



## Student Course Catalog: 2019-2020

Welcome to the One Schoolhouse 2019-2020 Course Catalog! At One Schoolhouse, we offer a wide variety of courses across all disciplines. Summer courses are full-year, for-credit courses. Fall courses may be taken on their own or combined with a spring research or design seminar for a full-year credit. We believe that online learning is essential for college readiness and work to ensure that students learn not only their course material, but also engage constructively in a diverse and changing world and gain academic maturity. You can navigate to the course descriptions by clicking the links below or by scrolling through the catalog, which is organized by discipline. Meet the teachers for these courses by [visiting our website](#). If you have any questions, don't hesitate to contact us at 202-618-3637.

### Summer 2019

[Algebra II](#)

[Calculus](#)

[Geometry](#)

[Introduction to Computer Science](#)

[Physics](#)

[Pre-Calculus](#)

[US History](#)

[World Religions](#)

### 2019-2020

[Abnormal Psychology](#)

[AP® Art History](#)

[AP® Calculus AB](#)

[AP® Calculus BC](#)

[AP® Chinese Language and Culture](#)

[AP® Computer Science A](#)

[AP® Computer Science Principles](#)

[AP® English Literature and Composition](#)

[AP® Environmental Science](#)

[AP® European History](#)

[AP® French Language and Culture](#)

[AP® Human Geography](#)

[AP® Latin](#)

[AP® Macroeconomics](#)

[AP® Microeconomics](#)

[AP® Music Theory](#)

[AP® Physics 1](#)

[AP® Physics C - Mechanics](#)

[AP® Psychology](#)

[AP® Spanish Language and Culture](#)

[AP® Spanish Literature and Culture](#)

[AP® Statistics](#)

[AP® US Government and Politics & AP® Comparative Government and Politics](#)

[Art History](#)

[Astronomy](#)

[Business and Economics](#)

[Chinese – Beginning I \(Chinese I\)](#)

[Chinese – Beginning II \(Chinese II\)](#)

[Chinese – Intermediate I \(Chinese III\)](#)

[Chinese – Intermediate II \(Chinese III/IV\)](#)

[Chinese – Advanced \(Chinese V\)](#)

[Civics and Politics](#)

[Computer Science by Design: Mobile App Development](#)

[Engineering](#)

[Forensic Science](#)

[French – Advanced \(French V\)](#)

[Gender and Sexual Identity in America](#)

[Global Health](#)

[Independent Study](#)

[Introduction to Computer Science](#)

[Latin – Beginning I \(Latin I\)](#)

[Latin – Beginning II \(Latin II\)](#)

[Latin – Intermediate \(Latin III/IV\)](#)

[Latin – Advanced \(Latin V\)](#)

[Linear Algebra](#)

[Marine Science](#)

[Multivariable Calculus and Differential Equations](#)

[Neuroscience](#)

[Psychology](#)

[Social Entrepreneurship](#)

[Spanish - Advanced \(Spanish V\)](#)

[Statistics](#)

## Summer Courses – 2019

*Summer courses are intensive for-credit opportunities for ambitious students. Students participating in these courses should plan to devote 25 hours per week for all eight weeks to their course. Students receive grades and comments in these classes, which are the equivalent of year-long, high-school level courses. Because of the pacing and intensity of for-credit summer courses, students must have the ability to login and complete work for their course daily; students must be available and have internet access from June 17<sup>th</sup> until August 9<sup>th</sup> – this is nonnegotiable! See our calendar [here](#).*

### Algebra II

*Prerequisite: Successful completion of Algebra I and Geometry*

*Offered: All-genders; Full-year course credit*

Algebra II forms the foundation for key concepts in advanced math courses. This course covers a full year of Algebra II in eight weeks by addressing algebraic functions and equations of lines and higher order polynomials; exponents and logarithms; rational expressions; absolute value; piecewise; and step. The course ends with an introduction to trigonometry beyond the right triangle. Students explore concepts directly through their own investigations, make and test conjectures about what they observe, and apply these conjectures to solve problems and create new conjectures. Assessments include tests and quizzes, discussion prompts, and group and individual projects. By the end of the course, students will have gained proficiency in critical thinking, pattern recognition, graphing, transformations, and communication.

### Calculus

*Prerequisite: Successful completion of Pre-Calculus*

*Offered: All-genders; Full-year course credit*

This is an introductory course in the calculus of a single variable. Students practice conceptual reasoning and presenting a solution algebraically, geometrically, numerically and verbally. Students develop a clear understanding of basic calculus concepts. By the end of the course, students will be able to read and interpret graphical data accurately; use words to explain their reasoning and provide context for final answers; and understand that they know how to learn online. Major topics include limits, continuity, derivatives, and integrals. This personalized course features discussions, reflections, and projects that will help students to master skills in an engaging way. It is designed for the ambitious math student looking to solidify their foundation before springing from pre-calculus to AP<sup>®</sup> Calculus BC or for a student looking to clear another math credit in the summer.

### Geometry

*Prerequisite: Successful completion of Algebra I*

*Offered: Girls only and all-genders; Full-year course credit*

Geometry forms the foundation for key concepts in advanced math courses. This fast-paced course covers a full year of Geometry in eight weeks by addressing traditional geometric topics including lines, angles, polygons, and circles. Students explore concepts directly through their own investigations, make and test conjectures about what they observe, and apply these conjectures to solve problems and create new conjectures. Students use multiple and varied tools—from folded paper, to straightedge and compass, to interactive geometry software—for the investigations. These are designed to develop students' cooperation, problem-solving, spatial reasoning and communication skills. Assessments include quizzes and tests, discussion prompts, and both group and individual projects. By the end of the course, students will have gained proficiency in logic, pattern recognition, spatial reasoning, and tech tools.

### Introduction to Computer Science

*Prerequisite: None*

*Offered: All-genders; Full-year*

The goal of this course is to introduce students to some of the major areas of computer science as well as to develop their programming skills to produce useful solutions and creative artifacts. Students investigate current issues and innovations enabled by the application of computer science such as virtual reality, robotics, cloud computing, cybersecurity, the Internet of Things, and ecommerce. Students learn fundamental computer programming concepts using a simple but powerful block-based programming language to implement methods, functions, parameters, arguments, if-else statements, and loops in a creative and animated environment. Students then explore a Java-like programming language that incorporates an electronic sketchbook with graphics, animation, and object-oriented programming concepts, while utilizing a more traditional, text-based coding methodology. The first four weeks of this course are designed as an introduction to computer science and programming; the second four weeks build students' coding skills in Processing, which prepares students well for AP Computer Science A or AP Computer Science Principles.

## **Physics**

*Prerequisite: Successful completion of Algebra I*

*Offered: All-genders; Full-year course credit*

This full year physics course provides an integrated, algebra-based survey of topics in high school physics. Students explore principles of Newtonian mechanics, work, energy, power, waves, sound, and simple circuits through inquiry-based, conceptual investigations. Developing the ability to reason qualitatively and quantitatively through the lens of real-world application is the principal focus. Skills are developed through the use of modeling, graphing, diagramming, unit analysis, symbolic algebra, and data analysis. Laboratory exercises are used to enhance the investigation of each topic. By the end of this course, students will be able to use the laws of physics to explain how objects, light, and sound move.

## **Pre-Calculus**

*Prerequisite: Successful completion of Geometry and Algebra II or equivalent*

*Offered: All-genders; Full-year course credit*

This course covers a full year of pre-calculus in eight weeks by addressing the algebraic and trigonometric concepts that lay the foundation for AP Calculus. Students graph and solve polynomial, rational, exponential and logarithmic functions and apply these functions to model the relationship between different quantities in the real world. They explore the unit circle, solve trigonometric equations, and study abstract applications by proving trigonometric identities. Students then examine and apply algebraic representations of matrices, vectors, sequences and series, and conic sections by understanding the patterns and behaviors associated with these concepts. The course concludes with an introduction to calculus through limits. Students preparing for AP Calculus BC also have the option of studying polar coordinates, parametric functions, and derivatives. Students demonstrate mastery through traditional and alternative assessments, discussion prompts, reflection on their learning, group collaboration, and individual projects.

## **US History**

*Prerequisite: Successful completion of one year of high school social science or permission from the administration*

*Offered: All-genders; Full-year course credit*

This course is a full year social science credit surveying the history of the United States of America. The course begins with an examination of America before Columbus. Having established an understanding of how Native Americans managed and used the land, the course turns to European conquest and colonial America, including how the stage was set for a plural and diverse modern America. The heart of the course centers around the themes of the American Revolution; the rise of democracy, the Republic, and the Constitution; the Civil War and Reconstruction; and how territorial expansion and industrialization laid the foundation for the movements and conflicts of the 20<sup>th</sup> and 21<sup>st</sup> centuries. In order to develop a broad understanding of continuity and change in American history, students build a contextual understanding of the major events within each era while exploring political, social, cultural, economic, and religious trends in the United States. Through critical analysis, research and writing; collaborative activities; creative synthesis applications; and traditional and alternative assessments, students demonstrate understanding of cultural implications and historical context, and develop a chronological and thematic appreciation of American history.

## **World Religions**

*Prerequisite: Successful completion of one year of high school social science or permission from the administration*

*Offered: All-genders; Full-year course credit*

This course is a full year social science credit examining the major religious traditions of the world. In the first half, students explore the history and beliefs of the major religions of the world today – Buddhism, Hinduism, Islam and Judeo-Christianity, – before examining the intersection of cultural, political, and socio-economic forces that influence and are influenced by faith traditions. With this foundation, in the second half, students take deep dives independently and collaboratively into faith practices of their choosing, such as New Age Religions, Paganism, Shinto, Sikhism, Taoism, Zoroastrianism, or the beliefs of indigenous peoples of Africa, the Americas, or Australia. Students demonstrate understanding through critical analysis, research papers, and alternative assessments.

# School Year Courses – 2019-2020

## Arts Courses

**AP® Art History and Art History** – see below under *Social Science and Humanities Courses*

### **AP® Music Theory**

*Prerequisite: Ability to read at least one clef of music and proficiency in an instrument or voice*

*Offered: Girls only and all-genders; Full-year*

AP® Music Theory is an intensive, fast-paced course which aims to increase students' overall musicianship and prepare them for the Advanced Placement exam. Students will begin to look at music on a deeper level and relate theory to their personal instrument, experiencing growth in performance and technicality. There are both aural and analytical components to the class: students will learn to sight sing, analyze a variety of genres, and strengthen their ear. Students will have the chance to compose and perform original compositions as well as explore different fields of the music world. AP® Music Theory starts with the basics (clef reading, scales, and chords) and continues all the way up to a college level theory course (harmonic and form analysis, modulation). This is a crucial course for anyone looking to pursue music professionally or for anyone who wants to pursue their passion in music. AP Music Theory students often pass out of entry level theory classes in college and use this course to help them on theory entrance exams.

## Computer Science Courses

*One Schoolhouse offers a complete four-year computer science sequence, but students are not required to take these courses in any particular order. For students who do want to take the four-year sequence, we recommend this order: Introduction to Computer Science, AP Computer Science Principles, AP Computer Science A, Mobile App Development. Course prerequisites may be met through prior courses, or through extracurricular programming experiences with permission of the One Schoolhouse administration. Please note that programming requires either a Macintosh or Windows computer; Chromebooks and tablets are not suitable for these courses; teachers will not be able to offer modifications to students who do not have regular access to Macs or PCs.*

### **AP® Computer Science A**

*Prerequisite: Successful completion of a One Schoolhouse computer science course or permission from the administration*

*Offered: Girls only and all-genders; Full-year*

The AP® Computer Science A course introduces the key concepts of programming in Java. The analytical, critical-thinking, and problem-solving skills that students will develop in this course transfer to programming in other languages as well. This course is designed with the idea that programming should be fun, engaging, and intuitive. Students will learn to apply the main principles of object-oriented software design and programming using classes and objects, constructors, methods, instance and static variables, inheritance, class hierarchies, and polymorphism. Students work creatively and collaboratively with their classmates to discuss ethical and social issues relating to the use of technology, and develop a solid foundation from which to launch into a wide range of computer science areas. This course prepares students for the AP® Computer Science A Exam in May.

### **AP® Computer Science Principles**

*Prerequisite: None, although prior programming experience recommended*

*Offered: Girls only and all-genders; Full-year*

This course investigates the “big ideas” found in our digital world. Using the Python programming language, students demonstrate fundamental concepts of computer programming that can be applied across a variety of projects and languages. Students explore different means of representing information digitally and how our digital world has evolved. They create computer programs to solve authentic problems or for personal interest, such as unique musical pieces, math calculators, and data summations. Students discuss the current state of technology and its role in our everyday lives, discerning the positive and negative influences of innovations concerning computer and network technologies to society, culture, and economics. Students develop their skills in computational thinking, logical reasoning, and learn to describe processes through algorithms and abstraction. Finally, students demonstrate their learning by creating a portfolio for submission to the College Board and are prepared for the AP® Computer Science Principles exam in May.

## **Computer Science by Design: Mobile App Development**

*Prerequisite: Successful completion of a One Schoolhouse computer science course or permission from the administration*

*Offered: Girls only and all-genders; Fall semester or full year*

The market for apps is soaring. Apple's App Store and Google Play global downloads reached nearly 26 billion and global mobile app revenue was estimated at \$77 billion in 2017. Focusing on the software engineering process, students in this course will design, develop, prototype, and test a mobile app or game. Students apply the main principles, methodologies, and techniques of the software development life cycle and learn how to conduct market research, explore conceptual design with wireframes, mockups and storyboards, prototype development, and software testing. By the end of Semester I, students will have a mobile app or game prototype that they can continue to develop further. Students wishing to pursue a research or design project in Semester II may enroll in the Research/Design Seminar.

For students continuing into Semester II, the course shifts into personalized, project-based work, where students engage in deep, sustained inquiry, authentic and iterative research, critical analysis, and rigorous reflection, revision, and assessment as they journey through a self-designed, long-term research or design project on the topic of their choosing. Guided by their One Schoolhouse teacher, students pursue individual study/self-assessment or collaborative seminar/peer-review. Pathway options from which students might choose include:

- **Spring Design Seminar:** In this seminar, students design a solution to a real-world problem. Through the engineering design process/scientific method, students gather and analyze data to determine the effectiveness of their model or the accuracy of their hypothesis. Students may prototype and produce a public product in this seminar.
- **Spring Research Seminar:** In this seminar, students answer a theoretical or ethical question. Utilizing the social science/humanities tools for source evaluation, students collect, critique, and evaluate artifacts or primary source documents to explore their thesis. Students may create a written, multimedia, or artistic product in this seminar.

Upon completion of their inquiry-driven project, students will have gained academic maturity and expanded their ability to engage in a diverse and changing world. They will be able to draw and defend conclusions from theoretical underpinnings, contextual background, and mathematical analysis or source evaluation. Finally, they will have created and tested something useful of their own design or will be able to defend a position based on their own research.

## **Introduction to Computer Science**

*Prerequisite: None*

*Offered: Girls only and all-genders; Full-year*

The goal of this course is to introduce students to some of the major areas of computer science as well as to develop their programming skills to produce useful solutions and creative artifacts. Throughout the course, students conduct research and investigate current issues and innovations enabled by the application of computer science such as virtual reality, robotics, cloud computing, cybersecurity, the Internet of Things, and e-commerce. Students learn fundamental computer programming concepts using a simple but powerful block-based programming language to implement methods, functions, parameters, arguments, if-else statements, and loops in a creative and animated environment. Students then explore a Java-like language that incorporates an electronic sketchbook with graphics, animation, and object-oriented programming concepts, while utilizing a more traditional, text-based coding methodology. This course prepares students for all other One Schoolhouse computer science courses.

## **Foreign Language Courses**

*One Schoolhouse offers complete Chinese and Latin course sequences. We teach combined AP® and Advanced language courses in Chinese, French, and Spanish; these combined courses are designed to serve a wide range of learners and are personalized to meet learners where they are. Course titles have been adjusted to align with college leveling practices.*

### **Chinese**

#### **Beginning Chinese I (Chinese I)**

*Prerequisite: None*

*Offered: All-genders; Full-year*

Beginning Chinese is designed for students with little or no experience in learning Chinese. Students develop the basic language skills in a cultural context by understanding and responding to structured social conversations. Starting with the introduction of the Chinese language system including Pinyin, tones, radicals and characters, this course focuses on students' production of simple sentences and brief paragraphs related to the topics of greeting, sharing personal information and

preferences, introducing others, making plans, and discussing school life. The corresponding cultural knowledge is introduced at appropriate intervals to enrich students' understanding of Chinese culture. Care is taken to create an authentic learning experience in reading, writing, speaking, and listening in the online environment. Students improve their overall language proficiency through weekly interactions with their teacher and classmates, in addition to using a variety of internet resources and audio and video materials. Engaging activities include playing games, performing songs and tongue twisters, writing stories, collaborating for projects, taking virtual field trips and acting out roles in movies – we really do have a lot of fun! This course aligns with Cheng and Tsui's Integrated Chinese Level I, lessons zero through six. By the end of Beginning Chinese I, students will be able to handle the basic functions with structured grammatical patterns in daily communication and gain a solid foundation for future learning.

### **Beginning Chinese II (Chinese II)**

*Prerequisite: Successful completion of Beginning Chinese I or equivalent*

*Offered: All-genders; Full-year*

Beginning Chinese II students continue to improve their Chinese skills by using both structured and created language. Cultural connections are made at appropriate intervals to familiarize students with the Chinese-speaking world. Students learn to initiate and participate in daily communication, apply new vocabulary and more complex sentence patterns to fulfill the functions of expressing individual needs, describe circumstances, compare the similarities and differences of phenomenon, and demonstrate culturally contextualized understanding. Students improve character literacy, authentic language production and cultural competency. A variety of audio, visual, and textual materials are carefully selected based on the interests and preferences of the students, which optimizes the effectiveness of the online personalized experience. This course aligns with Cheng and Tsui's Integrated Chinese Level I, lessons six through 12. By the end of Beginning Chinese II, students will be able to write journals, compose short Chinese songs and rhymes, share about topics related to their school life, and produce refined language freely at the paragraph level on essential social communication.

### **Intermediate Chinese I (Chinese III)**

*Prerequisite: Successful completion of Beginning Chinese II or equivalent*

*Offered: All-genders; Full-year*

Intermediate Chinese I students develop their essential Chinese language skills while gaining a deeper understanding of Chinese culture through engaging with various audio, visual, and textual materials to produce an increasingly authentic language application experience. The course is designed for students who have had at least two years of Chinese study, and takes them into structured communication through comprehensive skill-enhancement with abundant task-based practical grammatical structures and sentence patterns. Students engage in group work, online seminars, real-time speaking practice and personalized learning packets to improve constructive conversation skills in Chinese. Students are highly encouraged to enjoy applying Mandarin and to make productive mistakes within the course. This course aligns with Cheng and Tsui's Integrated Chinese Level I, lessons 11 through 20. By the end of this course, students will acquire substantive vocabulary and structures for creating essays, composing songs and rhymes, discussing written and audio primary sources, and presenting speeches that are related to a wide variety of popular topics. The goal is to be able to function successfully in daily life in a Chinese-speaking world.

### **Intermediate Chinese II (Chinese III/IV)**

*Prerequisite: Successful completion of Intermediate Chinese I or equivalent*

*Offered: All-genders; Full-year*

Intermediate Chinese II is a rigorous class that prepares students for AP® Chinese Language and Culture or Chinese V course the following year. Students develop language competencies, while building proficiency in applying Mandarin in a variety of real-life situations. The course builds through unrehearsed listening and reading texts, engaging essays, authentic projects and virtual field trips. Classroom discussions and debates are added sequentially so that students develop both communication and language learning strategies. A variety of audio, visual, and textual materials are carefully selected based on the interests and preferences of the students, to reflect the diversity of students' lives, school experience, and personal/social issues. Students should be prepared for a range of collaborative and individual activities each week, including speaking in real time with each other and the instructor. This course aligns with Cheng and Tsui's Integrated Chinese Level II, lessons 21 through 30. By the end of this course, students will be able to relate past, present, and future experiences to conduct complicated daily activities in Mandarin.

## **AP® Chinese Language and Culture**

### **Advanced Chinese (Chinese V)**

*Prerequisite: Successful completion of Intermediate Chinese II or permission from the administration*

*Offered: All-genders; Full-year*

AP® Chinese Language and Culture provides deeper understanding and broader application of Chinese language and culture for advanced or heritage Chinese learners. This course focuses on applying Chinese language and cultural skills in real-world situations, and exploring a variety of topics in Chinese history, geography, music and arts, literature, daily life, and national and global issues. Students use team work, group online seminars, one-on-one conferences with the teacher, and a variety of engaging activities and experiential projects to meet individual needs. Students gain the high language proficiency and cultural competency to compare, examine, evaluate and solve conflicts successfully. Students may select the AP® or Advanced Chinese track. AP® students are expected to delve deeper into the topics, take AP®-style assessments, and prepare for the AP® exam. Advanced Chinese is recommended for students who have completed four or more years of Chinese but do not want to prepare for the AP® exam.

## **French**

### **AP® French Language and Culture**

#### **Advanced French (French V)**

*Prerequisite: Successful completion of French IV, or French III and immersion experience*

*Offered: All-genders; Full-year*

AP® French Language and Culture and Advanced French students will be able to interpret and discuss historical and cultural topics, as well as current events pertaining to the various communities that exist in the Francophone world. Six themes are explored throughout the course: Personal and Public Identities, Families and Communities, Global Challenges, Science and Technology, Contemporary Life, and Beauty and Aesthetics. Students use information from a wide range of sources to engage in learning, discussion, and analysis activities as they deepen their understanding of and confidence in the grammatical structures of the language. Throughout the year, students engage in reading, writing, speaking, and listening activities and assessments. Students may select the AP® or Advanced French track. AP® students are expected to delve deeper into the topics, take AP®-style assessments, and prepare for the AP® exam. Advanced French is recommended for students who have completed three or four years of French but do not want to prepare for the AP® exam.

## **Latin**

### **Beginning Latin I (Latin I)**

*Prerequisite: None*

*Offered: All-genders; Full-year*

Beginning Latin is intended for students who have not previously studied Latin. The course develops competencies in reading and interpreting, as well as oral expression and aural comprehension. Students learn the foundational components and structures of Latin that allow them to develop basic reading strategies, which they use to build critical-thinking skills. By completing of this course, students will acquire proper pronunciation; essential grammar; the vocabulary to be able to understand and read short passages; the ability to engage in simple verbal exchanges; and a greater knowledge of English vocabulary and grammar. Students study Roman culture and history so they can examine the indebtedness of modern society to the Roman world, from legendary heroes to myths, gods, and politics. Students take quizzes and have tests, but they also write stories, sing songs, play games, and work together on short research projects to further understand how their developing knowledge of Roman culture applies to their own lives.

### **Beginning Latin II (Latin II)**

*Prerequisite: Successful completion of Beginning Latin or equivalent*

*Offered: All-genders; Full-year*

Beginning Latin II students develop the skills and tools they need to read and understand authentic authors. Students increase their understanding of complex sentences and how to break those down into manageable parts. Students learn many skills to help them with this goal, including mastering vocabulary, the subjunctive mood, passive voice, participles, various uses of noun cases, and degrees of adjectives. Students not only work with these words at sight, but also are encouraged to listen to and speak in Latin. Students explore different cultural topics to provide context for each work and to compare our modern

world to the ancient one. Students frequently learn about different aspects of ancient culture to enhance the reading at hand or to make connections to modern events. These topics include mythology, Roman history and daily life, and philosophy.

### **Intermediate Latin (Latin III/IV)**

*Prerequisite: Successful completion of Beginning Latin II or equivalent*

*Offered: All-genders; Full-year*

In Intermediate Latin, students focus on developing three competencies: understanding the process of reading Latin linearly, forming logical expectations for deduction and extrapolation in any discipline, and understanding the complexity of historical/political decision-making and its imperfect outcomes. Students learn advanced grammatical and syntactical structures, such as indirect statements and various independent uses of the subjunctive mood. They also learn to interpret Latin sentence fragments to develop syntactic expectations for the rest of a sentence. Students study literary devices and meter and the strategies for reading poetry. In the course, students acquire deeper contextual knowledge of the social and political challenges of the Republic and the early Empire, and through varied projects and presentations, they demonstrate their knowledge of Roman perspectives and discuss the connections between Roman culture and modern societies. Students who have successfully completed this course are well prepared to advance into AP Latin.

### **Advanced Latin (Latin V)**

*Prerequisite: Successful completion of at least three years of high school Latin*

*Offered: All-genders; Full-year*

Advanced Latin is a project-based course surveying the development of Latin literature from its beginnings (6<sup>th</sup> century BCE) through the period of the late Empire (4<sup>th</sup> century CE). Students read texts from every period in these centuries and develop an understanding of the changes in the Latin language over time. Students explore various theoretical approaches to literature, while also gaining an appreciation for the influence that Latin literature had on later visual and literary artists, including classical and contemporary artists. Advanced Latin is designed for students seeking an advanced alternative to AP Latin or a post-AP elective.

### **AP® Latin**

*Prerequisite: Successful completion of at least three years of high school Latin*

*Offered: All-genders; Full-year*

AP® Latin students meet the challenge of reading and analyzing passages of Caesar's Gallic Wars and Vergil's Aeneid. The course emphasizes reading and understanding the works of these two authors, as well as diving into the historical context of both works. Students also look at literary devices and discuss how each author uses Latin and to what effect. Students practice these analytical skills not only on the proscribed passages, but also on sight passages from various authors with weekly assignments. Students compare the writings of Vergil and Caesar to modern authors and explore the effect these authors have on our world today in class discussions. Students prepare translations and essays under time constraints similar to those on the AP® exam. Additionally, students edit their peers' essays to help strengthen their writing and analysis skills. All students enrolled in this course are thoroughly prepared to take the Advanced Placement exam in the spring.

## **Spanish**

### **AP® Spanish Language and Culture**

#### **Advanced Spanish (Spanish V)**

*Prerequisite: Successful completion of Spanish IV, or Spanish III and immersion experience*

*Offered: All-genders; Full-year*

AP® Spanish Language and Culture and Advanced Spanish students will be able to interpret and discuss historical, cultural, and current event topics pertaining to the various communities that exist in the Spanish-speaking world. Six themes are explored throughout the course: Personal and Public Identities, Families and Communities, Global Challenges, Science and Technology, Contemporary Life, and Beauty and Aesthetics. Students use information from a wide range of sources to engage in learning, discussion, and analysis activities as they deepen their understanding of and confidence with the grammatical structures of the language. Throughout the year, students engage in reading, writing, speaking, and listening activities and assessments. Students may select the AP® or Advanced Spanish track. AP® students are expected to delve deeper into the topics, take AP®-style assessments, and prepare for the AP® exam. Advanced Spanish is recommended for students who have completed three or four years of Spanish, but do not want to prepare for the AP® exam. Advanced Spanish may also be appropriate for 9<sup>th</sup> or 10<sup>th</sup> grade heritage speakers.



## **AP® Spanish Literature and Culture**

*Prerequisite: Successful completion of Spanish IV, or Spanish III and immersion experience*

*Offered: All-genders; Full-year*

The AP® Spanish Literature and Culture course provides a college level survey of texts from Peninsular, Latin American and U.S. Hispanic authors. Students complete readings from the College Board required reading list, and analyze the works within their social, literary, and historical contexts. Students build an understanding of form, structure, theme and literary devices; they then analyze and evaluate the global interdependence that fosters the evolution of Hispanic and Latino literatures. The course is organized around the six themes designated by the AP® curriculum framework and conducted entirely in Spanish.

## **Math Courses**

### **AP® Calculus AB**

*Prerequisite: Successful completion of Pre-Calculus*

*Offered: All-genders; Full-year*

The AP® Calculus AB course is a standard course in the calculus of a single variable. Students learn conceptual reasoning, presenting a solution algebraically, geometrically, numerically or verbally. Students learn not only how to develop a clear understanding of the concepts, but also how to apply them in real world situations. By the end of the course, students will be able to read and interpret graphical data accurately, use words to explain their reasoning and provide context for final answers, and understand that they know how to learn online. All of the topics in the AP Calculus AB course are covered, as well as additional topics as time permits. Major topics include limits, continuity, derivatives and applications, integrals and applications, and first order linear differential equations. This personalized course features discussions, reflections, and projects that will help students to master skills in an engaging way.

### **AP® Calculus BC**

*Prerequisite: Successful completion of Pre-Calculus or Calculus course covering natural logarithms, series/sequences, parametric/polar functions, vectors, and limits*

*Offered: Girls only and all-genders; Full-year*

The AP® Calculus BC course is a standard course in the calculus of a single variable. Students learn conceptual reasoning, presenting a solution algebraically, geometrically, numerically or verbally. Students develop a clear understanding of the concepts, as well as their applicability in real world situations. By the end of the course, students are able to read and interpret graphical data accurately; use words to explain their reasoning and provide context for final answers; and understand that they know how to learn online. All topics in the AP Calculus BC course are covered, and additional topics as time permits. Major topics include limits, continuity, derivatives and applications, integrals and applications, first order linear differential equations, inverse trigonometric functions, transcendental functions, infinite series, Taylor polynomials, vectors, parametrically defined functions, and polar coordinates. This personalized course features discussions, reflections, and projects to help students master skills in an engaging way.

### **AP® Statistics**

#### **Statistics**

*Prerequisite: Successful completion of Algebra II*

*Offered: Girls only and all-genders; Full-year*

This course introduces students to the concepts and tools used to collect, organize, analyze, and draw conclusions from data. Students receive instruction in each of the following competencies: Exploring Data, Sampling and Experimentation, Anticipating Patterns, and Statistical Inference. Each student will be expected to learn how to articulate methodology, data description, and conclusions and to provide constructive comments to classmates. Students will develop knowledge through experiential activities that challenge students to design, administer, and tabulate results from surveys and experiments. Students will often work in small collaborative groups to explore problems and share ideas. Active participation, in the form of individual and group projects, peer review of student work, and discussion board conversations, are key to student success. Students may select the AP® or non-AP® track in this course. AP® students are expected to delve deeper into the topics, take AP®-style assessments, and prepare for the AP® exam in the spring.

### **Linear Algebra**

*Prerequisite: Successful completion of AP® Calculus AB or equivalent*

*Offered: Girls only and all-genders; Full-year*

Students in this course learn how to think about vectors, the spaces in which vectors live, and linear mappings between those spaces, with applications to wide variety of practical problems. They develop powerful new ways of thinking mathematically, and gain application skills for fields in which multiple variables interact in ways that can be modeled by systems of linear equations. This yearlong course covers a typical one-semester college linear algebra curriculum, including matrix algebra, vector spaces, eigenvalues and eigenvectors, and applications to differential equations. Linear algebra is a required and very useful subject in college for many science and engineering majors, and it can be studied either before or after multivariable calculus. It's a great fit for the student who has completed AP<sup>®</sup> Calculus AB or BC, who is passionate about a challenge to think in new ways, and who wants to see math applied to the real world.

### **Multivariable Calculus and Differential Equations**

*Prerequisite: Successful completion of AP<sup>®</sup> Calculus BC or equivalent*

*Offered: Girls only and all-genders; Full-year*

This yearlong course covers a typical college-level Calculus III curriculum, including vectors and vector-valued functions, curves and surfaces in space, partial derivatives and gradients, multiple integration, and line and surface integrals. In the course's final unit, students learn how to identify and solve various kinds of differential equations, including exact first-order equations, second-order homogeneous and nonhomogeneous linear equations, partial differential equations, and applications to various scientific fields. Built on a foundation of sophisticated problem solving, the course also features discussions and exploratory activities that will help students develop their advanced math skills in collaborative and creative ways.

## **Science Courses**

### **AP<sup>®</sup> Environmental Science**

*Prerequisite: Successful completion of one year of high school laboratory science or permission from the administration*

*Offered: Girls only and all-genders; Full-year*

AP<sup>®</sup> Environmental Science provides 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 preventing and/or resolving them. Students make real-world connections between the topics introduced in class and those in their own "backyard." They participate in ethical discussions and collaborative projects designed to probe how different cultures and social structures affect the environment, and to explore potential solutions to today's environmental issues. Students engage authentically and creatively with their classmates through a variety of discussions, activities, labs, and projects to investigate the real-world problems that face our environment today. They study our environment and work collaboratively to understand our role in it. Students taking this course are well prepared for the AP<sup>®</sup> Environmental Science Exam in May.

### **AP<sup>®</sup> Physics 1**

*Prerequisite: Successful completion of Algebra II*

*Offered: Girls only and all-genders; Full-year*

AP<sup>®</sup> Physics 1 is an algebra-trigonometry based, introductory college level physics course. The course is based on first semester introductory college physics and is designed for students planning to enter life science or pre-med programs in college. The goal of the course is to develop an understanding of physics through inquiry-based investigations. Students explore principles of Newtonian mechanics, work, energy, power, waves, sound, and simple circuits. Additional supplemental topics are covered that build understanding of the primary College Board curriculum. Developing the ability to reason qualitatively and quantitatively is a principal focus. Those skills are developed through the use of modeling, graphing, diagramming, unit analysis, symbolic algebra, and data analysis. Laboratory exercises are used to enhance the investigation of each topic. This course is intended to prepare students for the College Board AP<sup>®</sup> Physics 1 Exam.

### **AP<sup>®</sup> Physics C - Mechanics**

*Prerequisite: Successful completion of Calculus*

*Offered: Girls only and all-genders; Full-year*

AP<sup>®</sup> Physics C Mechanics is a calculus based, college level physics course. The course is especially designed for students planning to enter college programs such as engineering or physical sciences. The goal of the course is to develop an understanding of physics through inquiry-based investigations. Students explore principles of Newtonian mechanics, work,

energy, power, systems of particles, linear momentum, circular motion, rotation, oscillations, and gravitation. Students use differential and integral calculus. Students master topics that build understanding of the primary College Board curriculum, focusing on the ability to reason qualitatively and quantitatively. Students develop skills through modeling, graphing, diagramming, unit analysis, symbolic algebra and calculus, and data analysis. Laboratory exercises enhance the investigation of each topic. This course is intended to prepare students for the College Board AP<sup>®</sup> Physics C Mechanics Exam.

## **Astronomy**

*Prerequisite: Successful completion of one year of high school laboratory science or permission from the administration*

*Offered: All-genders; Fall semester or full year*

The objective of this course is to familiarize students with the basics of astronomy, with particular emphasis on the role of astronomy in their everyday lives. Students will study the planets of our solar system; the sun and other stars; and galaxies and the universe. The course seeks to foster students' innate curiosity in the unknown final frontier of space as humans boldly go forth in exploration. Students' culminating projects will analyze the current state of space exploration, both manned and unmanned endeavors, as well as the search for life outside of our planet. By the end of this course, students will have an orientation for observing the night sky and a framework for understanding that which is beyond what we can see from our own speck of the universe. Students wishing to pursue an astronomy research or design project in Semester II may enroll in the Research/Design Seminar.

For students continuing into Semester II, the course shifts into personalized, project-based work, where students engage in deep, sustained inquiry, authentic and iterative research, critical analysis, and rigorous reflection, revision, and assessment as they journey through a self-designed, long-term research or design project on the topic of their choosing. Guided by their One Schoolhouse teacher, students pursue individual study/self-assessment or collaborative seminar/peer-review. Pathway options from which students might choose include:

- **Spring Design Seminar:** In this seminar, students design a solution to a real-world problem. Through the engineering design process/scientific method, students gather and analyze data to determine the effectiveness of their model or the accuracy of their hypothesis. Students may prototype and produce a public product in this seminar.
- **Spring Research Seminar:** In this seminar, students answer a theoretical or ethical question. Utilizing the social science/humanities tools for source evaluation, students collect, critique, and evaluate artifacts or primary source documents to explore their thesis. Students may create a written, multimedia, or artistic product in this seminar.

Upon completion of their inquiry-driven project, students will have gained academic maturity and expanded their ability to engage in a diverse and changing world. They will be able to draw and defend conclusions from theoretical underpinnings, contextual background, and mathematical analysis or source evaluation. Finally, they will have created and tested something useful of their own design or will be able to defend a position based on their own research.

## **Engineering**

*Prerequisite: Successful completion of one year of high school laboratory science or permission from the administration*

*Offered: Girls only and all-genders; Fall semester or full year*

Engineers create things. They are the designers of the modern world. The works they create drive society forward. This course will introduce students to many engineering disciplines including civil, architectural, mechanical, electrical, aerospace, chemical, and biomedical engineering. Students will learn the engineering design process used by practicing engineers, create authentic engineering drawings, conduct a variety of hands-on projects, and consider the ethical issues within the field of engineering. Students will develop an array of specific skills including: applying the engineering design process to a specific problem, demonstrating originality and resourcefulness in their work, reflecting critically to improve creative efforts in problem solving, and viewing success as a cyclical process. Students wishing to pursue an engineering research or design project in Semester II may enroll in the Research/Design Seminar.

For students continuing into Semester II, the course shifts into personalized, project-based work, where students engage in deep, sustained inquiry, authentic and iterative research, critical analysis, and rigorous reflection, revision, and assessment as they journey through a self-designed, long-term research or design project on the topic of their choosing. Guided by their One Schoolhouse teacher, students pursue individual study/self-assessment or collaborative seminar/peer-review. Pathway options from which students might choose include:

- Spring Design Seminar: In this seminar, students design a solution to a real-world problem. Through the engineering design process/scientific method, students gather and analyze data to determine the effectiveness of their model or the accuracy of their hypothesis. Students may prototype and produce a public product in this seminar.
- Spring Research Seminar: In this seminar, students answer a theoretical or ethical question. Utilizing the social science/humanities tools for source evaluation, students collect, critique, and evaluate artifacts or primary source documents to explore their thesis. Students may create a written, multimedia, or artistic product in this seminar.

Upon completion of their inquiry-driven project, students will have gained academic maturity and expanded their ability to engage in a diverse and changing world. They will be able to draw and defend conclusions from theoretical underpinnings, contextual background, and mathematical analysis or source evaluation. Finally, they will have created and tested something useful of their own design or will be able to defend a position based on their own research.

## **Forensic Science**

*Prerequisite: Successful completion of one year of high school laboratory science or permission from the administration*

*Offered: Girls only and all-genders; Full-year*

Forensic Science examines the application of science to the criminal and civil laws enforced by the criminal justice system. Students explore the science of criminology by using a combination of science disciplines. As students learn to differentiate between actual techniques and some of those portrayed on popular television shows, they evaluate current procedures used by real crime labs to understand some of the limitations of the law, police, and forensics science. Students examine scientific techniques behind the analysis of physical and eyewitness evidence, toxicology, DNA fingerprinting, fire and explosives, bones, handwriting and document analysis, and other relevant pieces of evidence. Throughout the course, students investigate simulated crime and accident scenes, collect and analyze evidence, and develop observation skills and deductive reasoning. The course includes a study of the variety of careers in forensic science. This exploration is completed through a mixture of laboratory exercises, class discussions and projects, online simulations and games, and analysis of representation of forensic science in the media.

## **Global Health**

*Prerequisite: Successful completion of one year of high school laboratory science or permission from the administration*

*Offered: All-genders; Fall semester or full year*

The study of health in a global context is one of the fastest growing college majors, and global health is one of the major challenges of our time. This interdisciplinary, project-based course introduces students to the complex political, economic, and medical forces that impact the health inequity and expected lifespan of various human populations. Students explore health care disparities, infant mortality, epidemiology, infectious disease transmission and prevention, health care reform, and global health initiatives. By the end of this course, students will understand the multifaceted challenges that organizations like the World Health Organization and Centers for Disease Control and Prevention are trying to solve. Students wishing to pursue a global health research or design project in Semester II may enroll in the Research/Design Seminar.

For students continuing into Semester II, the course shifts into personalized, project-based work, where students engage in deep, sustained inquiry, authentic and iterative research, critical analysis, and rigorous reflection, revision, and assessment as they journey through a self-designed, long-term research or design project on the topic of their choosing. Guided by their One Schoolhouse teacher, students pursue individual study/self-assessment or collaborative seminar/peer-review. Pathway options from which students might choose include:

- Spring Design Seminar: In this seminar, students design a solution to a real-world problem. Through the engineering design process/scientific method, students gather and analyze data to determine the effectiveness of their model or the accuracy of their hypothesis. Students may prototype and produce a public product in this seminar.
- Spring Research Seminar: In this seminar, students answer a theoretical or ethical question. Utilizing the social science/humanities tools for source evaluation, students collect, critique, and evaluate artifacts or primary source documents to explore their thesis. Students may create a written, multimedia, or artistic product in this seminar.

Upon completion of their inquiry-driven project, students will have gained academic maturity and expanded their ability to engage in a diverse and changing world. They will be able to draw and defend conclusions from theoretical underpinnings, contextual background, and mathematical analysis or source evaluation. Finally, they will have created and tested something useful of their own design or will be able to defend a position based on their own research.

## **Marine Science**

*Prerequisite: Successful completion of one year of high school laboratory science or permission from the administration*

*Offered: All-genders; Full-year*

Marine Science introduces students to oceanography through a review of earth science concepts, an investigation of physical and chemical ocean systems, the exploration of marine organisms and ecology, and the role of climate change in both marine and global systems. Students read and dissect scientific literature; integrate their knowledge of marine ecological systems into practical applications of science; and bridge connections between science, society, and political interests. Perhaps most importantly, students foster critical thinking skills and a keen understanding of the scientific process necessary to become well-informed and scientifically aware citizens, whether students' futures directly involve marine science or not. Students learn through virtual and at-home laboratory exercises, scientific literature analysis; reading and video assignments, and research using online journals and current oceanographic data. This work is largely collaborative as students engage with the teacher and with their classmates on projects and labs. There is a significant emphasis on the application of creativity and innovation in dealing with environmental challenges.

## **Neuroscience**

*Prerequisite: Successful completion of one year of high school laboratory science or permission from the administration*

*Offered: Girls only and all-genders; Full-year*

In this project-based course, students learn the structure of the brain and how the brain senses, thinks, behaves, and creates memories for learning and language. They explore brain diseases, disorders, imaging techniques and treatments, as well as how the environment impacts the brain. Armed with this solid foundation in neuroscience, students spend the second semester learning to think like doctors. Students engage in group and individual research projects and seminar-style problem solving which will help to develop the ability to find answers to questions that may not be addressed specifically in the course. They review actual cases in the neuroscience field and follow the doctrine of ethical analysis with patients. Students are guided through a self-designed, long-term research project. This course is designed for students who are considering college majors in a medical or health related field; by the end of it, students will have a basic knowledge of Neuroscience.

## **Social Science and Humanities Courses**

### **Abnormal Psychology**

*Prerequisite: Successful completion of one year of high school social studies*

*Offered: All-genders; Fall semester or full year*

Abnormal Psychology begins with an overview of human behavior, and then introduces students to various psychological disorders as well as the theoretical concepts that underlie each one. Students explore theoretical, clinical, and experimental perspectives on the study of psychopathology. Students learn terminology, classification, etiology, assessment, and treatment of each of the major disorders. Upon completion of this course, the students are able to distinguish between normal and abnormal patterns of behavior. This course features discussions, partner and group projects, and other activities that help students to recognize the ways that abnormal psychology manifests in the real world. The class is designed for eleventh and twelfth graders, and may be appropriate for mature tenth graders. Students wishing to pursue an abnormal psychology research or design project in Semester II may enroll in the Research/Design Seminar.

For students continuing into Semester II, the course shifts into personalized, project-based work, where students engage in deep, sustained inquiry, authentic and iterative research, critical analysis, and rigorous reflection, revision, and assessment as they journey through a self-designed, long-term research or design project on the topic of their choosing. Guided by their One Schoolhouse teacher, students pursue individual study/self-assessment or collaborative seminar/peer-review. Pathway options from which students might choose include:

- **Spring Design Seminar:** In this seminar, students design a solution to a real-world problem. Through the engineering design process/scientific method, students gather and analyze data to determine the effectiveness of their model or the accuracy of their hypothesis. Students may prototype and produce a public product in this seminar.
- **Spring Research Seminar:** In this seminar, students answer a theoretical or ethical question. Utilizing the social science/humanities tools for source evaluation, students collect, critique, and evaluate artifacts or primary source documents to explore their thesis. Students may create a written, multimedia, or artistic product in this seminar.

Upon completion of their inquiry-driven project, students will have gained academic maturity and expanded their ability to engage in a diverse and changing world. They will be able to draw and defend conclusions from theoretical underpinnings, contextual background, and mathematical analysis or source evaluation. Finally, they will have created and tested something useful of their own design or will be able to defend a position based on their own research.

## **AP® Art History**

### **Art History**

*Prerequisite: Successful completion of one year of high school social studies*

*Offered: Girls only and all-genders; Full-year*

Students in Art History and AP® Art History examine and critically analyze major forms of artistic expression from diverse cultures spanning 27,000 years. By investigating an image set of 250 works, students develop a contextual understanding of art history from a global perspective. Influences such as patronage, politics, class, belief systems, gender, ethnicity, and cross-cultural interactions inform students' analysis of the style and content of art. Emphasis is placed on analytical and critical thinking skills, the language of art history, and the methods used by art historians to interpret art objects. Students experience, research, discuss, and write about art, artists, and art making. Upon completion of this course, students will have the tools to recognize important works of art and historical styles as well as understand historical and cultural context. Students choosing the AP® class are expected to delve deeper into the topics, take AP®-style assessments, and prepare for the AP® exam in the spring.

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

*Prerequisite: Successful completion of two years of high school English or permission from the administration*

*Offered: All-genders; Full-year*

Students enrolled in AP® English Literature and Composition have the opportunity to practice what it means to listen as well as what it means to speak with authentic voices. They consider fiction, drama, poetry, and short stories from the 1600s to the present, discovering how each work portrays some facet of the universal human condition and analyzing the interplay between diverse individuals, nations, and cultures expressed in those works. They look closely at the interplay between content (the story a writer wants to tell or the moment he or she wants to capture) and form (the way the story or moment is offered to the reader) to enhance understanding of the texts. Students gain the necessary skills for success on the AP® exam in May. Equally important, they amass indisputable proof of the global interdependence that characterizes the modern world.

## **AP® European History**

*Prerequisite: Successful completion of one year of high school social studies*

*Offered: All-genders; Full-year*

AP® European History is designed to be the equivalent of a two-semester introductory college European history course. In this course, students investigate, discuss, and analyze significant events, individuals, developments, and processes in four historical periods from approximately 1450 to the present. Students develop and use the same skills, practices, and methods employed by historians: analysis of historical evidence, contextualization, comparison, causation, change and continuity over time, and argument development. The course is designed around six themes that students explore throughout the year in order to make connections among historical developments in different times and places: interaction between Europe and the world, poverty and prosperity, objective knowledge and subjective visions, states and other institutions of power, individual and society, and national and European identity. By the end of this course, students will be able to explain the complex challenges of today through the lens of the European hegemony, have improved their analytical and evaluative writing skills, and have gained the necessary skills for success on the AP® exam in May.

## **AP® Human Geography**

*Prerequisite: Successful completion of eighth grade*

*Offered: All-genders; Full-year*

This course revolves upon the five core themes of geography: location, place, region, movement, and human-environment interaction. Students learn how to study the systemic patterns and processes that have shaped human understanding, use, and alteration of the earth's surface (including agriculture, industries, markets, and urbanization). Students learn about the methods and tools geographers use in their research and applications. The curriculum reflects the goals of the National Geography Standards. Using personalized learning options, collaborative discussions, and creative synthesis applications, students will develop an appreciation of the variables that geographers consider when analytically problem-solving for the contemporary

challenges facing our world. Core competencies developed throughout the course include: the ability to develop and apply multivariable analyses based upon the themes of geography; active engagement with current events; and collaborative problem solving that evaluates the potential unintended consequences of interventions into local, regional, and global communities.

### **AP® Macroeconomics**

*Prerequisite: Successful completion of Algebra II*

*Offered: Girls only and all-genders; Full-year*

AP® Macroeconomics introduces students to major economic issues such as basic market analysis, the causes of the cycle of economic growth and recession, the problems of inflation and unemployment, the causes and consequences of federal budget deficits, and the causes and effects of international trade imbalances and currency fluctuations. Students analyze the impact of fiscal and monetary policies as well as the debates surrounding the implementation of each. This course involves extensive reading, problem-solving exercises, online discussions, and research and writing about contemporary macroeconomic issues. Multiple modalities are employed for content presentation so as to encourage personalization; assessment evaluates each student's ability to utilize skill sets related to economic decision making. Strong reading, algebra, and analytical skills are necessary for success, as is strong motivation. AP® Macroeconomics develops informed, thoughtful, and globally-minded students, and thoroughly prepares students to take the AP® exam in the spring. AP® Macroeconomics is recommended for juniors and seniors.

### **AP® Microeconomics**

*Prerequisite: Successful completion of Algebra II*

*Offered: Girls only and all-genders; Full-year*

AP® Microeconomics gives students an understanding of how economic decisions are made by individuals, firms, and organizational structures. The course emphasizes the nature and function of product markets, how prices determine an economy's allocation of goods and services, and how factors of production are allocated throughout the production process. Market structure, natural resource markets and the role of government are included. Students analyze societal issues through the lens of economic reasoning, develop critical thinking skills through the understanding and analysis of fundamental economic concepts, and increase their ability to analyze information and draw conclusions from a wide variety of real-world and hypothetical situations. Students complete collaborative projects, group discussions, problem sets, quizzes, and tests. The curriculum is developed to prepare students for the AP® Microeconomics examination in May and is recommended for juniors and seniors with strong mathematical reasoning skills and an interest in finance, business, or government.

### **AP® Psychology**

#### **Psychology**

*Prerequisite: Successful completion of eighth grade*

*Offered: Girls only and all-genders; Full-year*

AP® Psychology introduces students to the systematic and scientific study of human behavior and mental processes. Students learn the psychological facts, principles, and phenomena contained within the major branches of psychology. The first semester focuses on the fundamental sub-fields of behavior, sensation, perception, learning and cognition. This provides a solid footing from which to investigate the topics of developmental, social and abnormal psychology in the latter half of the year. Interwoven throughout their study are numerous opportunities to cultivate research and critical thinking skills. Presented with experiential psychological field work, the students are challenged to apply different research methods, collaborate with others, collect and analyze data, and arrive at conclusions. Students taking the AP® class are expected to delve deeply into the topics, take AP®-style assessments, and prepare for the AP® exam in the spring.

### **AP® US Government and Politics & AP® Comparative Government and Politics**

*Prerequisite: Successful completion of one year of high school social studies*

*Offered: Girls only and all-genders; Full-year*

AP US Government and Politics and AP Comparative Government and Politics is a yearlong course that provides students with an in-depth understanding of the American government as well as various political systems around the world. The fall focuses on American government, including how different agencies within the government interact, and how these agencies and their policies affect the daily lives of Americans. The spring covers AP Comparative Government and Politics, which is an introduction to the methodology of comparative politics, and an in-depth look at six different states: Iran, Nigeria, China, Russia, Mexico, and Great Britain. Students will understand what factors contributed to the development of the American political system, and the structure of the U.S. government and the American political process. They will also recognize major

comparative political concepts and how to apply them. Finally, students will be able to compare political institutions and processes from across the world, and to form sound conclusions based on those comparisons. This course prepares students for both AP® exams in the spring.

### **Business and Economics**

*Prerequisite: Successful completion of Algebra II and one year of high school social studies*

*Offered: All-genders; Fall semester or full year*

Business and Economics students gain fluency in foundational economic principles and explore business planning, development, and management. Students study the fundamentals of microeconomics, including supply and demand, incentives, pricing, and production, followed by macroeconomic concepts such as economic indexes, The Federal Reserve, and financial markets; as well as trade agreements and globalization. This is an ideal survey course for students considering a college degree in economics, business, or management. By the end of Semester I, students will have a working foundation to analyze current events in the corporate world and the international economy. Students wishing to pursue a research or design project in business or economics during Semester II may enroll in the Research/Design Seminar.

For students continuing into Semester II, the course shifts into personalized, project-based work, where students engage in deep, sustained inquiry, authentic and iterative research, critical analysis, and rigorous reflection, revision, and assessment as they journey through a self-designed, long-term research or design project on the topic of their choosing. Guided by their One Schoolhouse teacher, students pursue individual study/self-assessment or collaborative seminar/peer-review. Pathway options from which students might choose include:

- **Spring Design Seminar:** In this seminar, students design a solution to a real-world problem. Through the engineering design process/scientific method, students gather and analyze data to determine the effectiveness of their model or the accuracy of their hypothesis. Students may prototype and produce a public product in this seminar.
- **Spring Research Seminar:** In this seminar, students answer a theoretical or ethical question. Utilizing the social science/humanities tools for source evaluation, students collect, critique, and evaluate artifacts or primary source documents to explore their thesis. Students may create a written, multimedia, or artistic product in this seminar.

Upon completion of their inquiry-driven project, students will have gained academic maturity and expanded their ability to engage in a diverse and changing world. They will be able to draw and defend conclusions from theoretical underpinnings, contextual background, and mathematical analysis or source evaluation. Finally, they will have created and tested something useful of their own design or will be able to defend a position based on their own research.

### **Civics and Politics**

*Prerequisite: Successful completion of one year of high school social studies or permission from the administration*

*Offered: All-genders; Fall semester or full year*

We are part of many different communities that shape who we are and what we believe. This course provides students with opportunities to understand better how our society and political system shape their various identities. By exploring aspects of our identities and lived experiences, we evaluate how the concept of citizenship and the individual citizen work together to create the communities that we inhabit. From the launching point of the knowledge, values, and feelings we bring into the class, we uncover our own biases, explore the difference between fact and opinion, practice empathy, and learn to voice our own perspectives without silencing the perspectives of others. We investigate how power structures in our society, ranging from government to the media affect us. Students who take this course will leave with an increased understanding of our political system and society, the structural framework that shape our identities, increased empathy, and global awareness. Students wishing to pursue a civics or politics research or design project in Semester II may enroll in the Research/Design Seminar.

For students continuing into Semester II, the course shifts into personalized, project-based work, where students engage in deep, sustained inquiry, authentic and iterative research, critical analysis, and rigorous reflection, revision, and assessment as they journey through a self-designed, long-term research or design project on the topic of their choosing. Guided by their One Schoolhouse teacher, students pursue individual study/self-assessment or collaborative seminar/peer-review. Pathway options from which students might choose include:

- **Spring Design Seminar:** In this seminar, students design a solution to a real-world problem. Through the engineering design process/scientific method, students gather and analyze data to determine the effectiveness of their model or the accuracy of their hypothesis. Students may prototype and produce a public product in this seminar.



- **Spring Research Seminar:** In this seminar, students answer a theoretical or ethical question. Utilizing the social science/humanities tools for source evaluation, students collect, critique, and evaluate artifacts or primary source documents to explore their thesis. Students may create a written, multimedia, or artistic product in this seminar.

Upon completion of their inquiry-driven project, students will have gained academic maturity and expanded their ability to engage in a diverse and changing world. They will be able to draw and defend conclusions from theoretical underpinnings, contextual background, and mathematical analysis or source evaluation. Finally, they will have created and tested something useful of their own design or will be able to defend a position based on their own research.

### **Gender and Sexual Identity in America**

*Prerequisite: Successful completion of one year of high school social studies or permission from the administration*

*Offered: All-genders; Fall semester or full year*

What is the role of gender and sexuality in identity formation? How has historical climate affected the identity expression of LGBTQ Americans? This course opens with an exploration of gender and sexual identity through a variety of themes, such as heteronormativity, feminism and intersectionality. The course then surveys significant aspects of LGBTQ history, focusing on the changing nature of identities over time, including efforts to expand and restrict identities in cultural, religious, and political forms. With this historical foundation, students work individually and collaboratively on research initiatives in the second quarter, in topics of their choosing, such as gay marriage, transgender identity, reproductive rights, workplace discrimination, HIV/AIDS, heteronormativity, etc. This course offers students the opportunity to both develop cultural competency around gender and sexual identity, and explore their own interests on a wide range of related topics. Students wishing to pursue a research or design project in gender or identity during Semester II may enroll in the Research/Design Seminar.

For students continuing into Semester II, the course shifts into personalized, project-based work, where students engage in deep, sustained inquiry, authentic and iterative research, critical analysis, and rigorous reflection, revision, and assessment as they journey through a self-designed, long-term research or design project on the topic of their choosing. Guided by their One Schoolhouse teacher, students pursue individual study/self-assessment or collaborative seminar/peer-review. Pathway options from which students might choose include:

- **Spring Design Seminar:** In this seminar, students design a solution to a real-world problem. Through the engineering design process/scientific method, students gather and analyze data to determine the effectiveness of their model or the accuracy of their hypothesis. Students may prototype and produce a public product in this seminar.
- **Spring Research Seminar:** In this seminar, students answer a theoretical or ethical question. Utilizing the social science/humanities tools for source evaluation, students collect, critique, and evaluate artifacts or primary source documents to explore their thesis. Students may create a written, multimedia, or artistic product in this seminar.

Upon completion of their inquiry-driven project, students will have gained academic maturity and expanded their ability to engage in a diverse and changing world. They will be able to draw and defend conclusions from theoretical underpinnings, contextual background, and mathematical analysis or source evaluation. Finally, they will have created and tested something useful of their own design or will be able to defend a position based on their own research.

### **Social Entrepreneurship**

*Prerequisite: Successful completion of Algebra II and one year of high school social studies*

*Offered: All-genders; Fall semester or full year*

Social entrepreneurs envision and manage the future by tackling the existential environmental, social, and political issues of our time. In this class, students discover what it means to be a successful social entrepreneur as they identify how to define problems, devise solutions for impact, identify opportunities to effect change, envision the future, and turn ideas into action. In the capstone project, teams put these new skills into practice by proposing a concrete solution to one of the grand challenges we have identified. The primary objective of this course is to equip students with the skills and approaches to navigate and be change agents in a rapidly changing, complex future. Students wishing to pursue a social entrepreneurship research or design project in Semester II may enroll in the Research/Design Seminar.

For students continuing into Semester II, the course shifts into personalized, project-based work, where students engage in deep, sustained inquiry, authentic and iterative research, critical analysis, and rigorous reflection, revision, and assessment as they journey through a self-designed, long-term research or design project on the topic of their choosing. Guided by their

One Schoolhouse teacher, students pursue individual study/self-assessment or collaborative seminar/peer-review. Pathway options from which students might choose include:

- Spring Design Seminar: In this seminar, students design a solution to a real-world problem. Through the engineering design process/scientific method, students gather and analyze data to determine the effectiveness of their model or the accuracy of their hypothesis. Students may prototype and produce a public product in this seminar.
- Spring Research Seminar: In this seminar, students answer a theoretical or ethical question. Utilizing the social science/humanities tools for source evaluation, students collect, critique, and evaluate artifacts or primary source documents to explore their thesis. Students may create a written, multimedia, or artistic product in this seminar.

Upon completion of their inquiry-driven project, students will have gained academic maturity and expanded their ability to engage in a diverse and changing world. They will be able to draw and defend conclusions from theoretical underpinnings, contextual background, and mathematical analysis or source evaluation. Finally, they will have created and tested something useful of their own design or will be able to defend a position based on their own research.

## Independent Study

*Prerequisite: Recommendation from a school administrator at a student's permanent school and permission from the One Schoolhouse administration*

*Offered: All-genders; Full year*

Want to take a deep dive into your favorite subject but need some teacher support? One Schoolhouse arranges for a facilitator for this year-long, student-designed independent study in a core or elective subject. The teacher and student work collaboratively to design a syllabus, establish pacing, and determine metrics by which progress is measured. The student produces a cumulative portfolio, which might include exemplars of content and skills mastery as well as a capstone independent research project. Please contact us at [academics@oneschoolhouse.org](mailto:academics@oneschoolhouse.org) for more information on independent studies through One Schoolhouse.

## Spring Research and Design Seminars

*Prerequisite: Successful completion of One Schoolhouse Fall 2019 course*

*Offered: All-genders; Spring Semester*

Students may choose to enroll in the Fall 2019 courses for Semester I only (0.5 credit) or for Semesters I and II (1.0 credit). For students continuing into Semester II, the course shifts into personalized, project-based work, where students engage in deep, sustained inquiry, authentic and iterative research, critical analysis, and rigorous reflection, revision, and assessment as they journey through a self-designed, long-term research or design project on the topic of their choosing. Guided by their One Schoolhouse teacher, students pursue individual study/self-assessment or collaborative seminar/peer-review. Pathway options from which students might choose include:

- **Spring Design Seminar:** In this seminar, students design a solution to a real-world problem. Through the engineering design process/scientific method, students gather and analyze data to determine the effectiveness of their model or the accuracy of their hypothesis. Students may prototype and produce a public product in this seminar.
- **Spring Research Seminar:** In this seminar, students answer a theoretical or ethical question. Utilizing the social science/humanities tools for source evaluation, students collect, critique, and evaluate artifacts or primary source documents to explore their thesis. Students may create a written, multimedia, or artistic product in this seminar.

Upon completion of their inquiry-driven project, students will have gained academic maturity and expanded their ability to engage in a diverse and changing world. They will be able to draw and defend conclusions from theoretical underpinnings, contextual background, and mathematical analysis or source evaluation. Finally, they will have created and tested something useful of their own design or will be able to defend a position based on their own research.