

# 2024-2025 COURSE CATALOG



AESA PREP INTERNATIONAL

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# Alignment with National Standards: Core Subjects

## **Language Arts**

Our English curriculum satisfies the Standards for the English Language Arts, developed by the National Council of Teachers of English.

Our Spanish and Catalan Curriculum aligns with standards established by the LOMLOE in Royal Decree 217/2022, of March 29, which establishes the organization and minimum teaching of Compulsory Secondary Education adapted to the educational legislation of Catalonia.

## **Mathematics**

Our Mathematics curriculum satisfies the National Principles and Standards for Mathematics, developed by the National Council of Teachers of Mathematics.

## **Science**

Our Science curriculum satisfies the Next Generation Science Standards, developed by the National Science Teachers Association.

## **Social Studies**

Our social studies curriculum satisfies the National Curriculum Standards for Social Studies, developed by the National Council for the Social Studies.

# Language Arts

## English 1

Credit: 1

Pre-Requisites: None

Classification: College-Prep

### **Course Description:**

This course is an introductory survey of literature, with an emphasis on reading, writing, and analytical skills.

English 1 will provide an in-depth study of English literature and poetry with an emphasis on critical thinking skills, analyzing and the use of literary devices (plot, theme, character development, etc.). There will also be a strong emphasis on writing (essays, research, persuasive, etc.) along with daily grammar exercises.

Students utilize critical thinking skills to analyze and interpret reading selections from specific time periods, diverse cultures and various genres of literature including fiction, non-fiction, short stories, novels, poetry and drama. Vocabulary skills are strengthened through weekly quizzes in preparation for the SAT and ACT. SAT and ACT skills are woven throughout this course. Students will demonstrate proficiency of the writing process through narrative, persuasive, and expository writing with an introduction to research writing. Grammar and punctuation skills will be developed as well.

There will be 5 novel studies which will encompass all aspects of literature and writing. *Animal Farm* by George Orwell, *Things Fall Apart* by Chinua Achebe, *The Odyssey* by Homer, *Romeo and Juliet* by William Shakespeare, and a 5th novel to be chosen by students from a list.

## English 2

Credit: 1

Pre-Requisites: English 1

Classification: College-Prep

### **Course Description:**

English 2 is a survey of world literature. This course emphasizes reading, writing, and analytical skills. Students utilize critical thinking skills to analyze and interpret reading selections from specific time periods, diverse cultures and various genres of American literature including fiction, non-fiction, short stories, novels, poetry and drama.

Vocabulary skills in preparation for the SAT and ACT are emphasized and tested regularly. Students will demonstrate proficiency of the writing process through narrative, persuasive, and expository writing. Grammar and punctuation skills will be developed as well.

There will be 5 novel studies which will encompass all aspects of literature and writing. *Ready Player One* by Ernest Cline, *Night* by Elie Wiesel, *The Great Gatsby* by F. Scott Fitzgerald, *Julius Caesar* by William Shakespeare, and a 5th novel to be chosen by students from a list.

## English 3: American Literature

Credit: 1

Pre-Requisites: English 1, English 2

Classification: College-Prep

### **Course Description:**

This course is a survey of American literature, spanning the early 1600's through contemporary literature. Students will encounter writing from the Native American period and the Colonial Period through contemporary literature. This course emphasizes reading, writing, and analytical skills. Students utilize critical thinking skills to analyze and interpret reading selections from specific time periods, diverse cultures and various genres of American literature including fiction, non-fiction, short stories, novels, poetry and drama.

Vocabulary skills in preparation for the SAT and ACT are emphasized and tested regularly. Students will demonstrate proficiency of the writing process through narrative, persuasive, and expository writing. Students will learn to research and write a research paper in MLA format. Grammar and punctuation skills will be developed as well.

There will be 5 novel studies which will encompass all aspects of literature and writing. *Ceremony* by Leslie Marmon Silko, *Ethan Frome* by Edith Wharton, *As I Lay Dying* by William Faulkner, *A Raisin in the Sun* by Lorraine Hansberry, and a 5th novel to be chosen by students from a provided list.

## English 4: British Literature

Credit: 1

Pre-Requisites: English 1, English 2, English 3

Classification: College-Prep

### **Course Description:**

This course is a survey of British literature from the Renaissance period through Romanticism and Modernism. This course emphasizes reading, writing, and analytical skills.

Students utilize critical thinking skills to analyze and interpret reading selections from specific time periods, diverse cultures and various genres of British literature including fiction, non-fiction, short stories, novels, poetry and drama. Vocabulary skills in preparation for the SAT and ACT are emphasized and tested regularly. Students will demonstrate proficiency of the writing process through narrative, persuasive, and expository writing.

Students will learn to research and write a research paper in MLA format. Grammar and punctuation skills will be developed as well.

There will be 5 novel studies which will encompass all aspects of literature and writing.

*Beowulf*, *Hamlet* by William Shakespeare, *Dracula* by Bram Stoker, *Never Let Me Go* by Kazuo Ishiguro, and a 5th novel to be chosen by students from a provided list.

Students will also be introduced to the realism movement in Spain and the importance of this movement in the life of Spanish civilization.

Spain in the beginning of the 20th century and the *Generación del 98* and the *Generación del 27* will be part of the content of this course and students will also explore the literary movement of the Spanish Civil War.

Poetry and theater in the context of the 20th century will be part of textbooks, class dynamics and poetry readings.

Students will also understand the evolution of the Spanish language and orthography.

In class we will discuss the different types of texts (argumentative, expository, descriptive and narrative).

# Mathematics

## Algebra 1

Credit: 1

Pre-Requisites: None

Classification: College-Prep

### **Course Description:**

This course will help students view algebra not only as a theoretical tool for analyzing and describing mathematical relationships, but they will also experience the power of algebraic thinking in a context of applications by studying the mathematical modeling of real-world problems.

Students are taught how to solve basic equations with products and division, functions and using the rule of third. They will be solving equations by simplifying radicals, using tables and graphs, and multiple representations of functions.

Students will explore linear functions, rate of change, the parent function, writing rules, using commutative, associative, and distributive properties to simplify expressions. Students will solve simple equations with manipulatives and symbols, recognizing parallel and perpendicular linear equations.

Students are also introduced to inequalities and to the methods of solving systems of linear equations. Students will solve systems using graphs and tables and with symbolic methods.

They will study exponential functions, their properties, polynomials, and learn how to add, multiply, and factorize polynomials. We will finalize with the study of quadratic equations, such as parabolas.

## Geometry

Credit: 1

Pre-Requisites: Algebra 1

Classification: College-Prep

### **Course Description:**



The purpose of this course is to show the students how to take a real life problem and represent it in a mathematical form that you can solve easily, to illustrate several of the numerous applications of geometry in various facets of everyday life, and to ensure that students have a solid foundation of geometry skills that can be applied intuitively in the future as tools for higher level goals or courses.

Students are introduced to the basic elements in Geometry, to relationships of algebra and geometry, line segments, midpoints, and the theorem of Pythagoras.

Students will also understand the vertical and transversal angle theorems, isosceles triangles, similar figures with, ratio and dilation and proportionality.

Transformations, linear equations on the XY plane and parallel and perpendicular lines on the XY plane will also be studied in class.

Students are going to be introduced to trigonometry, the sinus, cosinus, tangent and their relationships, to trigonometric identities, and trigonometric equations.

We will learn about circles and their parts, inscribed and central angles, intercept arcs, and the tangent line theorem.

We will continue this course by studying the equation of a circle, the sector area and arc length of a circle, the perimeter, area and volume of 1-, 2-, and 3- dimensional figures and we will finalize with the study of probabilities, combinations, and finally apply probabilities to geometrical events.

## Algebra 2

Credit: 1

Pre-Requisites: Algebra 1, Geometry

Classification: College-Prep

### **Course Description:**

The course of Algebra 2 aims to teach students fundamentals of functions: how to transform any parent function, how to solve exponential equations, how to determine the end behavior and how to analyze the domain of any function.

In class we will learn how to predict series, explore inverse and composite functions, and learn how to read data in a table.

Students are first reviewing the basics of algebra, then they are introduced to radicals, trigonometry with right triangles, vectors, trigonometry applied to vectors, operations with polynomials, graphing and solving polynomials.

Students will be able to solve quadratic functions, and finally quadratic inequalities.

Students are also introduced to sums, arithmetic and geometric series, analyses of functions and composition of functions.

We will learn about inverse functions, logarithms and exponential models.

## Pre-Calculus

Credit: 1

Pre-Requisites: Algebra 1, Geometry, Algebra 2

Classification: College-Prep

### **Course Description:**

In this course students are deepening their knowledge on rational functions. They are introduced to their domain, their vertical asymptotes, intercepts, holes, to the calculation of the limit of rational expressions, and learn to recognize limits from a graph, to the limits from the left and from the right in a graph.

Students learn to apply translation, reflection, dilation to functions and how basic operations affect a function.

Students will solve basic functional equations by substitution and by using systems of equations. In class we will analyze exponential and logarithmic functions, and apply those functions to real-life models and to solve exponential and logarithmic equations.

Students are introduced to matrices, to the inverse matrix and to matrix transformations. Students will study the trigonometric functions in the XY plane and the inverse trigonometric functions. They will also learn how to transform those functions.

Students are introduced to imaginary numbers, to solve polynomials with complex roots, to combinations and probabilities.

# Natural Sciences

## Biology

Credit: 1

Pre-Requisites: None

Classification: College-Prep

### **Course Description:**

Biology is the study of all forms of life: their components, activities, processes, and environments. This course covers the fundamental concepts of biology and will emphasize the integration of information into a larger framework of understanding of the subject.

The course begins with the fascinating topics of genetics and protein synthesis, with an explanation of genetic processes, including cell division and inheritance. This is followed by a discussion of the principles of evolution.

We then have a detailed examination of the unique characteristics of many types of organisms, including protists, fungi, plants, invertebrates and vertebrates. Next, students will examine the topics of adaptation and natural selection.

The first semester ends with an overview of the structures and processes of different life forms including bacteria, plants, and animal subgroups.

Students are also introduced to the science of Ecology with ecosystems and their energy levels and exchanges, to the interactions between organisms. The course continues with genetics, meiosis and mendelian genetics, the generation of proteins out of DNA to proteins. Evolution and life diversity are then explained in further detail.

The course closes with the current applications of Biology such as biomedical sciences and biotechnology.

## Chemistry

Credit: 1

Pre-Requisites: None

Classification: College-Prep

**Course Description:**

Chemistry covers topics and information normally contained in a first-year college general chemistry course. Chemistry is the science of matter and the changes it undergoes.

This course revolves around the fundamentals of inorganic chemistry. The first part of the course covers the various characteristics of matter, subatomic particles, chemical nomenclature, chemical bonds and chemical reactions.

We will progress from atomic theory and structure in the second part of the course which will introduce chemical bonding and prepare the students to understand chemical reactions and stoichiometric calculations. Students will also explore thermochemistry and the states of matter.

At the end of this course, students will have an understanding of the underlying laws and processes that govern the physical world.

## Physics

Credit: 1

Pre-Requisites: None

Classification: College-Prep

**Course Description:**

This course is an overview of the fundamental concepts in physics using basic mathematical models to describe the relationship between written law and observation. Students investigate the everyday use of physics and realize the absolute importance of the subject.

The aim of the course is to make students aware of how science connects to so many things in life such as our planetary system, global weather patterns, micro-electronics, sports and the importance of mathematical objects in the description of physical processes.

We will study the thoughtful review of the scientific methods and the use of scientific notations, significant figures, precision and accuracy concepts. Follows the study of kinematics in 1st and then 2nd dimensions. The study is made through graphical lecture, equation solving, word-problems and conceptual problem solving.

Students are then introduced to Newton's laws of motion, energy and its different forms and energy and momentum conservation.

Students will continue by studying kinetic and potential energy, static electricity and its basic concepts and we will also dedicate time understanding simple electric circuits, wave phenomenon, and in particular electromagnetic laws.

The last part of the course is dedicated to technologies and quantum physics. The study of all these topics is made through the use of graph lectures, word-problems, conceptual problems and equation solving.

## Environmental Science

Credit: 1

Pre-Requisites: None

Classification: College-Prep

### **Course Description:**

This course combines the hard sciences involved in the study of ecology with the political, economic, and cultural issues that surround human interaction with the environment.

The first part of the course is primarily concerned with the scientific parameters of ecosystems. We begin the first semester with a historical look at how humans have interacted with the environment and how the study of the environment is conducted. We then discuss the structure of the planet and its processes such as erosion, volcanism, and climate.

We will study the interaction between living organisms and the influence of living organisms on the structure and function of ecosystems.

In the second part of the course, we will study the way human behavior and treatment of resources impact the homeostasis of our environment. The impact on earth which has led to global warming and climate change is discussed here.

Topics covered include population size and human population, water use and management, air and water pollution, renewable and non-renewable resources, waste and pollution.

# Social Studies

## World Geography

Credit: 1

Pre-Requisites: None

Classification: College-Prep

### **Course Description:**

This course will introduce students to the study of geography, which details the world's places and people. The course begins with a discussion of the five underlying themes of geography: location, place, human-environment interaction, region, and movement. Next, we move to different continents and regions throughout the world, and explore how each of the themes relates and connects to these locations.

This course examines environmental factors such as climate, topography and natural resources throughout the world. It also explores population distribution and growth and their effect on the world's population. The study of varied customs and cultural characteristics of world societies, as well as productivity and consumption of natural resources on a global scale are also main aspects of this class.

In the second half of the course, you will continue to learn about the 5 Themes of Geography, as well as the regions covered: Asia, Africa, Australia, and Antarctica.

## World History

Credit: 1

Pre-Requisites: None

Classification: College-Prep

### **Course Description:**

In this course, students will examine and analyze historic, geographic, political and economic concepts, and issues. The purpose of this course is to provide an in-depth, multicultural, and well-rounded study of world history.

We will focus on pre-history to the emerging civilizations of Africa, India, China, South America, and the Muslim, Greek, and Roman empires. Students will be able to analyze the

efforts of how civilizations interacted with one another and exchanged ideas, while considering different international perspectives, geography, religion, and economic factors.

Students will examine and analyze historic, geographic, political and economic concepts and issues. The final units of the course focus World History in the second half of the 20th century through the present and its relationship to the rest of the world through four lenses: United States perspective, international perspective, geography and economics.

Students will open their minds and broaden their horizons to the intriguing world of past and present civilizations and interesting cultural, economic, and political developments. They will undergo a thorough and comprehensive study of ancient civilizations all the way to modern government systems. They will visualize the past and understand the present day with interactive, engaging, and relatable world history lessons, videos, discussions, and more.

## US History

Credit: 1

Pre-Requisites: None

Classification: College-Prep

### **Course Description:**

This first semester of this course provides a broad overview of United States history up to the end of the Civil War.

There is a focus of how the Americas were settled, how The United States became a nation and how it evolved. Key topics include pre-colonial America, settlement, the American Revolution, the making of the United States Constitution, several presidents and their decisions, the events that led to the Civil War and the effect it had on the nation.

The purpose of the second semester of this course is to increase students' knowledge of the development of the United States as a democratic nation. The course is organized as a chronological survey of the American past from 1877 to World War II. Emphasis will be placed on understanding and analyzing major events, geography, individuals and ideas which comprise the American heritage.

## Government

Credit: 0.5

Pre-Requisites: World Geography, World History and US History

Classification: College-Prep

**Course Description:**

This course will focus on the various institutions, groups, beliefs, and ideas that constitute United States politics. Students will gain an analytical perspective on government and politics in the United States both by studying the general concepts used to interpret US politics and by analyzing specific examples.

Students will learn how to analyze and interpret basic data relevant to the US government and politics and will write extensively to perfect their essay writing and critical thinking skills.

In this course, students apply knowledge gained in previous years of study to pursue a deeper understanding of the institutions of American Government. In addition, they draw on their studies of world and American history and geography and other societies to compare differences and similarities in world governmental systems today.

This course is the culmination of history/social sciences classes to prepare students to solve society's problems, to understand and to participate in the governmental process, and to be a responsible citizen of the United States and the world.

This course is a broad survey of American Government that includes a comparative study of other forms of government and a detailed analysis of the continuing transformation of the manner in which Americans fulfill the unique role of governing themselves.

## Economics

Credit: 0.5

Pre-Requisites: None

Classification: College-Prep

**Course Description:**

This course will introduce you to the study of Economics, which covers how individuals and societies satisfy their unlimited wants with limited resources.

This course begins with a discussion about the basic economic problem of scarcity. Next we examine market behavior through the study of the two major forces behind them such as supply and demand.



The next unit covers basic microeconomics concepts, or the science behind individual stakeholders' decision making processes. Then we go into the behavior of aggregate economic units such as countries and societies through the study of macroeconomics concepts.

Our last two units feature the Role of Government & the Global Economy; and Economic Development and Personal Finance.

Another way to consider what we're studying--simply put--is that economics is about making the right decisions with the resources available on an individual, societal and global level.

# World Languages

## Spanish 1

Credit: 1

Pre-Requisites: None

Classification: College-Prep

### **Course Description:**

This course is an introductory course for non-native speakers.

Students will practice their vocabulary and learn subjects like the days of the week, the months, nationalities of the world, and be able to recognize and say the most used words in Spanish.

Students will learn to demand basic personal information and talk about their daily life. They will also learn to ask questions and give answers.

In this course students will learn introductory grammar like how to conjugate regular and irregular verbs, routine actions, and will be able to express the time in Spanish.

## Spanish 2

Credit: 1

Pre-Requisites: Spanish 1

Classification: College-Prep

### **Course Description:**

This course continues to develop the oral skills with added emphasis on reading and writing skills. Students focus on expanding their vocabulary and deepening their understanding of grammatical structures.

Students will continue to explore the cultures of Spanish speaking countries around the world, with a specific country highlighted in each unit.

Students will learn to understand and use everyday expressions that are very frequently used anywhere in the Spanish-speaking world. Also, students will learn to ask for and give basic personal information about themselves and their daily life.

By the end of the course, the students should be able to interact in an elementary way with native speakers, as long as they speak slowly and clearly. Students will learn vocabulary of everyday life, how to make comparisons, and will apply different verbal forms.

## Spanish 3

Credit: 1

Pre-Requisites: Spanish 2

Classification: College-Prep

### **Course Description:**

This course meets the requirements of Spanish collegiate studies. It stresses the development of fluency in oral skills, comprehension of Spanish literature and history, expository composition, and expanded use of grammar. It utilizes high-level/critical thinking and focuses on the development of accuracy and fluency.

In this course students will review the present simple in regular and irregular verbs, and will learn other verbal forms and tenses to be able to construct more elaborate sentences. They will be able to talk about their routines and describe their experiences in the past.

Students will review how to establish communication in social contexts like restaurants, the street, or when enjoying their favorite activities. They will elaborate their speech and be able to express prohibitions and obligations in specific situations.

## Spanish 4

Credit: 1

Pre-Requisites: Spanish 3

Classification: College-Prep

### **Course Description:**

This course meets the requirements of Spanish collegiate studies. It emphasizes sharpening students' listening, speaking, reading and writing skills through activities that are based on pedagogically proven methods of foreign language instruction. It focuses students on

learning to express themselves using a higher vocabulary, verbs varying in tense, articles, and adjectives.

Students will continue to expand their knowledge of Spanish-speaking cultures and countries.

Students will learn the difference between the three past verbal forms in Spanish: "*Indefinido*" "*Pretérito Perfecto*" and "*Imperfecto*" and continue to learn more diverse aspects of Spanish grammar.

# Electives

## Fine Arts

The following electives count towards the Fine Arts requirement for graduation.

### Music Appreciation

Credit: 0.5

Pre-Requisites: None

Classification: College-Prep

#### **Course Description:**

In this course, students learn not only about different types of music from all over the world, but also how to listen intelligently to music.

Through the four units of this course, they learn some key vocabulary and be exposed to styles of music you most likely have never heard before.

The course starts with learning how to listen to music. It is followed by understanding music context, form and style. Then students are introduced to medium and harmony to finally learn about metric and rhythm. Well-known songs and musical pieces are used throughout the course to illustrate these different topics.

### Art Appreciation

Credit: 0.5

Pre-Requisites: None

Classification: College-Prep

#### **Course Description:**

This course is designed to give students a better understanding and an appreciation for the visual arts.

We will first look to define what art is, and what art's role is in society. We will then explore the elements of art and explore the many media of art. We will explore these concepts by looking at examples of great works which exhibit these concepts.

Students will cover the history of art, beginning with primitive art while looking at how art evolved around the globe, and then move into 20th century art. They explore and define numerous art movements and their characteristics. Next, they discuss contemporary art while discussing examples of more recent art movements and the state of art today. As part of the exploration of art history and contemporary art, students will be asked to choose various movements in art and attempt to create their own original pieces of art which fit the characteristics of those movements.

Creating art will give students the experience of being an artist which can give a greater perspective of the struggles an artist experiences while creating art, and therefore developing a greater respect for the craft.

At this point, students move into the area of art criticism and students will encounter examples of art criticism and will be asked to give their views on art being reviewed as well as express their views of the criticism itself.

The course will finish with a final project in which students will be asked to seek out works of art and provide their own critique, utilizing concepts and language they have earned throughout the semester.

## **Communications**

The following electives count towards the Fine Arts requirement for graduation.

### **Journalism**

Credit: 0.5

Pre-Requisites: None

Classification: College-Prep

#### **Course Description:**

The purpose of this course is to develop students' academic writing abilities and basic literacy skills, using English language development curriculum and specifically designed units of project-based learning for journalism.

This course is an introductory survey of journalism, with an emphasis on writing and reporting skills. This course emphasizes the skills and knowledge to produce journalistic forms, identify the characteristics of modern journalism, and how it has shifted over time.

Students will evaluate varying article formats, review the history of journalism in America, discuss journalistic ethics, identify bias in journalistic reporting, and develop their individual writing skills in varying journalistic formats and styles.

Students will learn elements of a basic news story, how to collect information, sources and online research, construct stories, apply writing/reporting techniques, and aspects of global journalism.

Grammar instruction is integrated within writing activities. Students study a variety of communication strategies and applications. The course provides a strong foundation for the essential elements of grammar and composition.

## Creative Writing

Credit: 0.5

Pre-Requisites: None

Classification: College-Prep

### **Course Description:**

This course provides opportunities for students to develop techniques for creative expression through language.

There's good writing, and then there's writing that sings. This course will push students' work toward the melodious. We will work on techniques to raise the level of the language—from creating strong word pictures to turning phrases to finding and highlighting the telling details—and ways to keep readers' interest, such as developing strong hooks and building a solid spine.

The types of writing we work on will be determined partly by student interest, but could include essays, narrative nonfiction, short fiction and, at the end of the year, poetry (classic form as well as music lyrics). We will read and dissect published examples of specific genres to learn about construction and literary devices, and then students will try their own hand.

Through readings, peer comments and teacher editing, students will improve their work and leave the class with a strong sense of how to hit the high notes.

# Physical Education, Health and Nutrition

The following electives count towards the P.E.requirement for graduation.

## Health

Credit: 0.5

Pre-Requisites: None

Classification: College-Prep

### **Course Description:**

In this course students will know how to live a healthy lifestyle.

This class will focus on how you can make healthy lifestyle choices that will help you live a longer, happier and more fulfilling life.

Students will learn about their bodies, common diseases, how to maintain emotional health and wellness, proper nutrition and physical activity. They will also learn stress management skills, how to build healthy relationships, avoiding destructive habits, safety and first aid skills and how to create a healthy environment

This class emphasizes the importance of class discussion in order to learn from your peers and be exposed to different perspectives about a topic.

## Nutrition

Credit: 0.5

Pre-Requisites: None

Classification: College-Prep

### **Course Description:**

This course introduces students to the fundamentals of nutrition.

Topics that are covered in this course include information about nutrition supplements, how to spot nutrition misinformation, making nutritious choices, and nourishing our bodies correctly.



In this course students will learn about the digestive system, carbohydrates, lipids, proteins, water, and fat soluble nutrients.

Students will understand concepts like minerals, nutrition for a healthy body weight, eating disorders, nutrition for exercise, and nutrition through the lifecycle.

# Other Electives

## Statistics

Credit: 0.5

Pre-Requisites: Algebra 1, Algebra 2

Classification: College-Prep

### **Course Description:**

This course introduces probability and statistical concepts with applications to various disciplines using technological tools.

Topics include descriptive statistics such as measures of central tendency, variation, and positions. Students will be able to do exercises using probability, conditional probability and probability distributions.

Students will understand concepts such as inferential statistics which includes estimation, confidence intervals, hypothesis testing, chi-square test, regression, and correlation.

## World Cultures

Credit: 0.5

Pre-Requisites: None

Classification: College-Prep

### **Course Description:**

The world contains an amazing variety of cultures that we can learn from and this knowledge of the present and especially past cultures helps us learn and grow today as a 21st century civilization.

This course will serve as a survey of many cultures throughout the world, from Mesoamerica, Mesopotamia, Ancient Rome and India, to the Silk Trade across Asia and into Europe.

It does not matter if the students are just curious about world cultures or considering a future in cultural anthropology or archaeology, this is a fantastic course to expand their horizons and prepare them for college courses.

# Introduction to Technology

Credit: 0.5

Pre-Requisites: None

Classification: College-Prep

## **Course Description:**

This course provides students with a moderately technical overview of many topics including basic computer concepts and operations, keyboarding, Internet safety, presentation software, technology research, Internet skills, coding, careers in technology, encryption and public keys on the Internet and the future of technology.

Students will compare the various levels of development and interactions between application software, system software, and hardware layers. Software and hardware have advanced significantly since the 20th Century. System software, for example, is used on many different types of devices, such as smart TVs, assistive devices, virtual components, cloud components, and drones.

Students will examine how sensitive data can be affected by malware and other attacks. This includes potential security problems, such as denial-of-service attacks, ransomware, viruses, worms, spyware, and phishing, present threats to sensitive data. The needs of users and the sensitivity of data determine the level of security implemented.

Students should be able to describe, justify, and document choices they make using terminology appropriate for the intended audience and purpose.

Students will create interactive data visualizations using software tools such as Microsoft and Google to help others better understand real-world phenomena. They will successfully transform, generalize, simplify, and present large data sets in different ways to influence how other people interpret and understand the underlying information.

Lastly, students will create prototypes through coding and Computer Science that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests. They will design and develop computational artifacts for historical examination, personal expression, or to address a societal issue by using events to initiate instructions.

# Ethics in Computer Science and Coding

Credit: 0.5

Pre-Requisites: None

Classification: College-Prep

## **Course Description:**

This course provides students with a moderately technical overview of many topics including basic computer concepts and operations, Internet safety, privacy, and security, exploring web pages, an introduction to HTML and CSS, a guide to open source software, careers in technology, encryption and public keys on the Internet, coding for social change.

The intent of the course is to provide an introduction to the ethical issues students will face in computer science and coding.

Students will analyze the concept of their digital footprint. It is all the information you leave behind as you use the Internet.

The course will examine the commercial, social, and educational consequences of our digital footprint. This includes the concept of an echo chamber. What are the lasting consequences of echo chamber phenomena? What is the impact on society? The course will examine how it has the very real potential to lead to extremism, hatred, racism, and violent behavior.

Students will examine how sensitive data can be affected by computer viruses and other attacks. This includes potential security problems, such as denial-of-service attacks, ransomware, viruses, worms, spyware, and phishing, present threats to sensitive data. The needs of users and the sensitivity of data determine the level of security implemented.

Students should be able to describe, justify, and document choices they make using terminology appropriate for the intended audience and purpose. This includes examining the racial biases that are a significant element within innovative software such as facial recognition technology.

Students will review the impact that Google and Microsoft have had on the world of computer science and coding. Both technology giants have been involved in significant copyright and monopoly lawsuits regarding their technology creations. Students will make their own determination as to the ethical issues involved in the case.

Lastly, students will create prototypes through coding and Computer Science that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests. They will design and develop computational artifacts for historical examination, personal expression, or to address a societal issue by using events to initiate instructions.

The programming languages and platforms that the course will examine include WordPress, HTML, CSS, Java, and JavaScript. The Final Project will involve using coding and/or computer science for social good.

## Psychology of Self-Awareness

Credit: 0.5

Pre-Requisites: None

Classification: College-Prep

### **Course Description:**

This course focuses on the psychology of self-awareness and on psychological concepts and strategies that students can apply to their lives in order to fully understand who they are and what motivates them to develop skills, knowledge, and resources to achieve rewarding goals in life.

Students explore topics as personality, social identity, interpersonal relationships, emotional intelligence, motivation, achievement, stress management, and strategies for developing a value system to have a meaningful life.

Real-world topics, such as gender and racial stereotyping, peer pressure and conformity, and the origins of conflicts between factions of modern society are presented for students to better understand how these subjects affect their singular worldview.

Exercises and course materials are designed to give students the opportunity to expand their self-awareness from both a personal and global perspective.