

Thornton Academy Online Course List and Descriptions 2022-2023

Standard Courses	AP Courses
Freshman English Sophomore English Junior English Senior English U.S. History Peoples & World Cultures Psychology & Sociology Government & Economics Physical Science Chemistry Biology Physics Personal Fitness & Nutrition Algebra I Geometry Algebra II Pre-Calculus Personal Finance & Accounting Robotics & Computer Programming Web Design & Imaging Spanish I Spanish II German I* German II*	AP Physics AP Biology AP Chemistry AP Calculus AB & BC AP U.S. History AP English Language and Composition AP Spanish AP Government and Politics AP European History

*Requires a minimum number of students

**Courses subject to change

Course Descriptions

Standard Courses:

English

Freshman English

This course is divided into Parts A & B

Description: English for grade 9 is an integrated curriculum. Each unit contains thematically related lessons in five domains: reading and the study of literature, reading informational text, writing, speaking and listening, and language study, which includes word knowledge and grammar skills. Topics are presented in ways that help young adolescents relate literacy skills to other aspects of their lives. Writing assignments include narrative, expository, and persuasive/argumentative modes and emphasize the use of and details and reasoning to support ideas. Speaking and listening lessons in PART A emphasize collaborative discussion skills and peer review. Vocabulary development instruction is integrated into literature and informational text lessons. Each unit ends with an authentic assessment that presents students with a real-world scenario requiring some of the skills they learned in the unit. In part B, students will address readings and the study of literature, reading informational text, writing, speaking and listening, and language study, which includes word knowledge and grammar skills. Topics are presented in ways that help young adolescents relate literacy skills to other aspects of their lives. Writing assignments include narrative, expository, and persuasive/argumentative modes and emphasize the use of and details and reasoning to support ideas. Speaking and listening lessons in PART A emphasize collaborative discussion skills and peer review. Vocabulary development instruction is integrated into literature and informational text lessons. Each unit ends with an authentic assessment that presents students with a real-world scenario requiring some of the skills they learned in the unit.

- Required Materials: *Old Man & the Sea* & *Ender's Game* (free digital versions are made available to students)
- Difficulty Level: 3/5
- Estimated hours to complete course: 120
- This Course is Similar to: English 9, English I, Language Arts 9

Sophomore English

This course is divided into Parts A & B

Description: English for grade 10 is an integrated curriculum, with each unit consisting of thematically related lessons in five domains: analyzing literature, analyzing informational text, writing, speaking and listening, and language study, which includes word knowledge and grammar skills. The skills that students practice for this course are similar to the skills in English 9 but require more independence and depth of thought. An introductory lesson at the start of each unit helps students identify any areas of weakness and review those topics before starting the more challenging grade 10 lessons. Writing assignments required in

Part A of this course include fiction, expository, and persuasive, and analytical modes, emphasizing the use of details, evidence, and reasoning to support ideas. Speaking and listening lessons in Part A cover collaborative discussion skills, the peer review process, and how to plan and deliver informative speeches and presentations. Vocabulary development instruction is integrated into literature and informational text lessons. Each unit ends with an authentic assessment that presents students with a real-world scenario requiring some of the skills they learned in the unit. Like Part A, Part B consists of integrated units focused on a theme or mode of study. The literature study in Part B focuses on the analysis of different forms of literature and as well as the evaluation of various modes and forms of writing. Writing and informational text lessons guide students through the stages of a rigorous research process and demonstrate how to evaluate, integrate, and share the information gathered during research. Students are required to share their ideas and analysis using several different modes, including oral and multimedia presentations.

- Required Materials: *Animal Farm* & *Lord of the Flies* (free digital versions are made available to students)
- Difficulty Level: 4/5
- Estimated hours to complete course: 120
- This Course is Similar to: English 10, English II, Language Arts 10

Junior English

This course is divided into Parts A & B

Description: English for grade 11 is an American Literature course, with units organized chronologically according to periods in literary history. As students read foundation works of literature and other historical documents written between 1600 and 1900, they'll review and extend skills in five domains: analyzing literature, analyzing informational text, writing, speaking and listening, and language study, which includes word knowledge and grammar skills. Each module or unit begins with a lesson that provides historical context for the era and introduces themes that emerged in the literature of that era. Each lesson provides students with an opportunity to review basic analysis skills before applying those skills to works of literature or key historical documents. Lessons focused on more difficult historical documents include activities that help students comprehend the complex ideas in these works. Writing modes addressed in Part A of this course include narrative, reflective, persuasive, and analytical modes. Assignments emphasize the use of details, evidence, and reasoning to support ideas; writing lessons include model essays that demonstrate key features of each mode. The speaking and listening lessons in Part A cover rhetoric, the peer review or writing workshop process, and performance skills. Vocabulary development instruction is integrated into literature and informational text lessons. Each unit ends with an authentic assessment that presents students with a real-world scenario requiring some of the skills they learned in the unit. Part B of English 11 consists of units focused on historical eras and literary movements of the 20th and 21st century, such as Naturalism, Imagism, the Harlem Renaissance, and Post-Modernism. Literature analysis lessons in Part B focus on the forms of literature that were most

commonly written during the Twentieth Century and how the forms, styles, and techniques of that century inform literature written today. Students will also evaluate various modes and forms of language expression, including single media and multimedia messages. Writing and informational text lessons guide students through the stages of a rigorous research process and demonstrate how to evaluate, integrate, and share the information gathered during research. Students are required to share their ideas and analysis using several different modes, including oral and multimedia presentations.

- Required Materials: *The Scarlet Letter* & *The Great Gatsby* (free digital versions are made available to students)
- Difficulty Level: 5/5
- Estimated Hours to complete course: 150
- This Course is Similar to: English 11, English III, Language Arts 11, American Literature

Senior English

This course is divided into Parts A & B

Description: Students examine major works of literature organized into thematic units. Each unit contains poetry, short stories, and a novel that revolve around the theme for the unit. Themes include the self, relationships, alienation, choice, and death. As students read these works, they have the opportunity to reflect on these important themes by writing in multiple modes and creating cross-disciplinary projects. In this course, students will also experience novels, short stories, poetry, and non-fiction from countries around the world. You will discover that the writers in this course have ideas and lives as interesting as their work. You will discover many writers have unique writing styles, unique ideas, unique lives, and unique approaches to their art. You will also have the chance to do some unique work of your own. By reading contemporary work and some work of the 20th century you will also discover that “no matter what a writer’s origins, certain themes, and events have been hard to run away from in the 20th and early 21st centuries.” As you read, it is my hope that you will come to an understanding that, “. . .reading literature from around the world is unlikely to teach you everything there is to know about a culture. But it may help. . .” Along this journey you will use technology, writing, reflection, vocabulary, research, and other academic and personal skills to help you learn to enter the world of your community, your country, and your world. As the poet, Gwendolyn Brooks said, “I believe that we should all know each other, we human carriers of so many pleasurable differences. To not know is to doubt, to shrink from, sidestep or destroy.” So begin your own journey through the world, and do this by reading, writing about what you read, and experiencing the work of writers.

- Required Materials: *Jane Eyre* by Charlotte Bronte, *The Grapes of Wrath* by John Steinbeck, *Frankenstein*, & *Hamlet* by William Shakespeare (free digital versions are made available to students)
- Difficulty Level: 5/5
- Estimated Hours to complete course: 150
- This Course is Similar to: English 12, English IV, Language Arts 12, British Literature

Social Studies

U.S. History

This course is divided into Parts A & B

Description: This course covers the discovery, development, and growth of the United States. Major topics include; American Indian cultures, European colonization of the Americas, and the causes and effects of the American Revolution. Geographical, economic, and political factors are explored as the key factors in the growth of the United States of America. American History I is a survey of the struggle to build the United States of America from the colonial period to the beginning of the twentieth century. By means of reading, analyzing, and applying historical data, students come to appreciate the forces that shaped our history and character as an American people. Not only are the topics of American history discussed, but students also explore research methods and determine accurate sources of data from the past. Knowing the facts and dates of history are just the beginning; each student must understand how history affects him or her. American History B begins with a study of American life before the 1929 Stock Market crash and how the Roaring Twenties influenced society in the late 19th through early 20th centuries. Students will examine the causes and consequences of the Great Depression and move on into a detailed study of World War II with an emphasis on America's role in the conflict. The course continues with an analysis of the Cold War struggle and America's rise as a superpower. The Civil Rights and Women's rights movements, pollution and the environment, and American domestic and foreign policy will be examined. The course wraps up with a summary of current events and issues, including a study of the Middle East. This course begins with an assessment of life in the United States pre-World War I and ends with the conflicts of the new millennium. Students look at the nation in terms of economic, social, and political trends. The experiences of the last century are summarized, including a look into the civil rights issues that have embroiled the nation in conflict. The development of the United States of America into a superpower is explored within a global context.

- Required Materials: none
- Difficulty Level: 4/5
- Estimated Hours to complete course: 150

Peoples & World Cultures

This course is divided into Parts A & B

Description: World History begins with a focus on the skills needed to read, understand, and analyze history, also demonstrating how historians and social scientists arrive at their conclusions about human history. Part A covers the history of civilization from hunter-gatherer societies through the characteristics of the earliest civilizations to the Enlightenment period in Western Europe. The second half of Part A explores the early intellectual, spiritual, and political movements and their impact on interactions among world cultures. Part B applies the reading and analytical strategies introduced in Semester A to the events and movements that created the modern world. In the second semester, World History emphasizes the effects of the

Industrial Revolution and changing attitudes about science and religion as well as the impact of European colonization. Students are encouraged to make connections between World War I and II and events related to the Cold War and between 19th-century imperialism and modern independence movements.

- Required Materials: none
- Difficulty Level: 3/5
- Estimated Hours to complete course: 140
- This Course is Similar to: World History, Global History

Psychology & Sociology

This course is divided into Parts A & B

Description: In Psychology, the student begins with a brief history of psychologists and their experimental methods. Next, they examine personality theories. Then human development from the infant stage through the adult stage is explored. Finally, the last part of the course is about consciousness: sleep, dreams, and conscious-altering substances. Students are encouraged to increase their own self-awareness as they move through the course. In Sociology, students will examine the basics of sociology, which is the study of society including individuals, human groups, and organizations. The course is divided into four main areas: the sociological perspective, social structures, inequality in society, and social institutions and change. Students will examine controversies around social change, inequality, gender, and race. The course revolves around an overview of the field with projects that offer the student a chance to explore from a sociologist's perspective.

- Required Materials: none
- Difficulty Level: 3/5
- Estimated Hours to complete course: 120

Government & Economics

This course is divided into Parts A & B

Description: This two-part course covers both the American government and then its interaction with the country's economy. This course will guide students through an in-depth study of the history, structure, and guiding principles of the American government. The first unit will review the origins of government in general and American government in particular—from the earliest models for democracy to the founding documents that created a federalist system of government in the U.S. Several units will help students explore the roles and responsibilities of each branch of government as well as the impact that the Constitution has had and continues to have on the way government works and on the lives of individual Americans. The course's final unit will guide students through a series of projects that require them to apply what they have learned about the American government to an issue that interests them. Then, by introducing the principles and the applications of economics in everyday life, students will develop an understanding of limited resources, and compare them with unlimited wants and needs. Students learn how individual and national economic

decisions are made to allocate goods and services among competing users. Students apply economic principles to think and problem solve. The study of Economics uses the view of economic institutions and policies to explore the history, organization, and functions of the U.S. government in controlling our economy. It offers students learning opportunities that build one on another. A goal of the course is for the student to develop the critical skills of analysis, synthesis, and evaluation in a demanding and thoughtful academic setting. Students are encouraged to use their knowledge of the policies and institutions of economics to develop their own views on current economic and monetary issues. They are taught how to apply what they have learned into personal financial activities. The course looks closely at the economic knowledge and values of the country and gives students a look into the problems faced by presidents, and congressional representatives. It also covers the roles of political activists, political parties, interest groups, and the media in shaping the U. S. economy.

- Required Materials: none
- Difficulty Level: 4/5
- Estimated Hours to complete course: 150
- This Course is Similar to: Civics, American Government, Intro to Economics

Science

Physical Science

This course is divided into Parts A & B

Description: This Physical Science course is an introduction to the Physical Sciences and scientific methodology. The objectives are to impart basic knowledge of the physical properties and chemistry of matter. Skills are developed in the classroom and reinforced through homework reading and interesting labs that relate to everyday life. This is an introduction to the Physical Sciences and scientific methodology. The objectives are to impart basic knowledge of the physical properties and chemistry of matter. Skills are developed in the classroom and reinforced through homework reading and interesting labs that relate to everyday life.

- Required Materials: Misc. items found around the house
- Difficulty Level: 2/5
- Estimated Hours to complete course: 120
- This Course is Similar to: Science 9, Integrated Science

Chemistry

This course is divided into Parts A & B

Description: In this course, students will discover what chemistry is, and how it is used and found all around us. The importance of the scientific method to solve real-world problems will be investigated. Knowledge will be gained in the following areas: types of matter, atomic structure, chemical periodicity, chemical formula writing and naming, chemical equations. This course will also stress the important relationship between math and science while studying

measurement, metric systems, and stoichiometry. Students will use higher-order thinking throughout the entire course. An algebra background is recommended because of the amount and type of math involved. Students will also investigate chemical bonding, thermochemistry, and acids and bases. The importance of the scientific method to solve real-world problems will be investigated. Knowledge will be gained in the following areas: organic chemistry, biochemistry, and nuclear chemistry. This course will also stress the important relationship between math and science. Students will use higher-order thinking throughout the entire course. An algebra background is recommended because of the amount and type of math involved.

- Required Materials: none
- Difficulty Level: 3/5
- Estimated Hours to complete course: 150

Biology

This course is divided into Parts A & B

Description: Biology A introduces students to the scientific method and the major concepts of biology from a historical and practical viewpoint. The three major themes of this course are the cell, the molecular basis of heredity, and the interdependence of organisms. Students who take this class will have a deeper appreciation for the complexities of living organisms. Life on this planet, unlike anywhere else in the observable universe, is complex and highly organized. Whether examining life on the molecular or the planetary level, it exhibits a highly organized structure that inspires awe by its genius and complexity. In the last 50 years, discoveries have launched new branches of biology that have transformed the daily routine, from conception to death. New challenges await, such as the current crisis in ecology, global warming, and the resurgence in viral disease. To make rational choices in the 21st century, the citizen must have a basic understanding of biological concepts and the reasoning behind them. Biology A is presented in a multimedia format using interactive modules, labs, narrated animation, text, and videos to present the study of life on this planet. Students work through and complete several self-check activities and quizzes for practice, and participate in self-reflection. In each unit, students complete the unit exam and deliver a unit project. Teacher feedback is provided throughout the course. Part B of Biology is a continuation of the basic course in biology, Biology A. The major concepts covered are population dynamics and evolution. Students explore population dynamics through the study of mutualism, predation, parasitism, and competition. The theory of evolution is presented, along with the many pieces of evidence and details that make evolution the backbone of modern biology. From biochemistry to evolution, biology fascinates people. Biochemists first astounded the world by showing that life obeys the same chemical principles as all creation, but that life engineers chemistry to its own needs. Decades later, Darwin shocked the world by suggesting that life evolves according to the conditions of the environment it inhabits. Evolution, often debated and derided, has survived to become a key concept of biology. This second course in biology examines the wonder of life and its mechanisms. Students work through and complete several self-check activities and quizzes for

practice, and participate in self-reflection. In each unit, students complete the unit exam and deliver a unit project. Teacher feedback is provided throughout the course.

- Required Materials: none
- Difficulty Level: 3/5
- Estimated Hours to complete course: 150

Physics

This course is divided into Parts A & B

Description: Students begin their exploration of physics by reviewing the International System of Units (SI), scientific notation, and significant digits. They then learn to describe and analyze motion in one and two dimensions. Students learn about gravity and Newton's laws of motion before concluding the course with an examination of circular motion. Students apply mathematical concepts such as graphing and trigonometry in order to solve physics problems. Throughout the course, students apply their understanding of physics by playing roles like science museum curator and elementary teacher. Physics, part B continues the student's exploration of mechanics while also guiding them through some other important topics of physics. Students begin by exploring simple harmonic motion, wave properties, and optics. Students then learn the basics of thermodynamics and fluids. Afterward, the students explore the principles of electricity and magnetism. Finally, students explore the area of physics known as Modern Physics, which includes topics such as the photoelectric effect, nuclear science, and relativity. This is a trig-based course. It is assumed you know and can use trigonometry.

- Required Materials: Graphing Calculator
- Difficulty Level: 4/5
- Estimated Hours to complete course: 150

Personal Fitness & Nutrition

This course is divided into Parts A & B

Description: In this course, students are introduced to exercise and physical fitness and the general recommendations for physical activity, while examining the benefits of exercise, lifestyle choices that can help prevent disease, and tips for kick-starting a healthier lifestyle. Students will explore each type of fitness, include the benefits, and the federal guidelines for exercise in detail. Students will also learn about bones and joints and the functions of the skeleton, and the different types of movements that occur at various joints. Students will learn about the different types of muscle in their bodies, and how they are structured, with particular attention to the different types of muscle fibers. Students will explore the functions that muscles perform, how they work, and their interaction with the central nervous system and special considerations for safe and effective exercise. This course will also take students through a comprehensive study of nutritional principles and guidelines. Students will learn about world-wide views of nutrition, nutrient requirements, physiological processes, food labeling, healthy weight management, diet-related diseases, food handling, nutrition for

different populations, and more. Students will gain important knowledge and skills to aid them in attaining and maintaining a healthy and nutritious lifestyle.

- Required Materials: None
- Difficulty Level: 2/5
- Estimated Hours to complete course: 100

Mathematics

Algebra I

This course is divided into Parts A & B

Description: Algebra 1 (Part A) introduces students to the world of Algebra through expressions and equations. Students will evaluate algebraic expressions, solve linear equations and graph them. This course also steers students through various real-world scenarios with the emphasis on using basic statistics to interpret the information given and found. Students learn through online lesson materials, videos, and interactive activities. The end of each unit tests students' understanding with a self-check quiz with feedback. Also included is a unit exam and project for students to apply what they have learned. Students will interact with course materials through online lessons, videos, interactive questions, and real-world applications. Each unit ends with a self-check quiz to confirm knowledge of the concepts learned. There is also a unit exam and project. Teacher feedback is given throughout the course. Algebra 1 (Part B) builds on the concepts learned in the first part of the course by providing a strong foundation in solving problems. Students will work with problems and applications that involve exponents, quadratic equations, polynomials and factoring methods, rational and radical equations, data analysis and probability.

- Difficulty Level: 3/5
- Estimated Hours to complete course: 140

Geometry

This course is divided into Parts A & B

Description: Geometry is the study of the measurement of the world. What makes Geometry so engaging is the relationship of figures and measures to each other, and how these relationships can predict results in the world around us. Through practical applications, the student sees how geometric reasoning provides insight into everyday life. The course begins with the tools needed in Geometry. From these foundations, the student explores the measure of line segments, angles, and two-dimensional figures. Students will learn about similarity, triangles, and trigonometric ratios. Geometry A consists of six modules. Each module comprises ten lessons for a total of 60 lessons in the course. This course builds on the foundation of the first terms in Geometry. As in previous courses, deductive and inductive reasoning are emphasized, while applying problem-solving techniques to real-world problems. Students explore quadrilaterals and circles and learn how an object is transformed, as well as how to

represent that transformation algebraically and geometrically. Students calculate the area and volume of 2-dimensional and 3-dimensional objects.

- Required Materials: none
- Difficulty Level: 3/5
- Estimated Hours to complete course: 140

Algebra II

This course is divided into Parts A & B

Description: Algebra 2 (Part A) further extends the learner's understanding of major algebra concepts such as expressions, equations, functions, and inequalities. An emphasis will be placed on the use of appropriate functions to model real-world situations and solve problems that arise from those situations. A focus is also on graphing functions by hand and understanding and identifying the parts of a graph. Algebra 2 (Part B) builds on the concepts learned in Part A and prepares the learners with the building blocks needed to dive deeper into trigonometry, pre-calculus, and advanced probability and statistics.

- Required Materials: Graphing calculator
- Difficulty Level: 4/5
- Estimated Hours to complete course: 150

Pre-Calculus

This course is divided into Parts A & B

Description: In this course, students will understand and apply concepts, graphs, and applications of a variety of families of functions, including polynomial, exponential, logarithmic, logistic, and trigonometric. An emphasis will be placed on use of appropriate functions to model real-world situations and solve problems that arise from those situations. A focus is also on graphing functions by hand and understanding and identifying the parts of a graph. A scientific and/or graphics calculator is recommended for work on assignments and on examinations. Pre-Calculus Part B covers the major units of Introductory Trigonometry and Graphs, Trigonometric Equations and Identities, Analytical Trigonometry, Sequences and Series, Conic Sections, and an Introduction to Calculus. A focus is also on graphing functions by hand and understanding and identifying the parts of a graph.

- Required Materials: none
- Difficulty Level: 4/5
- Estimated Hours to complete course: 150

Personal Finance & Accounting

This course is divided into Parts A & B

Description: This course focuses on the mathematics involved in making wise consumer decisions. Students explore the many ways in which mathematics affects their daily lives. The first Part will cover checking and savings accounts, obtaining and using credit, and housing expenses and taxes. This course also explores accounting, including investigating accounting

careers. You will learn basic accounting skills and procedures both with and without a computer for general journals, general ledgers, cash payments journals, cash receipts journals, sales journals, accounts payable ledgers, and accounts receivable ledgers. You will also learn how to reconcile a bank statement and prepare payroll records. This course covers the basic principles of financial accounting for individuals and for companies with attention to both the mathematical formulas and the ethical side of accounting. Each unit has practical exercises including a project at the end of the unit.

- Required Materials: none
- Difficulty Level: 3/5
- Estimated Hours to complete: 120

I.T.

Robotics & Computer Programming

This course is divided into Part A & B

Description: It seems like many elementary to high school robotics courses are focused on simply coding a Lego robot to move its mechanical arm up and down. This course, in contrast, teaches students what a robot is and how it relates to other key technologies such as artificial intelligence and machine learning. Then the course examines 10 applications of robots and how they will change and impact various aspects of our lives and the economy. Will robots simply steal our jobs, or will they be a tool that will create new opportunities and even free humans to use our creativity and curiosity to their full potential? Students will grapple with this and many other questions as they explore this vital, future-focused subject. In Part B, students will focus on programming by learning Java, which is one of the most widely used computer languages in the world. This course will teach students Java by having them complete multiple projects, both in the console and user interface, including mad libs, player vs computer games, battleship, tic tac toe, picture shuffler, and many more. This course is meant to give students lots of experience in Java by creating multiple stand-alone programs. This course assumes no coding experience with Java programming and includes self-graded quizzes and tests.

- Required Materials: None
- Difficulty Level: 4/5
- Estimated Hours to Complete: 140
- This Course is Similar to: Introduction to Computer Programming, Robotics & Design

Web Design & Imaging

This course is divided into Part A & B

Description: In this course, students will learn how to design a beautiful and functional website. Students will learn how to take their design and translate it into a live website using Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) programming languages. HTML5 and CSS3 will be the standard versions used in the class. Students will understand the design components of websites, including the use of color, layout and when to use different techniques, typography rules, and the importance of imagery. At the conclusion of the course,

students will present a website to the class. Upon completion of this course, each student will have hands-on experience creating a fully functioning website. Students do not need to have previous technical background with HTML or CSS prior to taking this course.

- Required Materials:
 - HTML Text Editor (choose one):
 - TextEdit – For use on Mac – comes with OS
 - Notepad – For use on Windows – comes with OS
 - Text – For use on Chromebook – free app download from the Google Store
 - Image Editing Software (choose one):
 - Pixlr – <https://pixlr.com/editor/> (in-browser)
 - GIMP – <http://www.gimp.org/downloads/> (downloadable program)
 - Webhosting and basic in-browser FTP:
 - Neocities – <https://www.neocities.org>
- Difficulty Level: 3/5
- Estimated Hours: 115
- This Course is Similar to: Basics in Web Design

Foreign Language

Spanish I

This course is divided into Part A & B

Description: Spanish 1, Part A, is an introduction to the Spanish language and culture. Students learn to start with the basics of greetings and basic conversation, working to incorporate ideas from their lives and experiences in Spanish conversation. This will be accomplished through the written and verbal expression of the Spanish language. Spanish 1, Part B expands to asking questions and conversational Spanish throughout one's neighborhood and daily life. Through real-life scenarios and learning examples, students will describe situations, in Spanish, both verbally and written.

- Required Materials: None
- Difficulty Level: 2/5
- Estimated Hours to complete course: 140

Spanish II

This course is divided into Part A & B

Description: Students build upon the foundation developed in Spanish 1. They continue to build vocabulary, learn new verb tenses and other grammar concepts, and they increase their ability to communicate with others. They learn new concepts, like reflexive verbs, infinitive expressions, commands, the imperfect tense. Part B will continue building on vocabulary, grammar concepts and communicating effectively in the target language. You will explore new countries where Spanish is spoken and continue to keep abreast of current events in the Spanish-speaking world.

- Required Materials: None
- Difficulty Level: 3/5
- Estimated Hours to complete course: 120

German I

This course is divided into Parts A & B

Description: This German 1A course is an introductory course teaching basic comprehension and communication in German. It coordinates the study of language with culture through the use of video, audio and mass media production. This course assumes prior or no knowledge of the German language. It introduces the fundamentals of conversational and grammatical patterns of the German language with presentations to present the material. Students who complete the course successfully will begin to develop a functional competency in the four primary language areas: speaking, reading, listening, and writing, while establishing a solid grammatical base and exploration into German culture. The second part course will expand on the knowledge gained from German 1A and further develop their skills in pronunciation, grammar skills, grammar structures, and vocabulary. Oral practice (via Voice Tools), homework assignments, games, songs, watching videos, quizzes, tests, projects, and other activities such as writing wikis and journal entries, will be emphasized to accomplish this goal. The different cultures of the German-speaking world are emphasized through readings, videos, and other activities. Taking the time to learn another language is a mind-expanding activity that can open up a world of opportunities and advantages.

- Required Materials: None
- Difficulty Level: 2/5
- Estimated Hours to complete course: 140

German II

This course is divided into Parts A & B

Description: In this course, students build on grammar and language skills that they acquired during their G1A and G1B courses. While reviewing basic grammar skills, (present and past tenses), students learn and study stem-changing verb conjugation and explore cultural themes regarding current events, famous German people, music and famous festivals. In Part B of this course, students increase their proficiency in being able to communicate by forming more complex German sentences in a variety of tenses using all four cases (Nominative, Accusative, Dative and Genitive). The variety of topics increases also, from exploring different careers to discussing relationships. Cultural themes are entwined throughout this course related to going shopping, to going to the zoo and also to travel throughout the German-speaking world.

- Required Materials: None
- Difficulty Level: 3/5
- Estimated Hours to complete course: 120

AP Courses:

AP Physics

Grades Available: 12th

Credit Type: Core or Elective

Prerequisites: Geometry, Algebra I, & Algebra II (recommended)

Honors Available: No

Description: Physics is an algebra-based, introductory college-level physics course and it is only available through live instruction online. Students will cultivate their understanding of physics through classroom study, in-class activity, and hands-on, inquiry-based laboratory work as they explore concepts like systems, fields, force interactions, change, conservation, and waves. Laboratory experience will be part of the education of AP Physics. Colleges will require students to present their laboratory materials from AP science courses before granting college credit for laboratory, so students are encouraged to retain their laboratory notebooks, reports, and other materials.

Additional Materials Required:

- Graphing Calculator
- Cracking the AP Physics 1 Exam, 2020 Edition
 - ISBN-13: 978-0525568308
 - ISBN-10: 0525568301
- [Lab Materials](#)

AP Biology

Grades Available: 11th or 12th

Credit Type: Core or Elective

Prerequisites: Biology (recommended), Algebra I

Honors Available: No

Description: This course is taught at the college level and designed to prepare students to take the Advanced Placement Examination and score high enough to earn college credit in those colleges that recognize the examination. College level textbooks are used. The course will cover all the topics in the AP Biology Course Description. These include biochemistry, cell structure and function, cell energetics, cellular reproduction and communication, heredity, molecular genetics, evolution, ecology, diversity of organisms, structure and function of plants and animals, and comparative anatomy.

Additional Materials Required:

- Mastering Biology with Pearson eText (1-year access) for Urry, Campbell Biology 11th Edition, AP Edition ©2018
 - ISBN-13: 9781323488638
 - ISBN-10: 1323488634
- 5 Steps to a 5 AP Biology 2020

- ISBN-13: 978-1260454987
- ISBN-10: 1260454983

AP Chemistry

Grades Available: 11th or 12th

Type: Core or Elective

Prerequisites: Chemistry (recommended)

Honors Available: No

Description: This course is taught at the college level and is designed to prepare students to take the Advanced Placement Examination and to score high enough to earn college credit in those colleges that recognize the examination. College level textbooks are used. The course will cover all of the topics in the AP Chemistry Course Description. These include an introduction to chemistry as the study of change, gases, thermochemistry, quantum theory, chemical bonding, crystals, phase changes, solutions, chemical kinetics, chemical equilibrium, acids and bases, entropy, electrochemistry, nuclear chemistry, metallurgy, alkali and alkaline metals, nonmetallic metals, transition metals, organic chemistry, and synthetic and natural organic polymers.

Additional Materials Required:

- AP Chemistry Chang – Raymond Chang, Kenneth Goldsby – 12th Edition, 2016
 - ISBN-13: 978-0076727704
 - ISBN-10: 007672770X
- Cracking the AP Chemistry Exam, 2020 Edition
 - ISBN-13: 978-0525568186
 - ISBN-10: 0525568182
- Advanced Microchem Kit (AP Chemistry Lab Kit by Quality Science Labs)

AP Calculus AB & BC

Grades Available: 11th or 12th

Type: Core or Elective

Prerequisites: Algebra I, Geometry, Algebra II

Honors Available: No

Description: This AP Calculus course is designed with the intent for students to incorporate the concepts of all previous math courses and expand upon these concepts with the implementation of Limits. Emphasis is placed upon the multi-representational approach to calculus where problems and their solutions are explored and interpreted graphically, numerically, analytically and verbally. Students will also be required to explain their answers in written form and will be asked to compare their written response to the AP grading rubric and explain why they feel they should receive that grade. Students are required to use graphing calculators with the capabilities ascribed by the College Board: (apcentral.collegeboard.com). These calculators will be used in a variety of ways including multirepresentation of equations

(graphs and tables) and also for conducting explorations with various functions and how different values change the look of the function.

Additional Materials Required (AB):

- Graphing Calculator
- Calculus (AP Edition Updated – 2016) By Ron Larson, Bruce Edwards
 - ISBN-13: 978-1305952874
 - ISBN-10: 1305952871
- Cracking the AP Calculus AB Exam, 2020 Edition
 - ISBN-13: 978-0525568155
 - ISBN-10: 0525568158

Additional Materials Required (BC):

- CALCULUS: EARLY TRANSCENDENTALS 8TH EDITION BY JAMES STEWART
 - ISBN-13: 978-1285741550
 - ISBN-10: 1285741552
- Graphing Calculator
- *The textbook below is required to purchase for Semester B (Jan-May)*
 - Cracking the AP Calculus BC Exam, 2020 Edition
 - ISBN-13: 978-0525568162
- ISBN-10: 0525568166

AP U.S. History

Grades Available: 11th or 12th

Type: Core or Elective

Prerequisites: None

Honors Available: No

Description: AP United States History is an intensive full year course divided into two semesters. The course focuses on exploring and analyzing American historical events, individuals and cultural trends. You will be prepared with the analytic skills and factual knowledge necessary to deal critically with the problems and materials in United States History. This first semester course covers the time frame of 1492 to 1877, and the second semester course covers the time frame 1878 to present. This course is designed to prepare students for the Advanced Placement exam in United States History that is administered by the College Board Educational testing center. The class satisfies the United States History requirement for graduation.

Additional Materials Required:

- The American Pageant 16th Edition, David M. Kennedy, Lizabeth Cohen
 - ISBN-13: 978-1305075900
 - ISBN-10: 1305075900
- Cracking the AP U.S. History Exam, 2020 Edition
 - ISBN-13: 978-0525568391
 - ISBN-10: 0525568395

AP English Language and Composition

Grades Available: 12th

Type: Core or Elective

Prerequisites: English 9, English 10, English 11

Honors Available: No

Description: This course helps students prepare to take the Advanced Placement Language and Composition Exam™ administered by the College Board. The first semester focuses on the concepts and skills needed to analyze argumentative texts and to build solid arguments—starting with the choices that experienced authors make when they write to persuade an audience. Students learn and apply best practices for constructing, revising, and refining their own arguments. Writing assignments in Semester A include rhetorical analyses of straightforward written arguments as well as satirical texts and visual approaches to persuasion. Students will be asked to develop several formal argumentative essays and also to practice new skills by writing less formal journal entries throughout the semester. The pace and level of work required by this course is similar to that required in a college-level composition course, so students should be prepared to work independently and to complete all assignments in a way that makes good use of their time. The second semester of AP English Language and Composition focuses on writing tasks that require synthesis and documentation. Students will analyze many examples of synthesis essays and apply what they learn as they create their own texts based on multiple sources. They will also take a closer look at the use of visual and multi-modal or multimedia evidence when used as support for an argument, and they'll consider how to incorporate these unique approaches into their own attempts at persuasion.

Additional Materials Required:

Primary Textbook:

- Perrine's Literature: Structure, Sound, and Sense 13th Edition, 2017 – Greg Johnson, Thomas Arp
 - ISBN-13: 978-1305971035
 - ISBN-10: 1305971035

Dostoevsky Students are required to read this novel before the start of the course:

- Crime and Punishment by Fyodor

The textbook below is required to purchase for Semester B (Jan–May):

- Cracking the AP English Literature & Composition Exam, 2020 Edition
 - ISBN-13: 978-0525568230
 - ISBN-10: 0525568239

Additional Novels:

- Native Son by Richard Wright
- The Color Purple by Alice Walker
- One Hundred Years of Solitude by Gabriel Garcia Marquez
- Orlando by Virginia Woolf

*Materials listed should be acquired by the student prior to beginning work in the course.

AP Spanish

Grades Available: 11th & 12th

Type: Elective

Pre-requisites: Spanish I, Spanish II

Honors Available: No

Description: The AP Spanish Language and Culture course is an advanced language course in which students are directly prepared for the AP Spanish Language and Culture test. It uses as its foundation the three modes of communication: interpersonal, interpretive and presentational. The course is conducted almost exclusively in Spanish. The course is based on the six themes required by the College Board: (1) global challenges, (2) science and technology, (3) contemporary life, (4) personal and public identities, (5) families and communities, and (6) beauty and aesthetics. The course teaches language structures in context and focuses on the development of fluency to convey meaning. Students explore culture in both contemporary and historical contexts to develop an awareness and appreciation of cultural products, practices, and perspectives. Students should expect to listen to, read, and understand a wide-variety of authentic Spanish-language materials and sources, demonstrate proficiency in interpersonal, interpretive, and presentational communication using Spanish, gain knowledge and understanding of the cultures of Spanish speaking areas of the world, use Spanish to connect with other disciplines and expand knowledge in a wide-variety of contexts, develop insight into the nature of the Spanish language and its culture, and use Spanish to participate in communities at home and around the world. The AP Spanish Language and Culture course is a college level course. The intensity, quality, and amount of course material can be compared to that of a third-year college course.

Additional Materials: To Be Determined

AP Government and Politics

Grades Available: 11th & 12th

Type: Elective

Pre-requisites: None

Honors Available: No

Descriptions: This course examines the U.S. political system. Students in this course will discuss political ideology, the development of the political system and democratic institutions. Students should, according to the College Board, gain an “analytical perspective on government and politics in the United States.” Furthermore, students will study “both the general concepts used to interpret U.S. politics and the analysis of specific examples” throughout history. The class discussion will require that students acquire a “familiarity with the various institutions, groups, beliefs, and ideas that constitute U.S. politics.” The main emphasis of the course, however, is to be able to apply a basic comprehension of the U.S. political system to contemporary events.

Additional Materials: To Be Determined

AP European History

Grades Available: 11th & 12th

Type: Elective

Pre-requisites: None

Honors Available: No

Description: This AP study of European history since 1300 introduces students to economic, cultural, social and political developments. These developments played a fundamental role in shaping the world in which they live. Second Semester will introduce students to the birth of modern political thought, Great Depression and World War II. They will study the Cold War and the collapse of communism and wrap up with the dawn of the 21st Century. Students will complete a project at the end of each unit with the final project being a critical analysis.

Additional Materials: To Be Determined