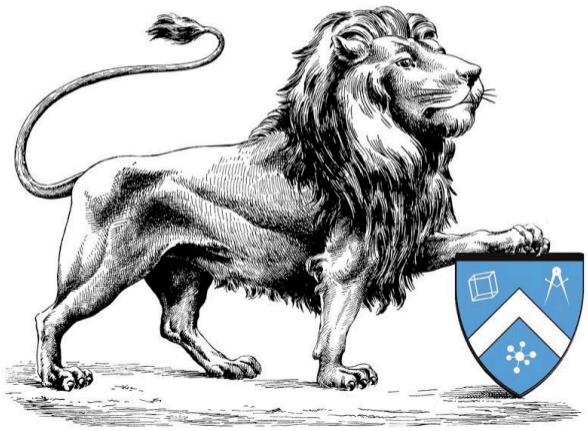
Columbia Secondary School



2025-2026

High School Course Guide

Columbia Secondary School for Math, Science and Engineering

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CSS Diploma Requirements

CSS Diploma Graduation Requirements

All students will be programmed for the CSS Diploma and may also choose to pursue the Advanced Regents Diploma.
How to use this sheet: With your transcript, check off the boxes corresponding to the classes you pass.

English (8 Credits, may include up to two credits of ELA 9 earned in 8th grade. Course codes beginning with EES8 or EEN4)

ELA 9 Fall	ELA 9 Spr	ELA 10 Fall	ELA 10 Spr	ELA 11 or AP/SUNY Fall	ELA 11 or AP/SUNY Spr	ELA 12 or AP/SUNY Fall	ELA 12 or AP/SUNY Spr

Social Studies (4 Global credits, 2 US History Credits, and two PIG/Econ credits)

Global 1 of 4	Global 2 of 4	Global 3 of 4	Global 4 of 4	US Hist 1 or AP	US Hist 2 or AP	PIG or AP Gov	Econ or AP Gov

It is possible, but not guaranteed, that Advanced Placement alternatives for Global History 3&4 will be available through Virtual Learning Classrooms.

Mathematics: (Must be taken every term of HS regardless of prior MS credit). All students must take four years of math, including sequential math through MRS21 & MRS22.

Math Term 1	Math Term 2	Math Term 3	Math Term 4	Math Term 5	Math Term 6	Math Term 7	Math Term 8

Core Science: (Must be taken every term of HS regardless of prior MS credit. After Living Environment is completed, remaining Science classes may be taken in any sequence if prerequisites are fulfilled.)

Living Env or Life Sci Fall	Liv Env or Life Sci Spr	Physical Sci (Earth/Chem/Physics)	Physical Sci (Earth/Chem/Physics)	Core Science	Core Science	Core Science	Core Science

Required Foreign Language: Two HS credits are required for graduation (see additional information for Advanced Regents Diploma Below)

LOTE Term 1	LOTE Term 2

Philosophy

Philosophy 9	Philosophy 10	Philosophy 11	Philosophy 12

Engineering/Computer Science/Applied Learning

Engineering 9 (DDP Art Credit as of Sept 2024)	Engineering 10 or Research	Engineering 11 or Research or Comp Sci

NYS Required Courses (Art and Health may be taken at any time, including Summer or Hybrid classes. If a student does not want to take Summer or Hybrid classes, they will be programmed for Art and Health in 12th Grade)

Arts Term 1	Arts Term 2	Health

Physical Education (Students must take PE all terms of HS, even if they have earned four credits sooner)

PE	PE	PE	PE	PE	PE	PE	PE

Other Requirements

Testing	Other
Pass Five Regents Exams	*100 Hours of Community Service*
ELA	*One instance of earning college credit*
Global History OR US History	-Passing AP Exam Score (3+)
Algebra OR Geometry OR Algebra II	- Earning Columbia credit
Living Environment OR Earth Science OR Chemistry OR Physics	- Earning CUNY or SUNY credit

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Students are not required to earn the Advanced Regents Diploma, but may do so by completing the requirements above in addition to passing the Checkpoint B LOTE Exam and earning six HS credits in a Foreign Language.

The Regents Diploma and the Advanced Regents Diploma may also be earned "with honors" if a student earns an average of 90 on the relevant Regents Exams.

- Students who earn the Advanced Regents Diploma are also eligible for the "Mastery in Math" designation and/or "Mastery in Science" Designation by earning an 85+ in three exams in the subject area.

The requirements for the NYS and Advanced Regents Diploma are available here.

NOTE: These requirements may be modified by the principal for individual students in special circumstances, including IEP and/or ENL mandates.

Registration Procedures

1. Students will register for courses using the Google Form they receive in their DOE Email.

2. The form will be set to email students a copy of their responses.

3. All students will be programmed for at least four class periods plus Lunch and PE.

4. If there are bullet points under a course title, they represent the prerequisites for *automatic* acceptance. Students are encouraged to select courses in which they are interested, if they come close to the prerequisites. Those students will be reviewed once Spring Semester Grades are received.

5. Please note that registering for a course does not guarantee that you will be placed in it. Grades and performance will be reviewed over the summer, once Spring Term grades are recorded. IEP and ENL mandates will also be taken into consideration.

6. It is possible that some classes may not run if there is not sufficient demand.

English Department

(Note: All English Department courses meet five days per week)

All **9th and 10th grade students** will take a sequential ELA course: **9th grade ELA** and **10th grade ELA**, respectively. Thereafter, students will have the options listed below.

OPTIONS FOR 11TH GRADE STUDENTS

EES85: English 11

Students in this course will engage primarily with works from US literary canon. With the explicit academic intention of preparing students for college-level critical analysis and composition, each unit of study will explore a core text through a specific critical literary analysis lens. Students will be challenged and encouraged to build on the foundational skills of prior years to proficiency levels that will benefit them in their post-secondary work and careers.
Possible texts include: The Scarlet Letter, The Crucible, The Great Gatsby, The Road, Macbeth, When the Emperor Was Divine, Citizen, and more.

EES85X: AP English Language and Composition

- Admission is based upon 10th grade ELA average, an in-class writing sample, and teacher recommendation.

The AP English Language and Composition course aims to develop college-level skills in rhetorical analysis, evaluation of non-fiction sources, and effective and persuasive argumentation. Through studying a broad range of non-fiction and fiction selections, students will develop a thorough and meaningful understanding of the rhetorical and stylistic choices writers make. Course texts will include an array of arguments, essays, memoirs, and non-fiction prose in addition to canonical American Literature texts such as The Great Gatsby and The Crucible. This class culminates in the AP Language and Composition exam.

Course Themes: Man vs. Society; The American Dream; The Natural World; formal rhetoric

Books You'll Read: Walden; The Great Gatsby; The Crucible; Pilgrim at Tinker Creek; The Tender Bar; Othello

OPTIONS FOR 12TH GRADE STUDENTS

EES87: English 12

In the senior level ELA course, we will spend the first semester reading nonfiction essays, poems, memoirs, and films by a diverse group of authors and filmmakers who reflect varied life experiences and perspectives. Memoir selections "Notes of a Native Son" by James Baldwin which focuses on racial relations in the early 20th century, "A Cup of Water Under My Bed" by Daisy Hernandez which profiles a queer, Latina writer from an immigrant family in New Jersey, "The Undocumented Americans" by Karla Villacencio which examines the experience of being undocumented through the voice of day laborers , "All You Can Ever Know" by Nicole Chung which explores the identity struggles of a Korean woman adopted by an American family, and "Through the Door of Life," which is about a Jewish professor at Yeshiva University who goes through a gender transition. Shorter essays include works such as "Terror and Passing" by Rafia Zakaria, which offers insights on the post 9-11 landscape in New York, "The Myth of the Latin Woman" by Judith Ortiz Cofer, which examines stereotypes about Latina women, "Serving in Florida" by Barbara Ehrenreich which profiles survival strategies of America's middle class, "On Being a Cripple" by Nancy Mairs and excerpts from "Disability Visibility" which looks at idiosyncratic journeys of those who identify as disabled in some capacity. While we maintain focus on critical reading skills, identifying narrative strategies and levels of an author's purpose will be the centerpiece. Our writing focus in the first semester will be on narrative writing as you refine your college essays and supplements. Journaling frequently will be a core part of our class experience and practicing narrative techniques will enhance your narrative writing skills. In the second semester, we will read longer fictional works such as Homegoing, a work of historical fiction racism in America tracing back to the slave trade and the Namesake: a work about a Bengali American family navigating the immigrant experience. Throughout the year, you will continually prepare for college level discourse and writing.

EES87X: AP English Literature and Composition

- Admission is based upon 11th grade ELA average, an in-class writing sample, and teacher recommendation.

AP English Literature and Composition is a yearlong course of study engaging the historical, formal, and critical components of literary studies across a broad range of texts ranging from Medieval to Postmodern. Together, we investigate the cultural and structural conventions of the English novel, drawing on widely read and influential examples of nineteenth (Shelley, Bronte) and twentieth (Woolf, Marquez, Morrison) century texts chosen to present an array of periods, styles, and points of view. Our study of the novel places women in the center of the novel's history as both key audiences and authors of a dynamic and mercurial form which continues to capture and captivate popular attention into our own time. Then, exploring alternative historical forms, we turn our attention to Dante's Divine Comedy, Shakespeare's Hamlet, and the poetry of Basho and Li Bai, to trace the history of literary expression through cultural frameworks more distant from our own, and advance poetry as the focal point of literary expression in the centuries prior to the novel's golden age. The course will culminate in the AP English Literature and Composition test in May, towards which our critical analysis and writing skills will be honed over the course of the year.

Social Studies Department

(All Social Studies Department courses meet for five periods per week)

All **9th grade students** will take **Global History 9**, a survey course from prehistory to 1750 (unless they passed the Global History Regents in Middle School). Thereafter, students will have the options listed below.

OPTIONS FOR 10TH GRADE STUDENTS

HGS43: Global History 10: Regents Emphasis

In this course you will study NY State Global History content which focuses on the Early Modern-Contemporary Periods of history. You will be challenged to become a Global Citizen who understands how world history has shaped the reality in which we live with many complex social, political, economic, and environmental issues. You will practice essential skills in reading, analyzing and interpreting, and synthesizing information from primary and secondary source documents in preparation for the NY States Regents Exam.

HGS43QJ: Global History 10: Research Emphasis

- Suggested Prerequisites: Strong ability to work independently in a self directed manner and to meet deadlines for homework in other humanities classes.

In this course you will study NY State Global History content which focuses on the Early Modern-Contemporary Periods of history. You will be challenged to become a Global Citizen who understands how world history has shaped the reality in which we live with many complex social, political, economic, and environmental issues. As a culminating project, you will learn the processes and skills to write a research paper and create a supplemental visual based on a topic and theme of your choosing connected to the course standards. Your independent project is modeled on the National History Day competition, and will allow you to take an authentic deep dive into a topic of interest while learning invaluable research and writing skills which will enhance your career and college readiness.

OPTIONS FOR 11TH GRADE STUDENTS

HUS21H: US History

This course covers NYS standards in US History in preparation for the US History Regents Exam. Students will study the following units: 1) Colonial America and Independence, 2) Constitution and Early Government, 3) Westward Expansion, 4) Civil War and Reconstruction, 5) Industrialization and the Progressive Era, 6) World War I and Imperialism, 7) Roaring 20s, 8) The Great Depression, 9) World War II, 10) The Cold War, 11) Civil Rights, 12) Post 1960 US History. The emphasis of the course is on the debates that shape US history and the foundational documents that underlie those debates. Students who have passed the US History Regents Exam should not register for this course, and should instead take AP US History or a 12th grade Social Studies course.

HUS21X: AP US History

- Overall Social Studies average of at least 90. Students with a Social Studies average less than 90 will have their applications reviewed.

AP U.S. History is an introductory college-level U.S. history course. Students cultivate their understanding of U.S. history from c. 1491 CE to the present through analyzing historical sources and learning to make connections and craft historical arguments as they explore concepts like American and national identity; work, exchange, and technology; geography and the environment; migration and settlement; politics and power; America in the world; American and regional culture; and social structures. This course culminates in the AP Exam in May, and the Regents Exam in June.

OPTIONS FOR 12TH GRADE STUDENTS

(or 11th grade students with MS credit for Regents US History)

HVS11/HES11: Participation in Government and Economics

This course is designed to provide students with the information needed to be effective, participatory citizens at the local, state, national, and international levels. The course will help students learn essential roles, rights, and responsibilities inherent in being a citizen or resident of the United States, and

compare this to political systems around the world. It is hoped that students gain a greater appreciation for their own individual power and potential to be agents of change and keepers of democracy. A key component of the course is the Civic Action Project. Students will select, research, design, execute, write about, and present a unique project of their own that addresses a social, political, or environmental issue and incorporates real world civic activities.
Economics examines the principles of the United States free market economy in a global and historical context while allowing students to understand their individual responsibility for managing their personal finances. Students will understand/review the development of economic systems in history, explore the fundamentals and key principles of how the market economy functions and is studied by economists. Students will study changes to the workforce in the United States, and the role of entrepreneurs in our economy, as well as the effects of globalization so that they can be effective participants in society and make choices for their own lives with these realities in mind. Students will explore the challenges facing the United States free market economy in a global environment such as increasing inequality and pressures on environmental sustainability. Various policy-making opportunities available to government to address these challenges and the role of sustainable economic development, socially responsible investing, and a circular, fair trade based system will be explored.

HFS21X: AP United States Government and Politics

- Completion of a US History course
- 90+ average in US History OR 80+ average in AP US History

This course is an introductory college-level course in U.S. government and politics. Students cultivate their understanding of U.S. government and politics through analysis of data and text-based sources as they explore topics like constitutionalism, liberty and order, civic participation in a representative democracy, competing policy-making interests, and methods of political analysis. This course ends in an AP exam.

Math Department

(All Math Department courses meet for five periods per week)

All students' initial math courses will be **Algebra 1** (taken in the 8th grade by accelerated students) and **Geometry**. For students who enter high school without Algebra 1, the school offers both a two-semester and four-semester Algebra 1 class, with placement determined by test scores and, where applicable, teacher recommendation. Students who pass the Algebra 1 Regents but do not earn two HS credits in Algebra 1 may be programmed for an advanced math course that reinforces Algebra 1 content through the lens of statistics (See MSS21QA, below).

After taking Algebra 1 and Geometry, students can proceed to the options below.

OPTIONS FOR STUDENTS CURRENTLY IN GEOMETRY

MRS21: Algebra 2

- Passing score on the Algebra 1 Regents is required
- Passing score on the Geometry Regents or course is *not* required

This course follows the NYS syllabus for Algebra 2. Students in this course will move to precalculus the following year, and take the Regents Exam during Precalculus.

MRS21H: Algebra 2 Honors

- A grade of 90+ on the Algebra 1 Regents is required

This course will cover all Algebra 2 standards in one year, with the addition of precalculus topics. Students who successfully complete this course with a high level of achievement will qualify to go to AP Calculus the following year, potentially allowing for higher-level math courses in senior year.

OPTIONS FOR STUDENTS CURRENTLY TAKING ALGEBRA 2 (NOTE INDIVIDUAL COURSE PREREQUISITES)

MPS21: Precalculus

- Passing score in MRS21 OR MRS22
- Restricted to students who have taken MRS21 and MRS22 and have not yet taken the Algebra 2 Regents
- The Algebra 2 Regents will be given in January

This course builds upon the skills learned in Algebra 2 and integrates topics in precalculus with the skills in statistics from the Algebra 2 syllabus. Students take the Algebra 2 Regents

MCS21X: AP Calculus AB

- Recommended 80+ average in Precalculus
- Recommended 85+ on Algebra 2 Regents

AP Calculus AB is an introductory college-level calculus course. Students cultivate their understanding of differential and integral calculus through engaging with real-world problems represented graphically, numerically, analytically, and verbally and using definitions and theorems to build arguments and justify conclusions as they explore concepts like change, limits, and the analysis of functions. AP Calculus AB is a full-year course that will prepare students for the AP exam & a standard Calculus II course. This course ends in an AP exam.

MCS21: Calculus

- Currently enrolled in precalculus

Calculus uses limits to study the infinitely small so that we can look at the instantaneous rate of change of and the area underneath a function. In addition to mathematics, calculus is essential for the in-depth analysis of various fields of study such as physics and economics. In Calculus I, after a thorough introduction to limits, students will learn and apply differential and integral calculus in one variable. This course does not provide college credits.

MSS21X: AP Statistics

- Minimum score of 75 on the Algebra 2 Regents
- Completion of sequential math through MRS22

AP Statistics is an introductory college-level statistics course that introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students cultivate their understanding of statistics using technology, investigations, problem solving, and writing as they explore concepts like variation and distribution; patterns and uncertainty; and data-based predictions, decisions, and conclusions. Students will become fluent with calculator commands to run inference procedures. Students should have access to a graphing calculator, in class as well as at home. Students should anticipate:
Daily homework assignments 15-30 minutes. (often on AP Classroom portal);
Weekly Assignments/readings from the text, and/or free response analysis.

This course ends in an AP exam.

MSS21QA: Statistics With Algebra

- Students must have passed the Algebra 1 Regents

Students will learn basic and practical statistical concepts, including how to use statistics to make decisions in business and in life. Both descriptive and inferential statistics will be taught, as will computer applications. This course will also reinforce Algebra content through the lens of statistics, offering students who passed the Algebra Regents an additional opportunity to practice their foundational Algebra skills in a new context.

MQS21QF: Financial Literacy

- This course will be offered through virtual learning, during the school day

This Financial Literacy course will explore essential personal finance topics necessary to make informed financial decisions. Topics include banking, credit, budgeting, investing, careers, and more. Throughout this course you will participate in case studies, financial simulations, and various group and individual projects to demonstrate your learning of financial topics.

MQS21QN: Math for Human Flourishing (Fall)/Number Theory (Spring)

- Counts simultaneously as a math class and a philosophy course.
- Mathematical prerequisite: Students must have passed MRS21 and MRS22.

In the Fall Term, we will explore the various ways in which math can be interesting and useful outside of the traditional application problems. Together, we will answer the question "What's the point of learning math if I don't use it every day?" We will be using Francis Su's *Mathematics for Human Flourishing* as our core text, and each week we will tackle the mathematical and sociological concepts covered in each chapter. Our text will be supplemented by videos and additional readings as needed to bolster our discussions in class.

In the Spring Term, we will explore integers, divisibility, and different kinds of numbers. We will use inductive reasoning to prove many of the fundamental questions we have about numbers and operations. In particular, we'll explore integers, prime numbers, divisibility and a basic introduction to cryptography. We will write and discuss questions that may seem basic at a higher level, to dig deeper into our mathematical assumptions.

Science Department

All students will begin their HS career by taking **Regents Biology**, unless that course has been completed in MS. After Regents Biology, students may take any course in any order.

Note that, in order to graduate, students must pass six science credits, including:

- Two credits of Life Science courses (Regents Biology is a life science)
- Two credits of Physical Science courses (Regents Earth Science, taken in the 8th grade at CSS, is a physical science)
- Two additional science courses

CSS students are expected to take science every semester of HS. In the senior year, a computer science course may satisfy that requirement, even if the course has a math or technology course code.

PHYSICAL SCIENCE COURSES

SCS21: Regents Chemistry

Regents Chemistry is a one-year course designed to provide a modern view of Chemistry suitable for students with a wide range of skills and abilities. The topics covered provide the unifying principles of Chemistry and a basic understanding of our environment. These include: Matter and Energy, Atomic Structure and Bonding, Periodic Table, the Mathematics of Chemistry, Kinetics and Equilibrium, Acids and Bases, Redox and Electrochemistry, Organic Chemistry and Nuclear Chemistry.

Students complete a minimum of 1200 minutes of laboratory instruction, as mandated by the New York State Education Department. Students enrolled in this class will take the New York State Regents Examination.

SPS21: Regents Physics

Regents Physics is a college preparatory course that includes the following topics: Kinematics, Forces, Energy, Electricity, Magnetism, Waves, and Modern Physics.

The course will focus on preparing students in the laws of physics as well as understanding the fundamental concepts and gaining an appreciation for the role of physics in our everyday life. Students complete a minimum of 1200 minutes of laboratory instruction, as mandated by the New York State Education Department. Students enrolled in this class will take the New York State Regents Examination.

SCS21X: AP Chemistry

- Completion of HS Living Environment/Biology
- Sophomores who wish to take this course must have a 90+ on the Algebra 1 and Biology Regents Exams.

AP Chemistry is an introductory college-level chemistry course. Students cultivate their understanding of chemistry through inquiry-based lab investigations as they explore the four Big Ideas: scale, proportion, and quantity; structure and properties of substances; transformations; and energy. This course ends in an AP exam. This course meets for a double-period every other day.

SPS21X: AP Physics 2

- Score of 90 or higher on the Algebra 2 Regents

AP Physics 2 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of physics through inquiry-based investigations as they explore these topics: fluids; thermodynamics; electrical force, field, and potential; electric circuits; magnetism and electromagnetic induction; geometric and physical optics; and quantum, atomic, and nuclear physics. This course ends in an AP exam, where students are able to earn college credit if they score a high enough grade. This course meets for a double period every other day.

LIFE SCIENCE COURSES

SBS21: Biology

- All 9th graders will take this course unless they enter with HS credit for Regents Biology

Regents Biology is a college preparatory course that prepares students to understand and apply scientific concept principles and theories pertaining to the

living environment and recognize the historical development of ideas in science. To attain this, the course addresses seven key ideas: similarity and differences among living and non-living things; inheritance of genetic information; changes of species and organisms over time; the continuity of life; dynamic equilibrium that sustains life; interdependence of plants and animals and their environment.

Students complete a minimum of 1200 minutes of laboratory instruction, as mandated by the New York State Education Department. Students enrolled in this class will take the New York State Regents Examination.

SBS21X: AP Biology

- Completion of HS Living Environment/Biology
- 85+ Final Grade in Regents Chemistry, or completion of AP Chemistry
- 90+ on the Living Environment or Biology Regents

AP Biology is a rigorous college-level introductory biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore the following topics: evolution, cellular processes — energy and communication, genetics, information transfer, ecology, and interactions.
The course is based on four Big Ideas, which encompass core scientific principles, theories, and processes that cut across traditional boundaries and provide a broad way of thinking about living organisms and biological systems. The following are Big Ideas:

1. The process of evolution explains the diversity and unity of life.
2. Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis.
3. Living systems store, retrieve, transmit, and respond to information essential to life processes.
4. Biological systems interact, and these systems and their interactions possess complex properties.

SWS21XP: AP Psychology

- Passing score on the Living Environment/Biology Regents
- For Sophomores: A 90+ in Living Environment/Biology course is required.

AP Psychology is an introductory college-level psychology course. Students cultivate their understanding of the systematic and scientific study of human behavior and mental processes through inquiry-based investigations as they explore concepts like the biological bases of behavior, sensation and perception, learning and cognition, motivation, developmental psychology, testing and individual differences, treatment of abnormal behavior, and social psychology. This course ends in an AP exam.

SBS21QC: Marine Biology

- Passing score on the Living Environment/Biology Regents

Students will engage in an in-depth exploration of marine biology, with a primary focus on understanding and maintaining the delicate balance of Aquatic Ecosystem Models (AEMs). Through a curriculum comprising hands-on activities and interactive lessons, participants will delve into the anatomy of marine organisms across various scales, from micro to massive. They will develop a nuanced understanding of the intricate relationships between different species and their environments, alongside an examination of the anthropogenic impacts on these ecosystems.

Central to the course is an investigation into the physical chemistry governing aquatic environments, encompassing factors such as salinity, pH levels, and nutrient cycling. Through empirical experiments and data analysis, students will gain valuable insights into the dynamic processes shaping marine ecosystems. Foundational principles in biology, ecology, and oceanography will be explored. Upon completion of the course, students will emerge with an appreciation for the complexities of marine ecosystems and the knowledge and skills to become stewards of our waterways.

OTHER SCIENCE COURSE

SFS21: Forensic Science

- Offered through the Virtual Learning Program

Take a new look at forensics through the lens of some of the world's most famous and intriguing crime cases. This course examines the latest forensic techniques and

innovations used to solve crimes. It also focuses on basic scientific principles and laboratory processes used in the field, such as DNA testing, presumptive tests, and material analysis. Investigative experiences for students include electrophoresis and evidence analysis techniques such as fingerprinting, blood typing, and fiber analysis. Students also study crime scene investigation (CSI) and evidence collection using mock crime scenes.

Spanish Department

Students are required to take one year of Spanish to graduate from HS, and to obtain the CSS Diploma.

Students typically take first-year HS Spanish in middle school, and receive credit if they pass the Checkpoint A Exam. Thereafter, students may take second-year Spanish, and third-year Spanish. The Checkpoint B LOTE Exam (equivalent to a Regents Exam for graduation requirements) is administered after third-year Spanish.

Following the completion of **Spanish 1-3**, students may take either or both of the following courses:

FSS21QP: Spanish 4

- Passing score on the HS LOTE (Checkpoint B) Exam
- Completion of Spanish 3

Spanish 4 Pre-AP is a course taught exclusively in Spanish that requires students to improve their proficiency across three modes of communication: interpretative (reading and listening comprehension), interpersonal and presentational (speaking and writing).

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; and also a combination of visual/print resources such as charts, tables, and graphs; all with the goal of providing a diverse learning experience. Students learn to communicate by developing a rich vocabulary and studying advanced linguistic structures as they build proficiency toward the AP Spanish Language and Culture exam. Students are encouraged to engage in real-life activities outside the classroom to enrich their Spanish language and culture.

FSS21X: *AP* Spanish Language and Culture

- Passing score on the HS LOTE (Checkpoint B) Exam

AP Spanish Language and Culture is equivalent to an intermediate level college course in Spanish. Students cultivate their understanding of Spanish language and culture by applying interpersonal, interpretive, and presentational modes of communication in real-life situations as they explore concepts related to family and communities, personal and public identities, beauty and aesthetics, science and technology, contemporary life, and global challenges. This course is taught exclusively in Spanish; students communicate using rich, advanced vocabulary and linguistic structures as they build proficiency in all modes of communication toward the pre-advanced level. This course ends in an AP exam.

Philosophy Program

Sequence of courses

All students will take one credit of Philosophy each year.

Grade	Philosophy Course Options	
9	Introduction to Philosophy	
10	Ethics and Aesthetics	
11	Political Philosophy	Bioethics
12	Senior Philosophy: Existentialism	Philosophy, Science, and Society

*** Math for Human Flourishing (Math Elective credit) can also count as fulfilling the Philosophy requirement for juniors and seniors.

OPTIONS FOR 11TH GRADE STUDENTS

EESG5: Political Philosophy

In Political Philosophy, students will study the philosophical meanings and interpretations of liberty, justice, personal rights, citizenship, individualism, ownership, and property. We will consider idealistic forms of government (if any government can be said to be ideal), the responsibilities of democratic citizens, and the responsibilities of rulers. The course will explore the foundations of modern political philosophy through classical texts such as Machiavelli's *The Prince* and John Stuart Mill's *On Liberty* before examining more modern texts and their implications.

SBS21QB: Bioethics

In this captivating high school elective, students will embark on a thought-provoking exploration of bioethics, where they will be empowered to advocate for their ideas and engage in in-depth analysis of ethical issues and debates. Throughout the course, students will delve into a diverse array of bioethical topics, ranging from antibiotic resistance to childhood sports

participation and organ donation. Using the NYC High School Bioethics Project Lesson Plans as a backbone, alongside current events and real-world examples, students will lead classes and discussions, offering insights and perspectives on pressing ethical dilemmas.

By examining these complex issues through a critical lens, students will develop the skills and knowledge needed to advocate for their ideas and contribute meaningfully to the ongoing dialogue surrounding bioethics. Through collaborative projects, debates, and presentations, students will hone their communication and analytical abilities, preparing them to navigate the ethical challenges of the modern world with confidence and empathy. This will be an enlightening journey, where curiosity meets advocacy, as we unravel the ethical complexities that shape our relationship with the natural world.

OPTIONS FOR 12TH GRADE STUDENTS

EESG7: Senior Philosophy: Existentialism

How do human beings confront a seemingly meaningless world? This course will examine the foundations, development, and influence of existential and absurdist traditions in literature, philosophy, and film. Our wide array of texts range from ancient (Ecclesiastes, Sophocles) to modern (Fanon, De Beauvoir, Weil), with a particular interest in works grappling with human purpose, angst, courage, identity, love, and authenticity. We will conduct focused inquiries into the implications of existential and absurdist philosophy for related fields such as political philosophy, feminism, art, ethics, religion, and history. Finally, we will turn our attention to influential expressions of existentialism, nihilism, and absurdism in postwar cinema and theater.

SQS21QP: Philosophy, Science, and Society

This course examines the role of science in society, focusing on how scientific knowledge is constructed, debated, and sometimes deliberately manipulated. Using David Harker's *Creating Scientific Controversies* as our main text, we will analyze case studies in climate change denial, vaccine skepticism, and the politics of scientific research. We will also study causal reasoning in science, including Hume's

problem of induction, the replication crisis in science and psychology, and the ethics of artificial intelligence. Engaging with philosophical texts, case studies, and real-world scenarios, students will develop the critical thinking skills necessary to navigate scientific discourse in modern society.

Engineering Program

AWS21: Drawing and Design For Production

- 9th Grade Students
- Satisfies NYS Art Requirement and CSS Engineering Requirement

Students will respond to design challenges and present solutions in the form of accurately scaled and dimensioned drawings. This class will examine the technical and artistic aspect of creating designs for architecture, mechanical mechanisms, and theatre props. Students will create original concept art, mechanical drawings, and 3D models suitable for production while learning elements of Global Art History, architecture, and mechanical engineering and combine this knowledge with personal perspectives to create innovative design solutions.

SKS63T: Engineering, 3D Printing, and AI

- 10th Grade Students
- Satisfies CSS Engineering Requirement
- Meets Every Other Day

In this course, students explore design thinking and modern design techniques. Students develop skills in AI-aided design as well as traditional digital 3-D modeling. In this course, students create designs to solve a variety of problems and present their work through writing and presentations. Students see their 3-D designs come to life through 3-D printing. Throughout the course, students also examine the impact of their designs on society and discuss engineering ethics and its connections to social justice and equity.

MQS11U: Columbia University Frontiers in Operations Research and Data Analytics

- Open to all 11th Grade Students on-track for graduation
- Satisfies CSS Engineering Requirement
- Will meet for a double period lecture (whole class cohort), at CSS and then at Columbia. Will also meet in a small-group recitation at CSS.
- Carries one CU credit, and 0.5 CSS HS credits

- Fall Term description is below. The Spring Term description is TBD, and may or may not involve a CU course.

Operations research is a fast-growing field that studies techniques and methods to improve the efficiency of industrial and social operations powered by data-driven decisions. Operations research is widely applied in various fields, including information technologies, financial engineering, service sciences, business modeling, transportation, and healthcare. This introductory course overviews modern approaches and ideas for operations research and data analytics. Through a series of interactive sessions, students engage in activities exploring Operations Research and Analytics topics with various faculty members from the Industrial Engineering/Operations Research (IEOR) department. There are no mathematics prerequisites for this course.

Computer Science Courses

TYS21: Introduction to Programming

This course is a high-school level introduction to computer programming for students who are interested in coding, but who do not necessarily have the desire to take a college-level class in the subject.

MKS21X: AP Computer Science A (Java)

- A minimum score of 85 on the Algebra 1 or Algebra 2 Regents Exams is required. Prior programming experience is highly recommended.

Computer science embraces problem solving, hardware, algorithms and perspectives that help people utilize computers to solve real-world problems in everyday life. The AP Computer Science A course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design. These techniques represent proven approaches for development solutions that can scale up from small, simple problems to large, complex problems. This course ends in an AP exam.

MKS21XP: AP Computer Science Principles

- A minimum score of 85 on the Algebra 1 or Algebra 2 Regents Exam is required.

AP Computer Science Principles is an introductory college-level computing course that introduces students to the breadth of the field of computer science. Students learn to design and evaluate solutions and to apply computer science to solve problems through the development of algorithms and programs. They incorporate abstraction into programs and use data to discover new knowledge. Students also explain how computing innovations and computing systems—including the internet—work, explore their potential impacts, and contribute to a computing culture that is collaborative and ethical. This course ends in an AP exam.

Arts Electives

AHS21: Introduction to Art History

This two-semester, art history course begins with Prehistoric Art and continues up through African art in the 1700s. It covers the influential art of the Egyptians, Greeks, Romans, Japanese, and Native Americans. This course seeks to develop skills in perception, comprehension, and appreciation when dealing with a variety of visual art forms. Most importantly, the course fosters an understanding of how art has influenced cultures and societies as a whole

CJS21: Introduction to Drama (not offered in 2025-26)

In this introductory theatre course, we will explore the elements of theatre including basic terminology, body positions, stage directions, types of theatre, observation, relaxation & concentration, imagination, plot structure & the dramatic pyramid, storytelling, and voice. The course will culminate in a playwriting unit, where the class will write and produce their own one act plays for performance.

Other Classes

PPS11: Physical Education

PPS11Q0: Early (Outdoor) Physical Education

PHS21: Health

MQS11S/EQS11S: Special Education Teacher Support Services