DSST: Byers Middle and High School

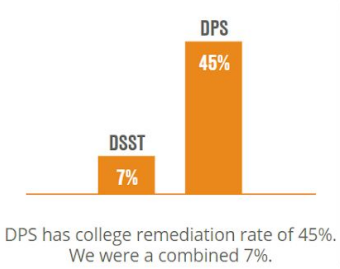
2019-20

Course Catalog with Course Descriptions

Dear DSST: Byers Middle and High School Students and Families,

This course catalog for DSST: Byers Middle and High School includes graduation requirements and course descriptions, including Advanced Placement (AP) and other advanced course offerings. We hope this is a helpful guide in understanding the academic program for students.

DSST: Byers Middle School is the top middle school in Denver, according to the School Performance Framework. In 2016, we opened DSST: Byers High School with our founding class, the Class of 2020. The curriculum at DSST: Byers High School is aligned to the curriculum at DSST high schools across the city (Montview, Green Valley Ranch, College View, Cole), a curriculum that has empowered high achievement for students at all levels for the past decade in Denver. Our network continues to see outstanding college readiness results (ACT, SAT) and low college remediation results for students year after year because of the high level of instruction and the quality of the curriculum in DSST schools.



DPS has college remediation rate of 45%. We were a combined 7%.

100% acceptance to college.

4 of top 8 middle schools.

6 of top 8 high schools.

What do parents say about DSST: Byers?

"Whether you are at the top of your class, struggling to catch up, or just a quiet hardworking kid, DSST will help you reach your full potential by maintaining high expectations and providing you the tools to succeed. Rigorous instruction, combined with data tracking and a growth mindset, ensures that all student learners, regardless of ability, grow academically."

"On average DSST schools receive 4,000-5,000 teacher applications each year. The top 5% are hired, based on a rigorous interview process that includes teaching a class in front of current students. Following the class, students give feedback on the candidate's performance to both the candidate and the school. Once hired, students continue to provide feedback to teachers. DSST students will tell you, they have the brightest, most interesting, and dedicated teachers around."

DSST: Byers provides students with a world-class education in a diverse and inclusive environment. We are excited to see students return and to welcome new students to this rigorous, supportive and engaging school community. Should you have any questions about the contents of this course catalog, please contact School Director Elin Curry at elin.curry@scienceandtech.org.

Graduation Requirements

Required Coursework: The coursework at DSST gives students the opportunity to meet the college entrance requirements for competitive schools as well as to pursue more advanced topics and independent study.

Coursework for DSST Students:

	Core Academic Program (grade levels in parentheses)
Humanities **4 years**	*4 years of English; 3 years of social sciences* Humanities (9) Composition (9) World Literature (10) World History (10) American Literature (11 or 12) AP English Language and Composition (11 or 12) AP English Literature and Composition (11 or 12) U.S. History (11) AP U.S. History (11) Civics (12) AP Music Theory (12)
Mathematics **4 Years**	Integrated Math 1 Integrated Math 2 / Integrated Math 2 Honors Algebra 2 / Algebra 2 Honors Pre-Calculus / Pre-Calculus Honors AP Calculus (AB & BC) AP Statistics
Science **4 Years**	Physics / Honors Physics (9) Chemistry (10) AP Chemistry (10 or 12) Biology (11) AP Biology (11) Anatomy and Physiology (12) AP Physics C (12) AP Psychology (12) Computer Science Other Advanced Electives (11/12) AP Computer Science (12)
Spanish **3 Years**	Spanish 1, 2, 3 Español para hispanohablantes 1, 2 AP Spanish Language and Culture AP Spanish Literature
Physical Education **4 Trimesters**	P.E. or an acceptable equivalent (sports, electives, lifetime activities) approved by the school
Internship **1 Trimester**	Off campus, 11th grade
Senior Project **2 Trimesters**	Capstone Senior Year Project (12)

The table below lists the number of years in each subject students must take to meet DSST expectations:

Courses	DSST	Phase II Pre-Collegiate
English	4	4
Social Sciences	3	3
Math	4	4
Science	5	3
Spanish	3	2
Physical Education	1.33	0
Electives	4	2
Total	**24.33**	**18**

Graduation Requirements:
In addition to physical education requirement (4 trimesters), a student must meet all of the requirements outlined below to earn a diploma from DSST Public Schools. Only students who earn a diploma are permitted to participate in graduation activities.

Criteria	Core Academic Program
Coursework	Successful completion of all required courses as listed above with a grade of C or higher
Standardized Tests	Completion of PARCC, PSAT and SAT
Internship	Successful completion of one trimester of an internship experience during the junior year
Senior Seminar Course	All seniors are required to actively participate in the senior seminar elective, apply and gain acceptance to one DSST Foundation 4 year university in Colorado and submit all required paperwork regarding financial aid and scholarship information
Senior Project	Successful completion of capstone project during the senior year

Core Academic Departments and Course Descriptions

Mathematics Department

Our vision for mathematics education at DSST Public Schools is set by what we hope to see in our students. For students to thrive in the world they will face after college, they must be able to make sense of the world through a mathematical lens. Therefore, learning mathematics requires more than learning facts and procedures for solving certain types of problems. The goal of our math program is to instill students with the following skills, knowledge and mindsets:

- Conceptual understanding of mathematical ideas, which allows students to make connections across mathematical ideas, transfer and apply their knowledge to new contexts, and have greater retention.
- Skill in carrying out procedures flexibly, accurately, efficiently, and appropriately; the development of procedural fluency allows students to focus mental energy on flexibly approaching and thinking through problems, rather than the steps to perform an accurate calculation.
- Strategic competence and adaptive reasoning; the ability to formulate, represent, and solve mathematical problems while demonstrating logical thought, reflection, explanation, and justification.
- A productive disposition, where students see mathematics as fascinating, useful, and worthwhile, and believe that productive struggle leads to breakthroughs in understanding.

Typical Course Sequence

6th grade course	7th grade course		8th grade course	9th grade course	10th grade course	11th grade course	12th grade course
Math 6	Math 7	Placement Criteria →	Math 8	Integrated Math I	Integrated Math II	Algebra 2	Pre-Calculus
		→	Integrated Math I Honors	Integrated Math II Honors	Algebra 2 Honors	Pre-Calculus Honors	AP Calculus

Course Descriptions

Math 6
Grade Level: 6
Course Length: One year (three trimesters)

In Grade 6, instructional time is focused on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using the concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.

Math 7
Grade Level: 7
Course Length: One year (three trimesters)

In Grade 7, instructional time is focused on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers
and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

Math 8
Grade Level: 8
Course Length: One year (three trimesters)

In Grade 8, instructional time is focused on three critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.

Integrated Mathematics 1
Grade Level: 8, 9
Course Length: One year (three trimesters)

The fundamental purpose of Integrated Mathematics 1 is to formalize and extend the mathematics that students learned in the middle grades. In earlier grades, students define, evaluate, and compare functions, and use them to model relationships between quantities. In this unit, students will learn function notation and develop the concepts of domain and range. They move beyond viewing functions as processes that take inputs and yield outputs and start viewing functions as objects in their own right. Students deepen and extend their understanding of linear relationships, in part by contrasting them with exponential phenomena, and in part by applying linear models to data that exhibit a linear trend. In addition, Integrated Mathematics 1 uses properties and theorems involving congruent figures to deepen and extend understanding of geometric knowledge from prior grades, and uses the coordinate plane to connect algebra and geometry.

Integrated Mathematics 2
Grade Level: 9, 10
Course Length: One year (three trimesters)

The focus of Integrated Mathematics 2 is on quadratic expressions, equations, and functions, and comparing their characteristics and behavior to those of linear and exponential relationships learned in Integrated Mathematics 1. The need for extending the set of rational numbers arises and real and complex numbers are introduced so that all quadratic equations can be solved. The link between

probability and data is explored through conditional probability and counting methods, including their
use in making and evaluating decisions. The study of similarity leads to an understanding of right triangle trigonometry and connects to quadratics through Pythagorean relationships. Circles, with their quadratic algebraic representations, round out the course.

Algebra 2
Grade Level: 9-11
Course Length: One year (three trimesters)

It is in Algebra 2 that students pull together and apply the accumulation of learning that they have from their previous high school courses. Students apply methods from probability and statistics to draw inferences and conclusions from data. They expand their study of right triangle trigonometry, using the Laws of Sines and Cosines in order to find missing measures of general triangles. As the main focus of Algebra 2, students deepen their knowledge of functions. They expand their repertoire of functions to include polynomial, rational, and radical functions, and extend their work with exponential functions to include solving exponential equations with logarithms. They explore the effects of transformations on graphs of diverse functions, in order to abstract the general principle that transformations on a graph always have the same effect regardless of the type of the underlying functions. They identify appropriate types of functions to model a situation, adjust parameters to improve the model, and compare models by analyzing appropriateness of fit and making judgments about the domain over which a model is a good fit.

Precalculus
Grade Level: 10-12
Course Length: One year (three trimesters)

Pre-Calculus is a preparatory course for college Calculus. Topics include polynomial and rational functions, systems of linear and nonlinear equations, analytic geometry, analytic trigonometry, exponential and logarithmic functions, polar coordinates, vectors, and conic sections. A graphing calculator is required for this course.

AP Calculus AB
Grade Level: 10-12
Course Length: One year (three trimesters)

This course has two primary emphases: (1) prepare students with a strong one-semester calculus foundation for study in engineering and science programs in college, and (2) as a preparation for the Advanced Placement AB Calculus Examination. Students are expected to apply previously learned algebra and trigonometry skills to the study of limits, derivatives, integrals and elementary differential equations. This single variable calculus course is limited to motion along a line.

AP Calculus BC
Grade Level: 10-12
Course Length: One year (three trimesters)

Calculus BC is roughly equivalent to both first and second semester college calculus courses and extends the content learned in AB to different types of equations and introduces the topic of sequences and series. This course covers topics in differential and integral calculus, including concepts and skills of limits, derivatives, definite integrals, the Fundamental Theorem of Calculus, and series. You will learn how to approach calculus concepts and problems when they are represented graphically, numerically, analytically, and verbally, and to make connections amongst these representations. You will also learn how to use technology to help solve problems, experiment, interpret results, and support conclusions.

AP Statistics
Grade Level: 12
Course Length: One year (three trimesters)

Learn about the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Develop analytical and critical thinking skills as you learn to describe data patterns and departures from patterns, plan and conduct studies, use probability and simulation to explore random phenomena, estimate population parameters, test hypotheses, and make statistical inferences.

Honors courses cover the same material with greater depth and at a faster pace. Additional topics may be included.

English Department

Our vision for literacy education at DSST Public Schools is set by what we hope to see in our students. For students to thrive in the world they will face after college, they must be able to make sense of the world through reading, writing, speaking and listening. Being fully literate requires flexibility and critical thinking in approaching texts in any format. Our goal is to instill students with the following skills and mindsets:

- Skills to approach a new text in any genre, comprehending and analyzing the text appropriately; students know what analysis is most appropriate for the text.
  Ability to write for any task, purpose and audience with clarity and finesse by flexibly choosing language and structures that effectively communicate ideas.
- A fundamental belief that strong, reliable evidence is the basis for conclusions and interpretations.
- A productive disposition, where students see literacy as the foundational skill to access knowledge in any discipline, and believe that productive struggle leads to ever improving literacy.
- Healthy habits of both giving and receiving meaningful feedback on writing, within a collaborative process of revision.
- A love of reading and appreciation for the craft of writing.

Courses Descriptions

Reading 6 and Writing 6
Grade Level: 6
Course Length: One year (three trimesters)

In Grade 6, the focus of Reading and Writing is to ensure that students are proficient on the 6th grade standards by the end of the year. It is especially important for sixth grade to establish strong reading and writing routines, as well as emphasize the use of text-based evidence constantly. Ideally, students will read 6-7 central texts during the year. The current texts for sixth grade include:

Title	Author
The Dreamer	Pam Muñoz Ryan and Peter Sís
Titanic: Voices from the Disaster	Deborah Hopkinson
The Westing Game	Ellen Raskin
Red Scarf Girl	Ji-Li Jiang

Reading 7 and Writing 7
Grade Level: 7
Course Length: One year (three trimesters)

In Grade 7, the focus of Reading and Writing is to ensure that students are proficient on the 7th grade standards by the end of the year. Seventh grade classes should build on the skills and routines established in sixth grade and build students' independence. Ideally, students will read 6-7 central texts during the year. The current texts for seventh grade include:

Title	Author
The Absolutely True Diary of a Part-Time Indian	Sherman Alexie
Night	Elie Wiesel
The Curious Incident of the Dog in the Night-time	Mark Haddon

Reading 8 and Writing 8
Grade Level: 8
Course Length: One year (three trimesters)

In Grade 8, the focus of Reading and Writing is to ensure that students are proficient on the 8th grade standards by the end of the year. Eighth grade classes should focus on solidifying students' ability to independently approach a text in preparation for high school. Ideally, students will read 6-7 central texts during the year. The current texts for eighth grade include:

Title	Author
The Crossover	Kwame Alexander
To Kill a Mockingbird	Harper Lee
The Lord of the Flies	William Golding
A Midsummers' Night Dream	William Shakespeare

Humanities and Composition
Grade Level: 9
Course Length: One year (three trimesters)

In Grade 9, the focus of Humanities and Composition is on the 9-10 standards, ensuring student proficiency on the standards with ninth grade texts and tasks. Within the Humanities and Composition classes, students will also continue to build their understanding of important social

studies concepts. Ideally, students will read 6-7 central texts during the year. The current texts include:

Title	Author
The Kite Runner	Khaled Hosseini
Julius Caesar	William Shakespeare
Haroun and the Sea of Stories	Salman Rushdie
In the Time of the Butterflies	Julia Alvarez
Things Fall Apart	Chinua Achebe

World Literature
Grade Level: 10
Course Length: One year (three trimesters)

In Grade 10, the focus of World Literature is on the 9-10 standards, ensuring student proficiency on the standards with tenth grade texts and tasks. In this class, students will read literature that represents perspectives from outside the United States. Ideally, students will read 6-7 central texts during the year. The current texts include:

Title	Author
Gilgamesh	Herbert Mason (translator)
Americanah	Chimamanda Ngozi Adichie
Othello	William Shakespeare
Chronicle of a Death Foretold	Gabriel García Márquez
Metamorphosis	Franz Kafka

More extensive college preparatory course offerings are under review for grades 11 and 12 and this course catalog will be updated once our offerings are finalized.

American Literature
Grade Level: 11/12
Course Length: One year (three trimesters)

In senior academy, the focus of American Literature is on the 11-12 standards, ensuring student proficiency on the standards with senior level grade texts and tasks. In this class, students will read literature that represents perspectives from America. The current texts include:

Title	Author
The Bluest Eye	Toni Morrison
The Great Gatsby	F. Scott Fitzgerald
The Road	Cormac McCarthy
The Brief and Wondrous life of Oscar Wao	Junot Diaz

AP English Language and Composition
Grade Level: 11/12
Course Length: One year (three trimesters)

Learn about the elements that define effective argument and composition through the critical analysis and interpretation of complex texts. Understand the interactions among a writer's purpose, audience, subject, and genre and how each of these contributes to effective writing. Enhance your own writing skills and better understand each stage of the writing process as you develop expository, analytical, and argumentative compositions.

AP Literature and Composition
Grade Level: 11/12
Course Length: One year (three trimesters)

The AP English Literature and Composition course aligns to an introductory college-level literary analysis course. The course engages students in the close reading and critical analysis of imaginative literature to deepen their understanding of the ways writers use language to provide both meaning and pleasure. As they read, students consider a work's structure, style, and themes, as well as its use of figurative language, imagery, symbolism, and tone. Writing assignments include expository, analytical, and argumentative essays that require students to analyze and interpret literary works..

The current texts include:

Title	Author
The Bluest Eye	Toni Morrison
The Road	Cormac McCarthy
As I Lay Dying	William Faulkner

More extensive college preparatory course offerings are under review for grades 11 and 12 and this course catalog will be updated once our offerings are finalized.

World Language Department

DSST believes that communicating skillfully in Spanish with the over 40 million native and heritage Spanish speakers across the United States, many of whom call the western United States home, is a valuable skill for our students to possess. Our vision for Spanish language education at DSST Public Schools is set by the knowledge, skills, and mindsets that we hope to instill in our students so that they are skilled communicators in Spanish upon graduating from DSST. To be fully effective at communicating in Spanish, students must have strong facility with reading, speaking, listening, and writing Spanish with colleagues, clients, and friends. Doing so goes beyond seamlessly producing and receiving language; successful communication requires dynamically adjusting one's language use based on the context of the interaction as well as the cultural perspectives of those with whom one communicates. For this reason, we aim to prepare our students to successfully negotiate both the linguistic and cultural demands that accompany communicating in Spanish. Our goal is to instill each student with:

- the skill to effectively communicate with a linguistically diverse group of native speakers of Spanish, comprehending and using colloquial language, regionalisms, formal Spanish, and academic language in order to do so.
- the ability to utilize literacy skills in all of their languages in order to interpret complex texts. the skill to adapt language use based on contextual factors in order to effectively present one's message to a captive audience.
- the cultural competency skills to effectively navigate interpersonal interactions with members of a wide range of cultures by seamlessly choosing the appropriate register and language forms for a given situation.
- a deep understanding of the how cultural products, practices, and perspectives are connected, which leads into a solid understanding of the general concept of culture and the ways that diversity enriches one's life.
- a productive disposition where students see bilingualism as a tool that gives access to knowledge and experiences that may otherwise be inaccessible and helps with expressing one's ideas in a manner that is more precise or personally meaningful.
- the ability to flexibly apply learning strategies to learn new language in an inductive fashion, both inside and outside of the classroom.

Course Sequence Rationale and Overview

DSST recognizes that students join the network with different levels of knowledge and skills in the Spanish language and Spanish-speaking cultures. For this reason, DSST divides our Spanish programming into three tracks.

Taught mainly in Spanish, the Spanish track begins by teaching students the foundational knowledge and skills they need and gradually builds students' proficiency in both informal and formal Spanish so that every Spanish track student can be successful taking an AP Spanish course as a senior elective.

The Center for Applied Linguistics (CAL) defines a heritage learner as "[…] a person studying a language who has some proficiency in or a cultural connection to that language through family, community, or country of origin." Our Spanish and"Español para hispanohablantes" (EPH) tracks have

been designed to ensure that all learners, regardless of initial level of Spanish proficiency, are provided with Spanish instruction that meets their unique needs. For this reason, our EPH track has been further divided into two sequences.

	Español para hispanohablantes (EPH) – Sequence 1		Español para hispanohablantes (EPH) – Sequence 2	Spanish Sequence 3
9th	**Fundamentos de EPH**		**Español para hispanohablantes 1**	**Spanish 1**
10th	**Español para hispanohablantes 1**		**Español para hispanohablantes 2**	**Spanish 2**
11th	**Español para hispanohablantes 2**		**AP Spanish Language**	**Spanish 3**
12th	**AP Spanish Language (elective)**	**AP Spanish Literature (elective)**	**AP Spanish Literature (elective)**	**AP Spanish Language (elective)**

Course Descriptions

Spanish 1
Grade Level: 9
Course Length: 1 year (three trimesters)

The Spanish 1 course provides novice speakers with a foundation in the Spanish language and Spanish-speaking cultures. The teacher uses an immersive language learning environment to build students' proficiency in speaking, reading, writing, and listening in Spanish. This is accomplished by having students practice using basic grammatical concepts and themed sets of vocabulary in context. Spanish 1 is also the beginning of our students' journey of developing the ability to use learning about cultural products and practices to deeply understand cultural perspectives.

Spanish 2
Grade Level: 10
Course Length: 1 year (three trimesters)

The Spanish 1 course provides novice speakers with a foundation in the Spanish language and Spanish-speaking cultures. The teacher uses an immersive language learning environment to build students' proficiency in speaking, reading, writing, and listening in Spanish. This is accomplished by having students practice using basic grammatical concepts and themed sets of vocabulary in context. Spanish 1 is also the beginning of our students' journey of developing the ability to use learning about cultural products and practices to deeply understand cultural perspectives.

Spanish 3
Grade Level: 11
Course Length: 1 year (three trimesters)

By the end of this course, Spanish language learners will be able to demonstrate listening, reading, writing, and speaking skills at a level necessary to succeed in a college-level intermediate course. Through contextualized grammar practice and analysis of authentic texts and audiovisual materials, students will master communication in the past, present, and future tenses which, when combined with the course's focus on deeply understanding Spanish-speaking cultures, will prepare students to take an AP Spanish course as a senior elective.

Español para hispanohablantes 1 (EPH1)
Grade Level: 9, 10
Course Length: 1 year (three trimesters)

The EPH1 course is a rigorous course that is taught in solely in Spanish. The purpose of EPH 1 is to explore the Hispanic identity as well as what that means for our students, both as residents in the US and of their community. In this course, students read in Spanish at various Lexile levels with the expectation that their reading proficiency matches those of 9th grade Spanish-speakers by the end of the year. Students develop skills in all three modes of communication (interpersonal, interpretive and presentational) while using authentic resources and constructing authentic products. The course focuses heavily on present tense conjugations, formal grammar structures, and the culture and history of the Spanish-Speaking world. Students explore issues of culture and identity through current events articles, short stories, films, novel excerpts and poems. Students express their opinions and perspectives on these topics through presentational speaking and writing in the formal register.

Español para hispanohablantes 2 (EPH2)
Grade Level: 10, 11
Course Length: 1 year (three trimesters)

The purpose of this course is to finish preparing students to take AP Spanish coursework. Students who take this course study cultural and historical thematic units about South America and the Caribbean Spanish-speaking countries while comparing and contrasting their understandings of these units with the cultural and historical thematic units they studied in EPH 1. Students explore issues of culture and identity through current events articles, short stories, films, novels and poems and express their opinions and perspectives on these topics through presentational and interpersonal speaking and writing in the formal register.

AP Spanish Language and Culture
Grade Level: 11, 12
Course Length: 1 year (three trimesters)

The AP Spanish Language and Culture course is a rigorous class taught exclusively in Spanish that requires students to improve their proficiency across the three modes of communication (interpersonal, interpretive, and presentational]. The course focuses on the integration of authentic resources including online print, audio, and audiovisual resources, as well as traditional print

resources that include literature, essays, and magazine and newspaper articles with the goal of providing a rich, diverse learning experience. Students communicate using rich, advanced vocabulary and linguistic structures as they build proficiency in all modes of communication toward the pre-advanced level.

AP Spanish Literature and Culture
Grade Level: 12
Course Length: 1 year (three trimesters)

The AP Spanish Literature and Culture course uses a thematic approach to introduce students to representative texts (short stories, novels, poetry, and essays) from Peninsular Spanish, Latin American, and United States Hispanic literature. Students continue to develop proficiencies across the full range of the modes of communication (interpersonal, presentational, and interpretive), honing their critical reading and analytical writing skills. Literature is examined within the context of its time and place, as students reflect on the many voices and cultures present in the required readings. The course also includes a strong focus on cultural connections and comparisons, including exploration of various media (e.g., art, film, articles, and literary criticism).

More extensive college preparatory course offerings are under review for grades 11 and 12 and this course catalog will be updated once our offerings are finalized.

Science Department

High School Course Descriptions

Physics
Grade Level: 9
Course Length: One year (three trimesters)

Physics is the study of the way things work in the world. In this introductory course, students will learn the fundamental concepts of the major branches of Physics: kinematics, Newton's Laws, energy, simple machines, waves, and electricity. Students will need to be taking or have completed Algebra 1 while enrolled in this class. This class will be incorporating labs, demonstrations, and interactive activities to help the students make connections to physics in their everyday lives.

Honors Physics
Grade Level: 9
Course Length: One year (three trimesters)

This Honors-level Physics course will challenge students to analyze more in-depth physics concepts. This extension is available to all students, and is largely self-directed. The rigor of these topics will be closer to an introductory college-level Physics course, and will require higher order trigonometry and algebra skills.

Chemistry
Grade Level: 10
Course Length: One year (three trimesters)

This course is the study of general chemistry. Topics included in the year-long course are measurement, dimensional analysis, properties of matter, atomic structure theory, the periodic table and its trends, chemical composition and bonding, moles, stoichiometry, chemical reactions, thermochemistry, kinetic molecular theory, gas laws, solutions, and acids and bases. The intent of this course is to study theories of chemistry and demonstrate applications of these theories through laboratory experience. Content also relates these theories to everyday use for students.

AP Chemistry
Grade Level: 10
Course Length: One year (three trimesters)

This course goes beyond the study of general chemistry to advanced topics in accordance with the College Board AP Curriculum. Topics included in the year-long course are measurement, dimensional analysis, properties of matter, atomic structure theory, the periodic table and its trends, chemical composition and bonding, moles, stoichiometry, chemical reactions, thermochemistry, kinetic molecular theory, gas laws, solutions, and acids and bases. The intent of this course is to study theories of chemistry and demonstrate applications of these theories through laboratory experience. Content also relates these theories to everyday use for students.

Biology
Grade level: 11
Course Length: One year (three trimesters)

In junior biology the student is introduced to the study of life and living organisms. The class includes interactive learning components and laboratories that cover the fundamentals of biological structures, function, growth, distribution, genetics, and evolution. Content is covered to a junior science class level, matching many AP biology standards, but with a focus on the major themes of the subject.

AP Biology
Grade level: 11
Course Length: One year (three trimesters)

AP Biology is an elective course that presents biological science at a more sophisticated level than the mainstream high school classes. In this course the student studies topics related to biochemistry, cytology, bioenergetics, genetics, and evolution. The course prepares students to take the AP biology exam. Unlike at many other schools BioX is not preceded by an earlier high school biology class. As a result the course is extremely rigorous in order to fully prepare students for the AP exam.

AP Computer Science
Grade level: 12
Course Length: One year (three trimesters)

Understand core aspects of computer science which you can use to create solutions that are understandable, adaptable, and when appropriate, reusable. The design and implementation of computer programs to solve problems involve skills that are fundamental to the study of computer science. This includes the development and analysis of algorithms and fundamental data structures, and the use of logic and formal methods.

AP Physics C
Grade level: 12
Course Length: One year (three trimesters)

Explore concepts such as kinematics; Newton's laws of motion, work, energy and power; systems of particles and linear momentum; circular motion and rotation; oscillations; and gravitation. Learn to apply differential and integral calculus in order to solve problems associated with these concepts. Build your understanding and critical thinking skills through inquiry-based, laboratory investigations that explore these physics concepts.

Anatomy and Physiology
Grade level: 12
Course Length: One year (three trimesters)

Anatomy and Physiology focuses on an integrated study of the human body including the histology, anatomy, and physiology of each system. Examines molecular, cellular, and tissue levels of organization plus integuments, skeletal, articulations, muscular, nervous, and endocrine systems. Includes hands-on laboratory experience covering experimentation, microscopy, observations, and dissection.

AP Psychology
Grade level: 12
Course Length: One year (three trimesters)

Explore the concepts, theories, perspectives, phenomena and behaviors associated with the subfields and research areas of psychology. Analyze the methods psychologists use to study various types of behavior and mental processes and evaluate the validity and significance of their contributions.

Social Studies Department

High School Course Descriptions

World History
Grade Level: 10
Course Length: One year (three trimesters)

The world is unbelievably gorgeous and tragic. In World History we travel from the dawn of humanity to the birth of the electronic era. Along the way you will develop your critical thinking skills, learn how to write Document Based Question essays that will challenge and build your understanding of the world and lead to projects that allow you to explore the world and your place in it. You will continue to work on critical skills that will prepare you for college, including academic writing, researching, and being able to form an opinion and argument and back it up with evidence.

American History
Grade Level: 11
Course Length: One year (three trimesters)

"The very ink with which history is written is merely fluid prejudice." Mark Twain

This quote gets at the theory behind the structure of the DSST U.S. History course. Throughout this year, students will learn about a series of topics. In learning about this content, the goal is not to memorize facts, but to construct a personal narrative for American History. As Twain says history can be "fluid prejudice;" as a result students will be challenged to look beyond traditional prejudices in history and examine primary sources for themselves. From these documents, students will construct their own narrative for the story of this nation, thus becoming high school historians. In addition to focusing on creating a personal narrative of history, this class develops each student's reading comprehension and writing skills.

AP US History
Grade level: 11
Course Length: One year (three trimesters)

Learn about the developments that have shaped U.S. History though the critical analysis of historical events and materials. Learn to weigh evidence and interpretations as you build your factual knowledge of U.S. History. Develop your ability to draw conclusions and use informed reasoning to present your arguments clearly and persuasively in essay format.

AP Psychology
Grade level: 12
Course Length: One year (three trimesters)

Explore the concepts, theories, perspectives, phenomena and behaviors associated with the subfields and research areas of psychology. Analyze the methods psychologists use to study various types of behavior and mental processes and evaluate the validity and significance of their contributions.

More extensive college preparatory course offerings are under review for grades 11 and 12 and this course catalog will be updated once our offerings are finalized.

Experiential Learning Course Descriptions

Internship
Grade Level: 11
Course Length: One Trimester

This course provides students with an opportunity to spend two afternoons a week interning in a field of their interest, gaining exposure to the professional world and the expectations within it. Students have a chance to shadow and observe a specific job or career, and learn about the daily tasks and skills associated with that profession. This course is aimed at giving students an experience that helps guide their decision making in the upcoming year in terms of college major selection and area of concentration. Successful completion of this course prepares students with the soft skills required for success outside of the classroom, provides students with meaningful and influential career exposure, and further invests them in their hard work at DSST.

Senior Project
Grade Level: 12
Course Length: One Trimester

Senior Project is an opportunity for our Seniors to conceive, plan, research, and execute a capstone project, start to finish. They will choose a topic based on an intersection of their interests, their abilities, and what the world needs. This course represents the culmination of years of schooling in an integrated, multi-disciplinary project, which includes a presentation to an authentic, real-world audience.

From the High School Handbook

Advisory Program

DSST's Advisory Program is an essential part of creating a powerful learning community centered on core values and fulfilling the principle of personalization. Students are assigned to an advisor with a group of 12-15 other students of the same gender. The advisor is committed to knowing each advisee and to providing counsel, guidance and support. The Advisory Program provides an important human context for academic planning, goal-setting, school-to-home communications, team building and reflection. **Advisors serve as the primary contact for parents/guardians and facilitate communication between teachers and other resource personnel**. Parents/Guardians with general concerns should first contact the advisor, who will resolve the situation or facilitate further conversations.

The primary goals of the DSST Advisory Program are as follows:

1. Teach, instill and live the DSST Core Values in and out of the school community
2. Provide adult and peer support culturally and academically
3. Establish camaraderie and accountability in a smaller group within the larger DSST community
4. Recognize and celebrate individual and community accomplishments