbers
- Solve multi-step equations and inequalities
- Develop an understanding of linear relationships including direct variation, solving systems of equations, graphing, linear programming, and solving application problems
- Using and organizing data into matrices including inverse matrices, matrices of systems, and augmented matrices and systems
- Analyze and model data using quadratic functions including properties of parabolas, solving quadratic equations, complex numbers, and the Quadratic Formula
- Examine polynomial functions including solving polynomial equations, the Fundamental Theorem of Algebra, The Binomial Theorem, and making connections to probability by studying permutations and combinations
- Examine radical functions including rational exponents, solving square root equations, inverse relations and functions, and graphing
- Examine exponential and logarithmic functions including exploring models, properties, solving equations, and natural logarithms
- Examine rational functions including graphing, rational expressions, solving equations, and making connections to probability
- Analyze arithmetic and geometric sequences and series to begin the foundations for Calculus I by exploring the area under a curve
- Make connections to the real-world applications of abstract mathematical concepts through project based learning

## **Pre- Calculus/ Trigonometry**

1 credit – 10<sup>th</sup> to 12<sup>th</sup> Grade

Pre-Calculus class is for students who have completed Algebra 2 and Geometry and who plan to go to the study of college level Calculus. With the use of the graphing calculator students in Pre-Calculus/ Trigonometry will learn to:

- Differentiate between linear relations and functions
- Review functions and relations and operations with functions
- Solve systems of linear equations and inequalities
- Explore graphs of linear and nonlinear relationships
- Expand previous knowledge of polynomials and rational functions
- Analyze and explore trigonometric functions and their graphs
- Apply trigonometric identities to solving advanced equations
- Use polar coordinates to represent relations and to model complex numbers
- Develop concepts of analytic geometry and properties of conic sections
- Solve problems with exponential and logarithmic functions

## **AP Calculus AB**

1 credit – 11<sup>th</sup> to 12<sup>th</sup> Grade

AP Calculus AB is a year-long college level course that provides an introduction to the main ideas of calculus, with emphasis on both conceptual knowledge and mathematical problem solving ability. Students will develop an understanding of the following topics through graphical, numerical and algebraic reasoning:

- Review classes of functions (linear, polynomial, power, exponential, trigonometric) and their properties
- Apply properties of limits to evaluate a wide variety of limits including limits at infinity, infinite limits and one-sided limits.
- Apply tests for continuity to functions, including composite functions. Apply the Intermediate Value Theorem to continuous functions.
- Evaluate derivatives of functions as the limit of the rates of change of secants.
- Compute derivatives of a wide class of algebraic functions of one variable by applying power, product, quotient, and chain rules.
- Calculate derivatives of implicitly defined functions.
- Use the derivative to locate extreme values, optimize problems, construct local linear approximations of functions and solve related rates problems.
- Estimate the area under a curve using a range of different techniques (rectangles, trapezoids, Simpson's Rule). Analyze the error in area approximations.
- Use the Fundamental Theorem of Calculus to solve problems.
- Use properties of integrals to evaluate definite and indefinite integrals of a wide range of functions.
- Apply appropriate tools (substitution, integration by parts) to solve definite and indefinite integral problems.
- Use methods of integral calculus to find volumes and solve word problems.
- Use L'Hopital's Rule to evaluate limits in indeterminate form.

# **Biology**

1 credit – 9<sup>th</sup> Grade

Biology builds on the material students have covered in the middle school science courses. This course integrates material covered in the eighth grade physical science curriculum and builds upon it in a biological context.

It is expected that students will be able to:

- Describe the unique chemical and physical properties of water and why they are vital to the success of life
- Identify and discuss the structure and function of the four main biological molecules that are prevalent in all of life: carbohydrates, lipids, proteins and nucleic acids
- Explore the structure and function of the cell and its components and identify it as the basic structure of life
- Describe DNA replication and recombinant DNA
- Demonstrate an understanding of the process of protein synthesis
- Explain how mutations in DNA affect protein synthesis
- Analyze the structure and function of the cell membrane
- Analyze the roles of enzymes in biochemical reactions
- Identify and describe the different stages of the various processes involved in cellular respiration and photosynthesis
- Explore classical Mendelian genetics and modern genetics linking heredity to the structure of DNA
- Discuss the history of evolutionary thought and identify the factors that led Darwin to his conclusions
- Identify the five major mechanisms with which the genotypic ratio of a population can change over time
- Overview the structure and function of the major body systems

# Chemistry

1 credit – 10<sup>th</sup> Grade

This course is designed to prepare students of an entry-level college chemistry course. The focus will be on general inorganic chemistry with an emphasis on experimentation and the development of safe laboratory techniques. Students will use a combination of problem solving and laboratory activities to develop the following chemistry skills:

- Use appropriate scientific techniques when measuring, including reporting results with an appropriate number of significant digits.
- Differentiate between physical and chemical changes of matter.
- Describe the current scientific model of the atom, and how experimentation has evolved our understanding of the atom.
- Recognize the role that protons, neutrons, and electrons play in determining properties of an atom.
- Compare and contrast the necessary conditions and properties for various types of chemical bonding (ionic, covalent, and metallic).
- Relate bulk properties of substances to their chemical composition and structure.
- Write and interpret formulas for chemical compounds.
- Write and balance chemical equations to represent different reactions.
- Use quantitative analysis (stoichiometry) to solve problems involving chemical equations, including situations where there are limiting reactants.
- Use the kinetic theory to model processes and properties of gases.
- Describe the important role water plays in chemistry and life.
- Predict concentrations of solutions (Molarity) and use solubility curves to describe solutions.
- Describe the role that energy plays in chemical reactions, both endothermic and exothermic.
- Relate the rate of a chemical reaction to energy, temperature, concentration, and the presence of a catalyst.
- Use the pH scale to describe acid/base properties of substances.
- Understand the difference between a strong/weak acid and a dilute/concentrated acid.
- Explore oxidation-reduction reactions.
- Explore introductory organic chemistry concepts related to alkanes, alkenes, alkynes, functional groups and polymers.
- Recognize how nuclear processes (fission, fusion, decay, etc.) play a role in the development of elements.

## Physics

1 credit – 11<sup>th</sup> and 12<sup>th</sup> Grade

Physics is a year-long course that provides an introduction to the main ideas of physics, with emphasis on both conceptual knowledge and mathematical problem solving ability. This course is designed to give students a thorough grounding in the principles and methods of physics, including the ability to:

- Read, understand, and interpret information about physical processes
- Apply appropriate scientific reasoning to problems
- Communicate mathematically, orally and verbally about physics through problem-solving sessions, lab reports, and student-led example problems.
- Use appropriate scientific techniques when measuring, including reporting results with an appropriate number of significant digits.
- Describe the motion of objects in two dimensions, including the relationship between acceleration, velocity and position.
- Use Newton's Laws to analyze the forces acting on an object and relate those forces to the motion of the object.
- Analyze and solve problems involving torques and forces, both static and dynamic situations.
- Apply conservation of energy and momentum principles to solve problems.
- Apply Bernoulli's Equation, Archimedes' Principle, and the concept of pressure to solve problems involving static and dynamic fluids.
- Use trigonometric functions to model vibrations, waves and simple harmonic motion.
- Analyze properties of gases using kinetic theory.
- Use the laws of thermodynamics to analyze heat engines and heat flow.
- Examine static and dynamic charge distributions including charges on conductors and AC and DC circuits.
- Describe light as an electromagnetic wave.
- Apply principles of geometric and physical optics to analyze interference, diffraction, and the behavior of lenses and mirrors.
- Investigate consequences of modern physics (quantum and special relativity).

## **AP Physics B**

1 credit – 11<sup>th</sup> and 12<sup>th</sup> Grade

AP Physics B is a year-long college level course that provides an introduction to the main ideas of physics, with emphasis on both conceptual knowledge and mathematical problem solving ability. This course is designed to give students a thorough grounding in the principles and methods of physics, including the ability to:

- Read, understand, and interpret information about physical processes
- Apply appropriate scientific reasoning to problems
- Communicate mathematically, orally and verbally about physics through problem-solving sessions, lab reports, and student-led example problems.
- Use appropriate scientific techniques when measuring, including reporting results with an appropriate number of significant digits.
- Describe the motion of objects in two dimensions, including the relationship between acceleration, velocity and position.
- Use Newton's Laws to analyze the forces acting on an object and relate those forces to the motion of the object.
- Analyze and solve problems involving torques and forces, both static and dynamic situations.
- Apply conservation of energy and momentum principles to solve problems.
- Apply Bernoulli's Equation, Archimedes' Principle, and the concept of pressure to solve problems involving static and dynamic fluids.
- Use trigonometric functions to model vibrations, waves and simple harmonic motion.
- Analyze properties of gases using kinetic theory.
- Use the laws of thermodynamics to analyze heat engines and heat flow.
- Examine static and dynamic charge distributions including charges on conductors and AC and DC circuits.
- Describe light as an electromagnetic wave.
- Apply principles of geometric and physical optics to analyze interference, diffraction, and the behavior of lenses and mirrors.
- Investigate consequences of modern physics (quantum and special relativity).

# **Environmental Science**

1 credit – 11<sup>th</sup> & 12<sup>th</sup> Grade

The goal of the Environmental Science course is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them.

It is expected that students will learn to:

- Identify and describe the various Earth systems and resources.
- Analyze the structure of an ecosystem as it relates to energy systems, biodiversity, natural changes, and biogeochemical cycles.
- Examine the various aspects of population dynamics.
- Critically assess land and water use issues in relation to agriculture, forestry, mining, urban development, fishing, and global economics.
- Evaluate various energy use issues in relation to energy consumption and types of energy resources.
- Analyze the cause of pollution, types of pollution, and environmental, social, and economic impacts of pollution.
- Develop an understanding of current environmental issues of global change dealing of depletion of ozone, climate change, and loss of biodiversity.

## Marine Science

1 credit – 11<sup>th</sup> & 12<sup>th</sup> Grade

Marine Science serves as an introductory course to the various fields of study relating to our oceans including both physical oceanography and marine biology. The course will encompass studies of ocean properties, a survey of Hawaiian marine ecosystems as well as detailed analysis of key species in our oceans. The course will finish with discussion of various issues and events within the field of marine science.

*It is expected that students will:*

- Differentiate between the three types of geographic zones: polar, temperate, and tropical
- Examine origins of continents and islands
- Differentiate between the five major oceanic zones: continental shelf, continental slope, abyssal plain, oceanic ridge (or rise) and trench
- Compare and contrast the benthic and pelagic regions of the ocean
- Compare and contrast photic and aphotic regions of the ocean
- Discuss properties of seawater as they relate to: Composition, salinity, temperature, dissolved gases, nutrients, and pH
- Discuss causes of oceanic currents
- Compare and contrast properties and causes of surface, sub-surface, and tidal currents
- Describe the role plate tectonics plays in the continuing formation of the Hawaiian Islands
- Relate knowledge of plate tectonics and volcanoes in Hawaiian Island formation
- Discuss the geographic trends in the “life cycle” of the Hawaiian islands
- Discuss the evolutionary importance of Hawaiian organisms
- Contrast the following terms as they relate to Hawaiian species: native, endemic, introduced
- Evaluate human impact on the terrestrial and marine environments of Hawaii
- Compare and contrast the three types of coral reef: fringing, barrier, and atoll
- Name various abiotic and biotic components of a coral reef
- Demonstrate knowledge of the different stages of reef succession
- Identify key species in reef formation and upkeep
- Differentiate between hermatypic and ahermatypic corals
- Discuss the symbiotic relationship between certain corals and zooxanthellae
- Examine members of the Phylum Porifera and Phylum Cnidaria and describe characteristics that unify each
- Examine members of the Phylum Platyhelminthes, Phylum Nematoda, and Phylum Annelida, and describe characteristics that unify each
- Examine members of the Phylum Mollusca and Phylum Echinodermata and describe characteristics that unify each
- Examine members of the Phylum Arthropoda and describe characteristics that unify them
- discuss causes of oceanic currents

## **Engineering Science**

1 credit – 11<sup>th</sup> and 12<sup>th</sup> Grade  
A-year Course

Engineering Science is a year-long course that provides an introduction to the principles of engineering design and problem solving, through a survey of a variety of engineering fields with emphasis on current problems related to energy and the environment. This rigorous course is structured around project and lab activities designed to give students experience in thinking like an engineer. This course is designed to give students a thorough grounding in the principles and methods of engineering, including the ability to:

- Apply the engineering design process to a wide variety of issues and problems.
- Use appropriate conventions in creating a technical detailed design drawing.
- Use spreadsheets to model, graph and analyze engineering problems.
- Use CAD and other design software to construct design models.
- Work as a member of a team to design, construct, implement and evaluate solutions to problems.
- Use written materials, oral presentations and computer software to communicate and organize ideas to a variety of authentic audiences.
- Explore issues of ethics in engineering and apply decision matrix methods to formulating solutions.
- Apply the concepts of energy conservation to mechanical, structural, electrical and chemical problems.
- Use models to emulate control systems.
- Test and evaluate materials based on their properties.
- Apply knowledge and practice skills through weekly labs and activities.
- Explore the economics of engineering, and how engineering fits in to modern business structures.
- Explore the concept of failure in design and use failure as a learning tool.
- Investigate careers and fields that make use of engineering methods.
- Apply engineering design and problem solving concepts to a local problem and work to implement a solution.

# **Japanese 1**

1 credit – 9<sup>th</sup> & 10<sup>th</sup> Grade

Japanese 1 is designed to be an intro to or a continued practice session in the Japanese language. Students in Japanese 1 will learn to:

- Improve pronunciation in Japanese language
- Read and write the entire hiragana writing system with improving proficiency
- Recognize and write most, if not all, the katakana characters
- Use structures for basic conversation in situations such as greetings, asking basic questions and expressing likes and dislikes
- Listening with improving competence to everyday spoken Japanese
- Understand and be sensitive to Japanese cultural concepts
- Improve vocabulary and word choice in Japanese
- Read and write basic kanji

## **Japanese 2**

1 credit – 9<sup>th</sup> to 11<sup>th</sup> Grade

Japanese 2 is designed to be a continuation of study in the Japanese language. Students in Japanese 2 will learn to:

- Improve pronunciation and fluency of speaking in Japanese language
- Read and write the entire hiragana writing system with improving proficiency
- Read and write the entire katakana writing system with improving proficiency
- Use more advanced structures for basic conversation in situations such as academic questions, times, schedules and event planning
- Listening with improving competence to everyday spoken Japanese
- Research and present Japanese cultural concepts to the class
- Improve vocabulary and word choice in Japanese
- Read and write more basic kanji

## **Japanese 3**

1 credit – 9<sup>th</sup> to 12<sup>th</sup> Grade

Japanese 3 is designed to be a continuation of study in the Japanese language. Students in Japanese 3 will learn to:

- Improve pronunciation and fluency of speaking in Japanese language
- Read and write more kanji as well as alternate meanings and readings of the characters
- Use more advanced structures for basic conversation in situations such as family members, hobbies and future plans.
- Listening with improving competence to intermediate spoken Japanese
- Research and present Japanese cultural concepts to the class
- Improve vocabulary and word choice in Japanese
- Become more confident and competent in writing sentences and complete paragraphs in Japanese

## **Japanese 4**

1 credit – 9<sup>th</sup> to 12<sup>th</sup> Grade

Japanese 4 is designed to be a continuation of intermediate and advanced study in the Japanese language. Students in Japanese 4 will learn to:

- Improve pronunciation and fluency of speaking in Japanese language
- Read and write more kanji as well as alternate meanings and readings of the characters
- Use more advanced structures for basic conversation in situations such as restaurant Japanese, news stories, current events and social events
- Listening with improving competence to intermediate spoken Japanese
- Research and present Japanese cultural concepts to the class
- Improve vocabulary and word choice in Japanese with increasing mastery of politeness
- Become more confident and competent in writing sentences and complete paragraphs in Japanese
- Interact with native speakers and converse with increasing confidence

## **Japanese 5**

1 credit – 9<sup>th</sup> to 12<sup>th</sup> Grade

Japanese 5 is designed to be a continuation of advanced study in the Japanese language. Students in Japanese 5 will learn to:

- Improve pronunciation and fluency of speaking in Japanese language
- Read and write more kanji as well as alternate meanings and readings of the characters. They should know at least 200 kanji by the end of the course
- Use more advanced structures for basic conversation in situations such as weather and climate discussions, news stories, party and social situations and expressing desires
- Improve their understanding of Japanese culture and society
- Research and present Japanese cultural concepts to the class
- Improve vocabulary and word choice in Japanese with increasing mastery of politeness
- Become more confident and competent in writing sentences and complete paragraphs in Japanese
- Interact with native speakers and converse with increasing confidence

## **Art Foundations A & B**

1/3 credit each course – 9<sup>th</sup> to 12<sup>th</sup> Grade

Art Foundations A and B are both 1/3 credit courses. They do not need to be taken in sequence. The courses provide the groundwork for the high school Art program of study. Students in Art Foundations will learn to:

- experiment with a range of media and use appropriate materials, tools, and techniques purposefully in the implementation of his/her ideas.
- create works of art that are original and represent personal expression.
- work from direct experience, memory, and imagination to develop visual perception.
- develop and organize knowledge and ideas for expression in the production of art.
- create artistic work by integrating the elements and principals of design in an imaginative, complex, and coherent manner.
- work creatively to solve problems with strategies developed through the arts.
- make artistic choices based on an examination and interpretation of the content and purpose of a given project.
- demonstrate command of arts vocabulary and speak thoughtfully about, work, intent, and level of success.
- make connections between the individual and the world, applying knowledge of the arts within historical, cultural, and social connections.
- develop the ability to identify, analyze, and apply criteria for making visual aesthetic judgments.

## **Intermediate Art**

1/3 credit – 9<sup>th</sup> to 12<sup>th</sup> Grade

This course is designed to extend and refine the students' abilities to investigate and respond to the visual arts. It is a trimester course that can be repeated. Students in this course will learn to:

- use a sketchbook/journal by adding preliminary sketches, finished drawings, critical writings, and class notes.
- demonstrate the ability to evaluate and select works of art for an expanding portfolio.
- develop and refine observational and perceptual skills through drawing from life.
- demonstrate proficiency in the use of an expanded range of art media.
- use a variety of methods to record and present observations and perceptions from direct experience, memory, and the imagination.
- take artistic risks and capitalize on mistakes.
- create artistic works that integrate the elements of design in a highly imaginative, complex and coherent manner that both satisfies and enhances the given problem.
- identify works of art and artistic movements that relate to historical time periods and locations.
- discuss and write about art using an expanded art vocabulary.

## **Advanced Art**

1/3 credit – can be repeated – 9<sup>th</sup> to 12<sup>th</sup> Grade

Prerequisite: Studio Art 1

This is an advanced level, self directed course. Students in this class will learn to:

- Use mastery and subtlety in communicating clear ideas and feeling in the visual arts.
- Identify his/her strengths through self assessment and explore how he/she can apply those strengths to career planning and life long learning.
- Maintain a sketchbook/journal that demonstrates research, fluency of ideas, concepts, media, and processes.
- Maintain a portfolio demonstrating both breadth and depth in developing an area of concentration.
- Produce works of art that integrate a consistent knowledge of the elements of art and the principles of design.
- Develop a personal direction and work on a series or a sequence of related work.
- Develop skill, confidence, and craftsmanship in the use of media, techniques, and processes to achieve desired intentions.
- Select, research, and analyze artists and works of art related to personal areas of concentration in art.
- Consistently use an extensive, high-level art vocabulary.

## **AP Art: Studio 2-D Design**

1 credit – 12<sup>th</sup> grade

Prerequisite: Art Foundations A & B, Intermediate Art, Advanced Art

This is an advanced yearlong college level course designed for highly motivated seniors who are seriously interested in the practical experience of art. This course will require a serious commitment from the student. The workload is similar to what one would expect from a college course. Students should plan to spend a minimum of two additional hours outside of the classroom per week in order to keep up with the rigorous time line. All students are required to submit an AP portfolio. Students in this class will learn to:

- Maintain a sketchbook/journal that demonstrates research, fluency of ideas, concepts, media, and processes. Students are expected to submit a sketchbook for summer assignments.
- Maintain and submit an AP portfolio consisting of twelve Breadth pieces demonstrating a range of visual art experience and accomplishments with a variety of art forms, concepts, and techniques. Works should emphasize the elements of design and be organized using the principles of design.
- Maintain and submit an AP portfolio consisting of five Quality pieces demonstrating a high level of accomplishment of 2D design. Works should demonstrate mastery of design in concept, composition, and execution.
- Maintain and submit an AP portfolio consisting of twelve Concentration pieces demonstrating a personal commitment to a particular artistic concern or mode of working in 2D design. This concentration should grow out of the student's idea and demonstrate growth and discovery through a number of conceptually related works. The choices of technique, medium, style, form, subject, and content are made by the student in consultation with the teacher.
- Draft, revise, and submit an Artist Statement.
- Analyze and discuss their own artwork and those of their peers in regularly scheduled class critiques.
- Produce works of art that integrate a consistent knowledge of the elements of art and the principles of design.
- Develop skill, confidence, and craftsmanship in the use of media, techniques, and processes to achieve desired intentions.
- Select, research, and analyze artists and works of art related to personal areas of concentration.
- Create original work. If the student uses a photograph, image, or the work of another artist for reference, he or she must show substantial and significant development and change over mere duplication.
- Exhibit art in various completions, exhibitions, and gallery opening in the community.

## **Music (MUSIC 1A, 1B, 2A, 2B, 3A, 3B)**

1/3 credit – 9<sup>th</sup> to 12<sup>th</sup> Grade

Students will learn (to):

- Provide students with the knowledge needed to understand, participate in, and enjoy the art of music as a life-long activity
- Teach the best music literature that is developmentally appropriate with respect to students' technical skills, literacy, and personal maturity
- Allow students to participate in ensemble in which they are a contributing member in a cooperative experience with an eye toward participating in ensembles in college and beyond
- Teach students about the creative process from composition to interpretation of performance practice
- How to be an appreciative audience member
- How to behave at a live performance
- To play a variety of musical instruments including: guitar, ukulele, bass, percussion, keyboards, string instruments
- To improve the quality of their voices through proper vocal techniques
- Read sheet music
- Read tablature and chord charts
- Perform before a live audience during Arts Night, Assemblies, and/or Book Fair Performances

## **Band**

1 credit – 9<sup>th</sup> to 12<sup>th</sup> Grade

This is a performance class. Students will:

- Participate as an active member in one or more roles as vocalist, instrumentalist, and/or band leader.
- Learn the best music literature that is developmentally appropriate with respect to students' technical skills, literacy, and personal maturity and perform in and outside of school
- Be contributing members in a cooperative experience with an eye toward participating in ensembles in college and beyond
- Learn the responsibilities of providing a service of performance by participating in community events as well as paid events
- Learn how to interact with different members of society as they are representatives of the school each time they perform
- Learn to play a variety of musical instruments including: guitar, ukulele, bass, percussion, keyboards, string instruments
- Improve the quality of their voices through proper vocal techniques
- Read sheet music
- Learn about the creative process from composition to interpretation of performance practice
- Perform before a live audience during Arts Night, May Day, Graduation, School Assemblies, and other scheduled events

## **Drama**

1/3 credit – 9<sup>th</sup> to 12<sup>th</sup> Grade

Students will learn (to):

- Develop an appreciation for self-expression through drama as well as an understanding of the art as students become the future audience and patrons of the theatre
- Understand theatre arts as an integral part of the human experience
- Study and practice theatre as an art form fully integrated within an educational setting.
- About theatre arts as an integral part of the human experience
- Use props to help tell a story
- Creative movement
- Use their voices to convey different emotions
- An introduction to theatre in stages linked to their developmental abilities.
- Perform a staged musical production before a public audience
- How to appreciate and/or build sets, props, and costumes
- How to appreciate and/or operate technical equipment including sound board, microphones, lighting board, light trees, follow spot, etc.
- Choreography for all musical numbers
- Learn respect for themselves as well as their cast mates and crew by building a sense of camaraderie

## **Technology Electives**

1/3 credit – 9<sup>th</sup> to 12<sup>th</sup> Grade

Upper School Technology Electives are designed to provide solid fundamentals of technology concepts, from configuration of network hardware, to publishing digital media, to programming of Java applications. Each elective course is customized with project based learning to meet student interests and current developments in technology. Students in Upper School Technology Electives will learn to:

- Identify capabilities and limitations of contemporary and emerging technology resources and assess the potential of these systems and services to support personal needs, lifelong learning, and workplace productivity. Propose criteria and attributes for development of new products. Revise product proposals or prototypes in a development cycle.
- Research, document and communicate choices among technology systems, resources, and services (e.g. evaluate several online calendars and create materials documenting the features that lead to choice of one or the other). Create instructional modules for peer group based on technology selections.
- Analyze advantages and consequences of widespread integration of technology in schools, the workplace and in society as a whole.
- Demonstrate and advocate for legal and ethical behaviors among peers and community regarding the use of technology and information. Understand and explain copyright issues in digital content.
- Use technology tools and resources for managing and communicating personal and professional responsibilities and information (e.g. schedules, addresses, purchases, correspondence).
- Evaluate and engage technology-based options, including distance and distributed education resources, for extended learning activities.
- Routinely and efficiently use online information resources to meet needs for collaboration, research, publication, communication, and productivity.
- Evaluate needs, select options and apply technology tools for research, information analysis, presentation, problem solving, and decision making in content learning.
- Investigate and apply expert systems, intelligent agents, and simulations in problem based learning.
- Collaborate with peers, experts, and others to contribute to a content-related knowledge base by using technology to compile, synthesize, produce, and disseminate information, models, and other creative works.

Based on the International Society for Technology in Education's National Educational Technology Standards. <http://www.iste.org/>

## **Photo Digital Yearbook**

1/3 credit – 9<sup>th</sup> to 12<sup>th</sup> Grade

Photo Digital/Yearbook introduces the student to the camera and to photo editing, layout and design programs. Students in this class will learn to:

- Handle the camera correctly and safely.
- Identify and manipulate basic camera settings including shutter speed and aperture.
- Compose photographs according to the rule of thirds.
- Creatively manipulate format, camera angle, and lighting.
- Upload images from their camera to the yearbook site.
- Use photo editing programs to enhance and creatively alter their photographs.
- Use computer based layout programs to design and publish the school yearbook.
- Print, matt, and display a photograph in the Maui Photo Salon at the Maui County Fair.

# **Robotics**

1/3 credit – 9<sup>th</sup> to 12<sup>th</sup> Grade

Students in the Maui Prep Robotics Program will:

- Understand how to design systems that use computer programs to interact with hardware.
- Install and configure the main computer hardware and software components.
- Understand the ethical issues in computer engineering.
- Know the function and interaction of basic computer components and peripherals.
- Understand the relationship among computer hardware, networks, and operating systems.
- Understand the process of testing and troubleshooting computer equipment and systems.
- Use utility software efficiently to diagnose and correct problems.
- Use appropriate tools and technology to perform tests, collect data, analyze relationships, and display data in a simulated or modeled automated system.
- Understand the use of sensors for data collection and process correction in an automated system.
- Program a computing device to control an automated system or process.
- Use motors, solenoids, and similar devices as output mechanisms in automated systems.
- Assemble input, processing, and output devices to create an automated system capable of accurately completing a preprogrammed task.

Based on the California Department of Education's Career Technical Education Standards.

<http://www.cde.ca.gov/ci/>

## **Industrial Arts**

1/3 credit – 9<sup>th</sup> to 12<sup>th</sup> Grade

Students in the Maui Prep Industrial Arts Program will:

- Understand the steps in the design process.
- Determine what information and principles are relevant to a problem and its analysis.
- Choose between alternate solutions in solving a problem and be able to justify the choices made in determining a solution.
- Translate word problems into mathematical statements when appropriate.
- Understand the process of developing multiple details into a single solution.
- Build a prototype from plans and test it.
- Evaluate and redesign a prototype on the basis of collected test data.
- Apply two-dimensional and three-dimensional CADD operations in creating working and pictorial drawings, notes, and notations.
- Understand the process of producing proportional two- and three-dimensional sketches and designs.
- Use and maintain industrial and technological products, tools and systems for appropriate applications.
- Understand the importance of technical and computer-aided technologies essential to the language of the industrial, engineering and design industries.
- Understand how to use, adjust, maintain, and troubleshoot the equipment and tools of the engineering and design industry in a safe, effective, and efficient manner.
- Budget, acquire, store, allocate, and use materials and space efficiently.
- Understand the role of the engineering and design industry in the economy.
- Understand and apply the appropriate use of quality control systems and procedures

Based on the California Department of Education's Career Technical Education Standards.

<http://www.cde.ca.gov/ci/>

## **Physical Education**

1/3 credit each season – 9<sup>th</sup> to 12<sup>th</sup> Grade

Students in the Upper School are required to participate in two seasons per school-year of Maui Interscholastic League Sports (MIL). Students are required to attend practices and competitions to receive Physical Education credit (1/3 for each season). Students may participate in the following sports MIL sports: boys and girls cross country, girls volleyball, coed outrigger canoe paddling, boys and girls swimming, boys and girls track and field, boys and girls tennis, and boys golf.

## **College Explorations**

1/3 credit – 10<sup>th</sup> Grade

College Explorations is an elective usually taken in the 10<sup>th</sup> grade. The course is designed to provide students with an overview of the college process with a focus on preparing students to take the PSAT in October. Students in College Explorations will:

- Develop specific test taking strategies for each of the three sections of the PSAT and SAT (Critical Reasoning, Mathematics, and Writing)
- Analyze PSAT test results and utilize the results to formulate a short and long term study plan for the SAT
- Develop an understanding of the post secondary education system, including the different professional degrees available and various types of colleges and universities in the United States and abroad
- Complete a career interest inventory and connect the results to specific college majors
- Research and explore various college majors and the course of study necessary both in high school and in college to obtain future employment
- Research specific universities and colleges and create an initial list of potential post secondary schools
- Complete a sample application for admission to a four year college or university including an essay and personal resume
- Develop an understanding of the potential social issues faced with attending college, for example, money management, moving far from home, living with a roommate, living independent from parents, parent separation issues, making right choices, etc.

## **Health and Life Skills**

1/3 credit – 9<sup>th</sup> to 12<sup>th</sup> Grade

Health and Life Skills is designed to develop a solid understanding of personal reproductive health and well-being. Analysis of adult relationships and responsibilities is examined. A Planned Parenthood curriculum is practiced. Students in Health and Life Skills will:

- Understand and improve their personal health and wellness
- Study the scientific process of reproduction, reproductive part, and changes over time
- Explore risk behaviors, their possible out-comes and alternatives
- Demonstrate an understanding of laws pertaining to relationships and risk behaviors
- Analyze diseases that are transmitted by risk activities and prevention strategies
- Explore sex roles and media influences in behaviors and attitudes
- Examine the importance of creating short-term goals to accomplish long-term goals
- Analyze and discuss the value of practicing abstinence when dealing with risk behaviors
- Examine growing and changing friendships, peer pressure and refusal skills
- Discuss tolerance in a diverse society
- Explore attitudes and expectations in the work place