



Course Catalog



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Our Mission

City on a Hill graduates responsible, resourceful, and respectful democratic citizens prepared for college and to advance community, culture, and commerce, and to compete in the 21st century. We do so by emphasizing academic achievement, citizenship, teacher leadership, and public accountability.

Academic Achievement

We strive to maintain high academic standards and ensure results. We acknowledge our students' competition and seek to find additional resources to prepare our students to compete.

Citizenship

We prepare our students to exercise their rights and responsibilities as democratic citizens by emphasizing their responsibility to question, to act, and to avoid complacency. Examples of citizenship education at CoaH include ninth grade civics class, regular school wide Town Meeting featuring student-led debate, and City Project, the capstone course focused on public policy.

Teacher Leadership

Teachers take responsibility for the performance of students and of our schools. Our teachers are reflective practitioners and managers who drive decision-making in doing, building, and growing City on a Hill. They are contributors to urban public school reform.

Public Accountability

City on a Hill expects to show positive results to the taxpayer. We invite the public in to ensure that we are delivering on our promise to educate our students, and we engage parents and guardians as key stakeholders in our schools.



College Counseling

Junior Seminar

Junior Seminar is designed to help juniors understand the responsibilities they will face during their senior year and beyond as they apply to colleges, submit financial aid applications, and enroll in the post-secondary program of their choice. Students will learn about the benefits of attending college, types of higher education institutions, and the courses and majors they may want to consider as undergraduates. Additionally, students will begin to determine the way college admissions officers will evaluate their applications, and will also learn about connecting with college representatives through campus visits and interviews. By the end of the year, students will fully understand their responsibilities throughout the college and financial aid application processes, will create an initial list of colleges to consider applying to, and will draft a college admissions essay.

Senior Seminar

Senior Seminar is designed to help seniors navigate the college application process and the transition to college life. Students will learn about different higher education institutions and their distinguishing characteristics. Should you attend a public or private college, a four-year institution or community college, a large university or a small liberal arts college? These and other questions will help students make informed decisions about the colleges and universities that best fit their academic needs and interests. Once they have compiled a list of colleges, students will complete applications and financial aid forms. The class may take field trips to campuses, host representatives from colleges and universities, and have workshops on topics such as mock application reading and the college essay. The course will also focus on writing the college essay, scholarship searches, financial aid assistance, interviewing skills, personal financial accountability and self-advocacy.

English Department

Four years, all students. Diploma requirement: 4 credits.

The English department emphasizes the importance of reading, analyzing, and discussing a core of literature reflecting the best of human thought and endeavor. The rigorous English curriculum is designed to meet Massachusetts and ACT Common Core aligned standards. In English I-IV students will develop the ability to communicate informed opinions in speech and writing and to understand that language grants them the power to predict, analyze, reflect, grow, create, remember, and be delighted.

English Level I

English I will teach the basic skills of reading, writing, and speaking, and will provide students with a survey course on literature including the genres of the novel and non-fiction informational texts. Students will master the composition of a paragraph, participate in class, and give speeches. Students will be expected to increase their written and spoken vocabulary and minimize mistakes in grammar, usage, and spelling.

English Level II

English II will provide further instruction in the basic skills of reading, writing, and speaking, and will broaden students' knowledge of world literature as well as literary terms and devices. In addition to the novel, memoir, drama and the short story, the English II curriculum will focus on poetry and nonfiction texts. Students will be expected to master the five-paragraph essay. In both writing and speaking, students will be expected to substantially increase their proficiency in vocabulary and grammar. Students will work to develop editing skills in order to minimize mistakes in grammar, usage, and spelling. Students will also begin to use outside sources in their writing.

English Level III

English III will foster analytical skills in reading of fiction and nonfiction texts focused exclusively on American Literature. Students will focus on unity, tone, and theme in writing while developing their ability to voice their opinions logically, persuasively, concretely, and at length. The curriculum will focus on more challenging works of literature and long-term writing assignments. Attention is given to the ACT, which third year students take twice. Writing will focus on literary analysis and will require outside sources. Students will be expected to write and speak using sophisticated vocabulary and sentence structure and to comply with standards of modern English usage. Students will also advance their understanding of personal narrative through a college essay.

English Level IV

In this college-prep class, students will explore literature from varied cultures and time periods in order to understand how language empowers individuals and societies. Students will analyze and compare literary works and consider them in the context of time period, location, race, gender, relevant criticism, and school of thought. Students will enhance their reading, writing, and speaking skills through rigorous reading schedules, writing expectations, and college-level discussions. As in college, much of the preparation is completed outside of class and students will be expected to schedule regular meetings with the instructor. The reading list includes works by Saramago, Shakespeare, Ellison, Hurston, and Eggers. The final written assignment is a culminating synthesis of students' work throughout the City on a Hill English curriculum.

AP Literature and Composition

AP English Literature and Composition will engage students in the careful reading and critical analysis of imaginative literature. Through the close reading of selected texts, students will deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers. As they read, students will consider a work's structure, style and themes, as well as such smaller-scale elements as the use of figurative language, imagery, symbolism and tone.

Mathematics Department

Four years, all students. Diploma requirement: 4 credits, including Algebra, Geometry, Algebra II, and Pre-Calculus. Seniors may also study Advanced Placement Calculus if they have passed a pre-calculus course.

The math curriculum at City on a Hill will provide students the mathematical foundation and critical thinking skills required for success in college level math courses. The curriculum is based on Common Core Standards and encourages active learning environments where problem solving and communication skills are interwoven with content. Students will also be expected to fluently write and speak about math in order to earn credit in mathematics at City on a Hill.

Pre-Algebra

In Pre-Algebra, students acquire the skills they need to be successful in Algebra. Students learn to work easily with positive and negative numbers, small numbers, big numbers, fractions, decimals, and percents. Students learn the relationships between these numbers and begin to apply their knowledge in algebra.

Algebra (Math Level I)

In Algebra I, course content is divided into the following units: Data Analysis; Expressions; Equations; Linear Functions; Inequalities; Systems of Equations and Inequalities; Quadratics. Students develop a foundation for success on the MCAS and the SAT/ACT, upper level math and scientific exploration, college-level work, and problem solving in the professional world.

Geometry (Math Level II)

Geometry will be divided into the following units: Transformations; Congruence; Geometric Theorems; Similarity; Right Triangles; Circles; Measurement; and Statistics and Probability.

Advanced Algebra (Math Level III)

Students will learn about different functions and models and explore the following units: Systems of Equations and Matrices; Linear Functions; Quadratic Functions; Exponential & Logarithmic Functions; Polynomial Functions; Rational Functions; Solving Equations.

Pre-Calculus (Math Level IV)

Pre-Calculus students learn to think like mathematicians through problem solving and conjecturing. The course will build on Algebra and Geometry and prepare students to take Calculus or another college math course. Course content will include rational functions, analyzing functions, sequences and series, trigonometry, and a preview of calculus material including limits and derivatives.

AP Calculus (Math Level IV)

AP Calculus is the most challenging math course offered at City on a Hill and will be divided into two distinct branches: differential and integral. In Differential Calculus, students will study the rate of change of all algebraic equations in the context of physics and business. In Integral Calculus, students

will learn to calculate area and volume of non-geometric shapes, which is more applicable to our irregular world. By passing the AP Calculus test, students can earn college credit for Calculus I.

Science Department

Three years, all students. Diploma requirement: 3 credits of laboratory science, including Unified Science, Biology, and Chemistry. Seniors also can choose to study AP Environmental Science or Physics.

Experimentation is the focus of the science curriculum at City on a Hill. All science courses have labs built into the classroom experience; they are typically conducted weekly. Students learn to analyze and make conclusions from the data they produce, build their ability to think scientifically, and use inquiry to solve problems and investigate concepts.

Unified Science (Science Level I)

Unified Science will build the math and science skill set of 9th grade students. Students will learn to design increasingly complex and accurate experiments requiring sophisticated investigations and measurements. Experiments will begin with chemistry to discover the nature of atoms, molecular bonding, and the Periodic Table; experiments will then focus on the fundamentals of biology, such as characteristics of life. Unified Science will establish a solid foundation in the chemical and life sciences that will aid students' understanding of biology and chemistry in subsequent courses.

Biology (Science Level II)

This course will include the study of biochemistry, cells, genetics, evolution, and ecology. Through numerous laboratory exercises students will connect their learning to their practical, everyday lives. The course focuses on the molecular and cellular processes that occur in living things. Students will study DNA and learn its role in determining traits. They will examine how Darwin's Theory of Evolution explains the change of organisms over time and life as we know it today. Through the study of ecology, students will also discover that all living things are interconnected and dependent upon one another. The course will prepare students for the 10th grade biology MCAS in June.

Chemistry (Science Level III)

In Chemistry students will study properties of matter, atomic structure and bonding, the periodic table, chemical reactions and stoichiometry, solutions, acids and bases, and equilibrium and kinetics. Students will learn to relate chemistry to their everyday lives and current events in science and engineering/technology. Students will learn to use sophisticated models and rigorous mathematical computations to make formal statements of principles of chemistry and understand their implications. They will be able to apply their understanding in another science course, in a higher level of science or engineering/technology learning, or in the experiences they encounter.

AP Environmental Science (Science Level IV)

AP Environmental Science is a full-year course designed to be the equivalent of a one-semester, introductory college course in environmental science. This course will stress scientific principles and analysis and includes a laboratory component. It is intended to allow students to undertake a more

advanced study of topics in environmental science, or to fulfill a basic requirement for a laboratory science in college. The goal of this course will be to provide students with the concepts required to understand the interrelationships of the natural world, to identify and evaluate the relative risks associated with environmental problems, to examine alternative solutions for resolving and preventing problems, and to become responsible citizens. All students enrolled in AP Environmental Science will take the AP exam in May.

Physics (Science Level IV)

Physics will be a technical science course focused on explaining how matter behaves. It will be divided into four major units. *Motion* describes how objects move, why frisbees fly only when they spin, and why racecars could actually drive on the ceiling of a tunnel. *Thermodynamics* is the study of how heat and energy are exchanged and used by materials and gases, and it explains why it only rains on one side of a mountain. *Electricity and Magnetism* explains how batteries make things move and why you should never put a magnet next to a computer. Lastly, *Waves* explores the nature of sound and light.

History Department

Three years of history is required of all students at City on a Hill. Diploma requirement: 3 credits, including Civics, World History, and City Project. Students may also study US History, Constitutional Literacy or Advanced Placement U.S. Government and Politics as electives.

The history curriculum at City on a Hill contributes to the development of students who are active members of society who have the ability to make well-informed decisions based on knowledge of civics and history. The curriculum will provide students with a system of understanding the world via historical study. Equipped with the skills necessary to use history as well as a knowledge base of the historical roots that led them to where they are, students will have the experience of using history to assist their social and civic lives. The culmination of history at City on a Hill is also the culmination of a City on a Hill education: City Project.

Civics (History Level I)

Civics will be a class about citizens in the United States and will introduce students to the foundations of the United States government. Students will study the Declaration of Independence, the Constitution, and the Bill of Rights. They will study each branch of government in detail and debate landmark Supreme Court cases. Additionally, students will also learn all 50 states, the major accomplishments of all 44 presidents, how to analyze a primary document, how to read charts and graphs, and practice writing a five-paragraph essay. This course will teach students their rights and responsibilities as productive citizens in our global community and will develop the skills they need to actively participate in that community.

World History (History Level II)

The goal of this class is to teach students how to think critically by examining major events, documents, ideas, societies, and people of the world's past. Students will understand *why* societies behave the way they do and what role individuals play in shaping the course that societies take. To help answer these important questions, the majority of this course will be spent studying and analyzing revolutions in thought, culture, government, society, and technology.

U.S. History (History Level III)

This class will trace the history of the United States chronologically, beginning with the first inhabitants of North America. This course will seek to provide a broad knowledge of U.S. History and attempt to incorporate the various perspectives of traditionally underrepresented groups. A key component of this course will be differentiating historical fact with historical perception.

Constitutional Literacy (History Level IV)

The Marshall-Brennan Constitutional Literacy class will teach the Constitution and the Bill of Rights using Supreme Court cases involving the rights of young people at school and in the juvenile justice system. The goal of the class will be to teach students their rights and how to use their knowledge of cases and the Constitution to become effective democratic citizens. The class will be co-taught by Suffolk Law students and will involve a Moot court component.

AP Government & Politics (History Level IV)

AP U.S. Government & Politics will be an intensive study of the formal and informal structures of government and processes of the American political system. This course will be taught at an accelerated level and educate students on the intricate system of our federal government and prepare students for the AP exam. Earning a 3 or higher on the AP exam can earn students college credit. Articles from news magazines and current newspapers will be used to discuss current events that apply to the principles of government. Students will be required to stay current on political issues, demonstrate their understanding of government functions, and connect them to present topics in the news. All students enrolled in AP Government and Politics will take the AP exam.

Spanish Department

Two years, all students. Diploma requirement: 2 credits.

Students are required to take two years of foreign language at City on a Hill. The Spanish curriculum is designed for students to increase their knowledge of and appreciation for speaking a foreign language, appreciation of the Spanish language and cultures of Latin America and Spain. The curriculum focuses on helping students develop and build on their language acquisition skills, i.e., speaking, listening, reading, and writing in the target language. In addition, these courses will broaden students' understanding and appreciation of their own and others' cultures in a diverse and non-monolithic world.

Spanish Level I

In Spanish I, students will begin to read, write and speak Spanish, as well as gain understanding of Spanish-speaking cultures. Students will learn to describe themselves and a close friend or relative, as well as their activities and their interests using the present tense and vocabulary. Students use these in order to write a letter to a friend about themselves. Major topics will include the following: vocabulary (family, classroom objects, pronouns, greetings, and more), verb conjugations in the present and future tenses and geography of Spanish-speaking countries.

Spanish Level II

In Spanish II students will learn to read, write and speak Spanish independently. They will learn to use the Spanish language, as well as gain understanding of Spanish-speaking cultures. Major topics will include the following: stem-changing verbs, present tense regular and irregular verbs, present progressive form, the preterit form, and the near future in order to describe their activities during a vacation, vocabulary, reflexive verbs, and Hispanic culture.

Spanish Level III

A third year of foreign language is not required for graduation but is available as an elective at City on a Hill. During a third year of Spanish students will improve their learning to read, write and speak at a conversational level. The Spanish curriculum culminates during the third year at the proficiency level of reading, listening, writing, speaking (interpersonal), and speaking (presentational) according to the ACTFL (American Council on the Teaching of Foreign Language). Students will learn to use the imperfect in contrast with the preterit, the present of the subjunctive, and the conditional in order to talk about a college or university they attend.

Theatre Arts and Technology

Technology & Computer Studies

In this course students will develop the knowledge and skills to effectively use computers, Microsoft Office (Word, Excel, and PowerPoint), and the Internet. Students will learn to take assessments online, type, and conduct MLA research. The course includes a public speaking component in which students make a professional presentation using technology. The ability to use technology is necessary for state assessments, which will soon be administered online, for presenting during City on a Hill's weekly student run Town Meeting debate, and for effective presentation of oral proficiencies and projects in all academic courses. Technology & Computer Studies is a 20-week, two-quarter course for all 9th graders.

Theater Arts

Theater Arts will focus on elementary performance, production, and history of theatre. This course will also contain a public speaking strand, making the connection between effective theatrical performances and formal speeches and professional presentations. With a focus on performance, students will memorize, recite, and perform scenes from the books they read in English class (*i.e.*: William Shakespeare's *Macbeth* and John Steinbeck's *Of Mice and Men*) and in civics class (*i.e.*: Patrick Henry's "Liberty or Death" speech and Martin Luther King Jr.'s "Letter from a Birmingham Jail"). Theater Arts aligns with City on a Hill's mission by featuring important works of civics while developing public speaking skills, which City on a Hill deems fundamental to effective civic engagement. Theater Arts is a 20-week, two-quarter course for all 9th graders.