2025 - 2026 Course Catalog

James Nicotri
Principal

“We educate and INSPIRE the problem solvers and leaders of tomorrow.”

MINIMUM CREDIT REQUIREMENTS FOR GRADUATION

English - 8 credits

- ❑ English 1
- ❑ English 2
- ❑ English 3
- ❑ English 4
- ❑ English 5
- ❑ English 6
- ❑ AP English Literature 2
- ❑ AP English Literature 1
- ❑ College Prep English (SAT)
- ❑ Freshman Seminar
- ❑ AP English Language 1
- ❑ AP English Language 2

Social Studies - 8 credits

- ❑ Global History I
- ❑ Global History II
- ❑ AP World History I
- ❑ AP World History II
- ❑ History of NYC
- ❑ AP Psychology
- ❑ AP US History
- ❑ AP African American Studies
- ❑ US History I
- ❑ US History II
- ❑ Government
- ❑ Economics
- ❑ AP Macroeconomics
- ❑ AP US Government
- ❑ AP Human Geography

Mathematics - 6 credits

Required:

- ❑ Algebra I (*Semester 1*)
- ❑ Algebra I (*Semester 2*)

At least 4 credits from the following:

Semester 1	*Semester 2*	
☐	☐	Algebra II
☐	☐	Geometry
☐	☐	Math Lab
☐	☐	AP Pre Calculus
☐	☐	Calculus
☐	☐	Financial Education
☐	☐	College Prep Math (SAT)
☐	☐	AP Calculus AB
☐	☐	AP Calculus BC
☐	☐	AP Statistics
☐	☐	AP Computer Science Principles

Science - 6 credits

Required:

- ❑ Biology (*Semester 1*)
- ❑ Biology (*Semester 2*)

At least 4 credits from the following:

Semester 1	*Semester 2*	
☐	☐	Chemistry
☐	☐	Earth & Space Science
☐	☐	Physics
☐		Astronomy
☐	☐	Forensics
☐	☐	Hydroponics
☐	☐	Sherman Scholars
☐	☐	Human Anatomy & Physiology
☐	☐	AP Psychology
☐	☐	AP Physics C:Mechanics
☐	☐	AP Biology
☐	☐	AP Chemistry
☐	☐	AP Environmental Science
☐	☐	Advanced Science Research

Foreign Language - 2 credits, 6 for Advanced Regents

- ❑ French 1
- ❑ French 2
- ❑ French 3
- ❑ French 4
- ❑ French 5
- ❑ French 6
- ❑ Spanish 1
- ❑ Spanish 2
- ❑ Spanish 3
- ❑ Spanish 4
- ❑ Spanish 5
- ❑ Spanish 6
- ❑ AP Spanish Language I
- ❑ AP Spanish Language II
- ❑ AP Spanish Literature I
- ❑ AP Spanish Literature II

Arts - 2 credits from the following

- ❑ Digital Photography
- ❑ Studio Art
- ❑ Required Art
- ❑ Music
- ❑ Graphic Yearbook
- ❑ AP 2D Drawing

Health/Physical Education - 1 credit Health, 8 semesters PE

☐ Health (1 credit)

Physical Education (*4 credits, .5 credits each*)

- ☐ ☐ Freshman Year
- ☐ ☐ Sophomore Year
- ☐ ☐ Junior Year
- ☐ ☐ Senior Year

REGENTS EXAM REQUIREMENTS FOR GRADUATION

Regents Diploma

- ❑ English Language Arts
- ❑ Global History or US History
- ❑ Algebra I **or** Algebra II **or** Geometry
- ❑ Biology **or** Chemistry **or** Earth & Space Science **or** Physics
- ❑ One additional Regents exam

Advanced Regents Diploma

- ❑ English Language Arts
- ❑ Global History & Geography
- ❑ US History & Government
- ❑ Algebra 1
- ❑ Algebra II
- ❑ Geometry
- ❑ Biology **and**
- ❑ Chemistry **or** Earth & Space Science **or** Physics
- ❑ World Language

COURSE SEQUENCES

MATH

Algebra 1 and Math Lab → Algebra 2 and AP PreCalculus OR Enrichment → Geometry → Calculus → AP Courses

SCIENCE

Biology → Chemistry OR Earth & Space Science → Physics OR Chemistry OR Earth & Space → Physics OR AP Science

ENGLISH

English 1/2 → English 3/4 → English 5/6 OR AP English Language → AP English Literature OR English 7/8

SOCIAL STUDIES

Global 1/2 → AP World History → US History OR AP US History → Government & Economics OR AP Gov & Macroeconomics

ENGLISH I AND II - INTRODUCTION TO ENGLISH WRITING AND COMPOSITION

Credits: One credit/semester
Grade(s): 9
Length of Course: Two semesters
Prerequisite: None
Requirement Satisfied: Required English

Freshman English establishes the parameters for the study of English language writing and literature through the lens of self-discovery. Students write a series of essays to build strong foundational skills in analysis and communication;. Review of the four basic literary elements – plot, character, setting, theme – is conducted, as students are introduced to the works of such authors as Chimamanda Ngozi Adichie, Sherman Alexie, Elie Wiesel, and Trevor Noah. Students learn how to analyze both literary texts and non-fiction informational material.

HUMANITIES SEMINAR

Credits: One credit/semester
Grade(s): 9
Length of Course: Two semesters
Prerequisite: None
Requirement Satisfied: None

Rhetoric and Composition is a two-term course taken in addition to 11th Grade English, with the purpose of developing the practical writing skills required for the English Language Arts Regents. Guided by rubrics and templates, students read, write argument, informational and narrative essays in addition to writing creatively. They are introduced to the writing tasks they may encounter in the following year if they take AP Language. Students identify and analyze rhetorical strategies and logical fallacies, practice synthesizing diverse source material, and gain confidence in using the writing process, visible in their portfolios, to participate in academic discourse.

ENGLISH III AND IV - LITERATURE ACROSS CULTURES

Credits: One credit/semester
Grade(s): 10
Length of Course: Two semesters
Prerequisite: English I and II
Requirement Satisfied: Required English

In this annualized course of two semesters, sophomore English students begin to consider themselves as members of a larger global community by reading texts written by both American and international authors while focusing on societal conflicts and human relationships within them. Students will examine concepts such as socioeconomic inequality, racism, gender equality, dystopian societies, and economic systems. Continued emphasis will be placed on the study of English literature from around the world, studying diverse writers such as Ernesto Quiñonez, J.D Salinger, George Orwell, and Ray Bradbury, along with thematic non-fiction works. Students will complete a variety of writing assessments analyzing fiction, nonfiction, poetry, art, music, video and other texts. New rhetorical and literary devices and techniques, including plot structure, allusion, and archetype among others will be introduced within regents-style practice in order for students to gain familiarity with the concepts they will be expected to grasp in 11th grade.

ENGLISH V AND VI – THE AMERICAN EXPERIENCE

Credits: One credit/semester
Grade(s): 11
Length of Course: Two semesters
Prerequisite: English III and IV
Requirement Satisfied: Required English

In this annualized course of two semesters, students prepare for the level of English reading and composition that is expected in college and careers post high school. Students will utilize multiple forms of writing media, projects, and presentations, as well as reading assignments to help them study and review *The American Experience* and the art of rhetoric. Students will focus on themes such as The American Dream, the causes and effects of war, the conflict between illusion and reality, gender roles, racial tension in the United States, the role of religion in American life, the conflict between capitalism and communism, and the dynamics of the American family. Students will take the New York State English Language Arts Regents in January of 11th grade and then transition to focusing on skills necessary for whole-text literary analysis and information literacy to better prepare them for twelfth grade English and college-level skills.

[✔*Some sections are eligible to earn SUNY Stonybrook Credit]*

RHETORIC & COMPOSITION

Credits: One credit/semester
Grade(s): 11
Length of Course: Two semesters
Prerequisite: English III and IV
Requirement Satisfied: Required English

Rhetoric and Composition is a two-term course taken in addition to 11th Grade English, with the purpose of developing the practical writing skills required for the English Language Arts Regents. Guided by rubrics and templates, students read, write argument, informational and narrative essays in addition to writing creatively. They are introduced to the writing tasks they may encounter on the . Students identify and analyze rhetorical strategies and logical fallacies, practice synthesizing diverse source material, and gain confidence in using the writing process, visible in their portfolios, to participate in academic discourse.

AP ENGLISH LANGUAGE AND COMPOSITION

Credits: One credit/semester
Grade(s): 11
Length of Course: Two semesters
Prerequisite: Application & In-School Writing Sample
Requirement Satisfied: Required English

In this annualized course of two semesters, students prepare for the level of English reading and composition that is expected in college and careers post high school. Students will learn about the elements of rhetoric and composition as they develop their critical-reading and writing skills. Students will read and analyze American nonfiction (and some fiction) works from various periods and write essays with different aims: for example, to explain an idea, argue a point, or persuade their reader of something. There is a heavy focus on current events, history, and the political sphere in addition to literature and rhetoric. In addition to preparing for the Advanced Placement exam in May, students will sit for the New York State English Language Arts Regents in January of 11th grade.

AP ENGLISH LITERATURE AND COMPOSITION

Credits: One credit/semester
Grade(s): 12
Length of Course: Two semesters
Prerequisite: English V and VI
Requirement Satisfied: Required English

The Advanced Placement English literature and composition course is designed to prepare students with an interest in English studies for the rigors of such work at the college level. Students will read and write about seminal works of literature in English in all genres – poetry, prose, and drama, by writers both from Great Britain itself and from its current and former colonial territories including the Caribbean, Africa, Asia, and the United States. Students will read and write at an accelerated rate, and will be responsible for bearing the full load of a college class in high school. Students registered for this course must take the Advanced Placement test in May of their senior year.

GLOBAL HISTORY I AND II

Credits: 1 credit/semester
Grade(s): 9
Length of Course: 2 semesters
Prerequisite: None
Requirement Satisfied: Global History

Global I and II is a one year course that starts with the Prehistoric times and ends with the Age of Absolutism. The course is divided by topic chronologically in order to follow the New York State Curriculum for Global Studies. At the end of this course, you will be able to answer all of the daily Aims, define the essential vocabulary, and apply the relevant concepts.

AP WORLD HISTORY

Credits: 1 credit/semester
Grade(s): 10
Length of Course: 2 semesters
Prerequisite: Global I and II
Requirement Satisfied: Global History

AP World History is designed for qualified students who wish to complete studies in secondary school equivalent to an introductory college course in world history. The purpose of this course is to develop greater understanding of the evolution of global processes and contacts in different types of human societies. The course highlights the nature of changes in global frameworks and their causes and consequences, as well as comparisons among major societies. It emphasizes relevant factual knowledge, leading interpretive issues, and skills in analyzing types of historical evidence. Students will be required to take the AP World History test in May.

US HISTORY I AND II

Credits: 1 credit/semester
Grade(s): 11
Length of Course: 2 semesters
Prerequisite: Global I-IV
Requirement Satisfied: American History & Government

U.S. History I & II is a one-year survey course that covers topics in American history from the Colonial Period (early 1600s) through The Great Depression (1941). Emphasis is placed on our Constitutional foundations and the effectiveness of this system of government throughout this time period. Students will continue to develop skills necessary to take the Regents Exam by working on multiple choice strategies and preparing for Civic Literacy Essays. The two courses are prerequisites to U.S. History III.

AP US HISTORY

Credits: 1 credit/semester
Grade(s): 11
Length of Course: 2 semesters
Prerequisite: Global I-IV
Requirement Satisfied: American History & Government

Advanced Placement United States History is an academically rigorous, chronological and thematic survey course spanning the entirety of United States history from 1492 to the present day. The Advanced Placement course is designed to provide students with the analytical skills and factual knowledge critical to dealing with the problems and issues inherent throughout United States history. Students will learn to assess historical materials, their relevance to a given interpretive problem, and their reliability and significance. The course will emphasize key themes in United States history including national and ethnic diversity, identity and culture, demographic changes, economic transformations and trade patterns, the environment, globalization and international relations, politics, reform, religion, slavery and labor systems, war and diplomacy. Students are required to take the Advanced Placement test in May.

US HISTORY III/GOVERNMENT

Credits: 1 credit/semester
Grade(s): 12
Length of Course: 1 semester
Prerequisite: US History and Government I & II
Requirement Satisfied: American History & Government

U.S History III/US Government incorporates the following topics in US History with an emphasis on the role of government at the federal, state and local levels: The Politics of the Roaring Twenties, the Great Depression and the New Deal, World War II, The Cold War, the Postwar Boom, the Korean War, Civil Rights, The Vietnam War, An Era of Social Change, The Conservative Tide, and The United States in Today's World. US Government includes the principles of Democracy and the foundations of US Government, political behavior, comparative political and economic systems, as well as state and local governments. Students will take the U.S. History Regents in January.

ECONOMICS

Credits: 1 credit/semester
Grade(s): 12
Length of Course: 1 semester
Prerequisite: US History and Government I, II & III
Requirement Satisfied: Economics

Students will study the following: Economic Systems, American Free Enterprise, Supply and Demand, Market Structures, Business Organizations, Labor, Financial Markets, Introductory Macroeconomics, Taxation and Spending, Fiscal Policy, International Trade, and Economic Development and Transitions. Students will learn to analyze and critique economic systems, processes, as well as policy. Personal financial awareness is also taught to prepare students for independent adulthood. This course is offered to all students during the Spring semester of their senior year.

AP GOVERNMENT & POLITICS

Credits: 1 credit
Grade(s): 12
Length of Course: 1 semester
Prerequisite: US History and Government I & II
Requirement Satisfied: Government

AP Government and Politics provides a college-level, nonpartisan introduction to key political concepts, ideas, institutions, policies, interactions, roles, and behaviors that characterize the constitutional system and political culture of the United States. Students study U.S. foundational documents, Supreme Court decisions, and other texts and visuals to gain an understanding of the relationships and interactions among political institutions, processes, and behavior. They also engage in disciplinary practices that require them to read and interpret data, make comparisons and applications, and develop evidence-based arguments. Students are required to take the Advanced Placement test in May.

AP MACROECONOMICS

Credits: 1 credit
Grade(s): 12
Length of Course: 1 semester
Prerequisite: US History and Government I & II
Requirement Satisfied: Economics

AP Macro is a fast paced college-level course that focuses on the decision making of individuals, businesses, and the government. Students will study a variety of economic theories and analyze their practical application in the real world. This semester-long course will focus on the economy as a whole, including economic measures, economic growth, fiscal policy, monetary policy, and international economics. Extensive math skills are not required; however, the ability to analyze graphs and charts is essential. Students are required to take the Advanced Placement test in May.

HISTORY OF NYC

Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: None
Requirement Satisfied: Elective

This is a two-semester course that will explore the history of New York City. Starting with New York's indigenous past, its Dutch and English roots and moving through the impact of slavery. Later, the transformation of NY through the influx of immigrants to an industrial city; and culminating with New York's role in art, music, fashion, and the economy. Students will go on field trips, complete research, and participate in a new service-learning project directly connected to NYC (i.e., NYC government, parks, etc.)

AP AFRICAN AMERICAN STUDIES
Credits: 1 credit/semester
Grade(s): 11,12
Length of Course: 2 semesters
Prerequisite: AP World
Requirement Satisfied: Elective

This course is an interdisciplinary course that examines the diversity of African American experiences through direct encounters with rich and varied sources. Students explore key topics that extend from early African kingdoms to the ongoing challenges and achievements of the contemporary moment. Given the interdisciplinary character of African American Studies, students in the course will develop skills across multiple fields, with an emphasis on developing historical, literary, visual, and data analysis skills. This course foregrounds a study of the diversity of Black communities in the United States within the broader context of Africa and the African diaspora.

ALGEBRA 1
Credits: 1 credit/semester
Grade(s): 9
Length of Course: 2 semesters
Prerequisite: None
Requirement Satisfied: Required Math

This course introduces variables, constants, and expression of equations with an emphasis on problem solving. Topics covered include: algebraic concepts of signed numbers, polynomials, equations and inequalities, functions, real numbers, factoring, quadratic equations, systems of equations, graphs of both linear and nonlinear functions, and data analysis. Students will take the Algebra 1 Regents exam in June.
Disclaimer: Incoming 9th grade students who score below 74 on the Algebra Regents in the 8th grade will be placed in a one year sequence of Algebra. Students may earn up to 4 credits in Algebra.

MATH LAB
Credits: 1 credit/semester
Grade(s): 9
Length of Course: 2 semesters
Prerequisite: Taken concurrently with Algebra 1
Requirement Satisfied: Required Math

This course expands and builds upon skills and topics learned in Algebra 1. The course is designed for students to become comfortable with and master Algebra, the foundation of all math courses to come.

AP HUMAN GEOGRAPHY
Credits: 1 credit/semester
Grade(s): 11,12
Length of Course: 2 semesters
Prerequisite: AP World
Requirement Satisfied: Elective

This course introduces students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students employ spatial concepts and landscape analysis to examine socioeconomic organization and its environmental consequences. They also learn about the methods and tools geographers use in their research and applications. The curriculum reflects the goals of the National Geography Standards (2012).

ALGEBRA II
Credits: 1 credit/semester
Grade(s): 9, 10, 11
Length of Course: 2 semesters
Prerequisite: Algebra 1
Requirement Satisfied: Required Math

This course in mathematics includes number systems and their properties, rational expressions and quadratic equations, irrational numbers, complex numbers, relations and functions, exponential and logarithmic functions, series, sequences and a continuation of probability and statistics. Algebra 2 builds upon and extends concepts introduced in Algebra 1. Success in this course is an indicator of college readiness. Students will take the Algebra II Regents exam in June.

AP PRECALCULUS
Credits: 1 credit/semester
Grade(s): 9, 10, 11
Length of Course: 2 semesters
Prerequisite: Taken concurrently with Algebra 2
Requirement Satisfied: Required Math

This one year course is designed to support topics learned in Algebra 2. This course centers on functions modeling dynamic phenomena. This research-based exploration of functions is designed to better prepare students for college-level calculus and provide grounding for other mathematics and science courses. In this course, students study a broad spectrum of function types that are foundational for careers in mathematics, physics, biology, health science, business, social science, and data science.

ALGEBRA II ENRICHMENT
Credits: 1 credit/semester
Grade(s): 9, 10, 11
Length of Course: 2 semesters
Prerequisite: Taken concurrently with Algebra 2
Requirement Satisfied: Required Math

This course is a companion course for Algebra 2 for students who got below a 75 on the Algebra 1 Regents. This course expands and builds upon skills and topics learned in Algebra 2. The course is designed for students to become comfortable with and master Algebra 2.

GEOMETRY
Credits: 1 credit/semester
Grade(s): 10, 11
Length of Course: 2 semesters
Prerequisite: Algebra 1 & Algebra 2
Requirement Satisfied: Required Math

The fundamental purpose of Geometry is to deepen explanations of geometric relationships moving towards formal mathematical arguments. This course follows the high school Common Core standards of Geometry of NY State with emphasis on transformations, Euclidean proofs, and applications of shapes. All students will take the Geometry Regents in June at the end of this course.

CALCULUS
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: Precalculus
Requirement Satisfied: Required Math

This is a full year course covering functions in a single variable. This course covers topics in Limit differential calculus and integration, including concepts and skills of limits, derivatives, definite integrals, and the Fundamental Theorem of Calculus. Students 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.The course is offered for students who have already completed the three mathematics Regents classes. This course is offered to students who want to take higher courses such as Advanced Placement Exam Calculus AB/BC the following year or to senior students who may take the course again in college or technical careers later.
[✔*Students are eligible to earn SUNY Stonybrook Credit]*

AP CALCULUS AB
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: Calculus & above 80 on Algebra 2 Regents
Requirement Satisfied: Required Math

This course covers all the topics for Calculus AB as outlined in the AP Calculus Course Description. Primary topics include the concepts and applications of limits, derivatives, indefinite integrals, and definite integrals, differential equations, volumes of the solids. The course will make sure students understand the concepts of calculus, using methods and its applications for each equation. Students should be able to work with functions numerically, graphically, analytically, and verbally. At the end of the school year, students will take their AP Calculus AB exam in May.

AP CALCULUS BC
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: Calculus & above 90 on Algebra 2 Regents
Requirement Satisfied: Required Math

This course covers all the topics for Calculus BC as outlined in the AP Calculus Course Description. Primary topics include the concepts and applications of limits, derivatives, indefinite integrals, definite integrals, differential equations, volumes of the solids, improper integrals, Taylor and Maclaurin Series, parametric equations, polar equations, and area in polar graphs. The course will make sure students understand the concepts of calculus, using methods and its applications for each equation. Students should be able to work with functions numerically, graphically, analytically, and verbally. At the end of the school year, students will take their AP Calculus BC exam in May.

AP STATISTICS
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: Completed Regents Sequence
Requirement Satisfied: Required Math

The AP Statistics course introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. There are four themes evident in the content, skills, and assessment in the AP Statistics course: exploring data, sampling and experimentation, probability and simulation, and statistical inference. Students use technology, investigations, problem solving, and writing as they build conceptual understanding. This year long class is the equivalent to an intro level statistics class in college and students will take the AP exam in May.

AP COMPUTER SCIENCE PRINCIPLES
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: Department Supervisor's Permission
Requirement Satisfied: Required Math

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 in this course are expected to take the AP Exam in May.

FINANCIAL EDUCATION
Credits: 1 credit/semester
Grade(s): 12
Length of Course: 1 semester
Prerequisite: Regents Regents Sequence
Requirement Satisfied: Elective

By combining algebraic and graphical approaches with practical business and personal finance, this course explores algebraic thinking patterns and functions in a financial context. An applications-based learning approach will be used incorporating Algebra I, Geometry, Algebra 2, Trigonometry and PreCalculus. Topics connect math to the real world situations. Students are encouraged to be actively involved in applying mathematical ideas to their everyday lives.

BIOLOGY
Credits: 1 credit/semester
Grade(s): 9, 10
Length of Course: 2 semesters
Prerequisite: None
Requirement Satisfied: Life Science

This class has a state mandated laboratory component and terminates in a required Regents examination in June. Students must complete a minimum of 1200 minutes (15/20 labs) of laboratory work to be eligible to take the Regents exam. Of the completed labs, all 4 State Mandated Lab investigations must be complete and accurate. This course is designed to be an introduction to the major biological concepts. Students will learn concepts related to evolution, organization, homeostasis, genetics, reproduction and development, ecology, human impact on ecosystems and scientific inquiry. Most entering 9th grade students are programmed for this course, unless they have already taken it in 8th grade.

CHEMISTRY
Credits: 1 credit/semester
Grade(s): 9, 10, 11, 12
Length of Course: 2 semesters
Prerequisite: Biology
Requirement Satisfied: Physical Science

This class has a state mandated laboratory component and terminates in a required Regents examination in June. Students must complete a minimum of 1200 minutes of laboratory work to be eligible to take the Regents exam. This course is designed to be an introduction to atomic structure, electron configuration, the Periodic Law and the Periodic Table, chemical bonding, chemical composition, writing chemical formulas and equations, gas laws, molecular composition of gases, liquids and solids, the solution process, ionization, acids and bases, stoichiometry, chemical kinetics, chemical equilibrium, electrochemistry, organic chemistry and natural radioactivity.

EARTH & SPACE SCIENCE
Credits: 1 credit/semester
Grade(s): 9, 10, 11, 12
Length of Course: 2 semesters
Prerequisite: None
Requirement Satisfied: Physical Science

In today's modern world, an increased comprehension of science is essential. Earth science will help students develop an understanding of how natural forces shape Earth and humans' place in the universe. Topics covered include mapping, topography, measurements, geology, rocks and minerals, plate tectonics, landscapes, paleontology, oceanography, insolation, meteorology, climate, and astronomy. Students must complete a minimum of 1200 minutes of hands-on laboratory work throughout the academic year to be eligible to take the Regents examination. Of the completed labs, all 4 State Mandated lab investigations must be complete and accurate.

PHYSICS
Credits: 1 credit/semester
Grade(s): 10, 11, 12
Length of Course: 2 semesters
Prerequisite: Algebra 1, Algebra 2, Biology
Requirement Satisfied: Physical Science

This class has a state mandated laboratory component and terminates in a required Regents examination in June. Students must complete a minimum of 1200 minutes of laboratory work to be eligible to take the Regents exam. Students will learn the fundamental concepts and principles concerning matter and energy through the laboratory study of mechanics, wave motion, heat, light, electricity, magnetism, electromagnetism, and atomic and nuclear physics.

PHYSICS: FORCES
Credits: 1 credit/semester
Grade(s): 12
Length of Course: 2 semesters
Prerequisite: Algebra 1, Algebra 2, Biology
Requirement Satisfied: Physical Science

Students will learn the fundamental concepts and principles concerning matter and energy through the study of mechanics, wave motion, heat, light, electricity, magnetism, electromagnetism, and atomic and nuclear physics. This class will not have a laboratory component and students in this class are not expected to take the Regents Exam in June.

AP BIOLOGY
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: Regents Chemistry
Requirement Satisfied: Life Science

AP Biology is an introductory college-level 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.This course is open to students who have exhibited a mastery of Biology and Chemistry. This course is designed to be the equivalent of a college introductory biology course usually taken by biology majors during their first year. Students enrolled in this class are required to take the advanced placement exam in May.

AP CHEMISTRY
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: Regents Chemistry
Requirement Satisfied: Physical Science

This course is open to students who have demonstrated a mastery of Chemistry. Students must also exhibit mastery in certain math classes to be considered for this course. This course is designed to be the equivalent of the general chemistry course usually taken during the first college year. TheAPChemistrycourseprovidesstudentswithacollege-levelfoundationtosupportfuture advanced coursework in chemistry. Students cultivate their understanding of chemistry through inquiry-based investigations, as they explore content such as: § Atomic Structure and Properties § Compound Structure and Properties § Properties of Substances and Mixtures § Chemical Reactions § Kinetics § Thermochemistry § Equilibrium § Acids and Bases § Thermodynamics and Electrochemistry. Students enrolled in this class are required to take the advanced placement exam in May.

AP PHYSICS C
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: Regents Physics, Completion or concurrent enrollment in a calculus course
Requirement Satisfied: Physical Science

This course is technically 2 courses expected to be taken consecutively. Students are expected to sit for *only* the AP Mechanics exam (now 3 hours long). There is a separate Electricity and Magnetism exam, but we will not finish the curriculum by the May test date.
AP Mechanics: Returns to kinematics, Newton's laws, momentum, energy, and gravity but at a deeper level and inclusive of calculus concepts. Introduces students to rotation and simple harmonic motion.

AP ENVIRONMENTAL SCIENCE
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: 2 Science Regents Exams
Requirement Satisfied: Physical Science

The AP Environmental Science course is designed to engage students with the scientific principles, concepts, and methodologies required to understand the interrelationships within the natural world. The course requires that students identify and analyze natural and human-made environmental problems, evaluate the relative risks associated with these problems, and examine alternative solutions for resolving or preventing them. Environmental science is interdisciplinary, embracing topics from geology, biology, environmental studies, environmental science, chemistry, and geography. Students enrolled in this class are required to take the advanced placement exam in May.

ADVANCED SCIENCE RESEARCH
Credits: 1 credit/semester
Grade(s): 10, 11, 12
Length of Course: 6 semesters
Prerequisite: Application & Teacher Recommendation
Requirement Satisfied: Elective

This course is a three-year intensive science research program beginning in Sophomore year and continuing through Senior year. Students are eligible to apply for the program in the spring of their Freshman year. The program has a partnership with the University of Albany and students may earn up to 12 college credits during their time in ASR. Students gain real laboratory experience conducting authentic scientific research both in the classroom and in outside labs as they explore areas of science which interest them. The students attend various symposiums and apply to competitions where they present their research work. Outside programs we participate in include but are not limited to: The American Rocket Challenge, the Billion Oyster Project, SRMP with the American Museum of Natural History, Research Ready, Biobus, Mount Sinai labs and the Urban Barcoding project.

[✔*Students are eligible to earn SUNY Albany Credit]*

ASTRONOMY
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 1 semester
Prerequisite: 2 Science Regents Exams
Requirement Satisfied: Elective

This is a 1 semester course open to students who have completed their laboratory science requirements. Students will study the universe as they cover the following topics: history of astronomy, gravity and motion, planets, stars, galaxies and the structure of the universe. This course places an emphasis on how astronomers gather information about distant objects without leaving the Earth.

FORENSICS
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: 2 Science Regents Exams
Requirement Satisfied: Physical Science

Forensic Science is a full year integrated science course in which students will apply their prior knowledge of living environment, chemistry, physics and mathematics to the popular field of crime scene investigation. Students will gain a basic understanding of the scientific and analytical approach to determining the value of evidence as it relates to the court of law. Students will learn terminology and investigate procedures related to processing a crime scene, collecting evidence, questioning, interviewing, and criminal behavior characteristics used to solve crimes. Using scientific methods, students will collect and analyze evidence, including; fingerprints, DNA, blood, ballistics, hair, fibers, and handwritten ransom notes. Students will learn the history, legal aspects, and career options within forensic science**.**

[✔*Students are eligible to earn Syracuse University Credit]*

HYDROPONICS
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: 2 Science Regents Exams
Graduation Requirement Satisfied: Elective

This hands-on, project-based course introduces students to the principles and practices of soilless plant cultivation, known as hydroponics. Combining elements of biology, chemistry, and engineering, the course allows students to design, build, and maintain functional hydroponic systems. Through this real-world application, students will develop a deep understanding of plant science while exploring modern solutions for sustainable food production and urban agriculture.

HUMAN ANATOMY & PHYSIOLOGY
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: 2 Science Regents Exams
Graduation Requirement Satisfied: Elective

This is a full-year science course that offers an in-depth study of the structure and function of the eleven organ systems of the human body including the nervous, cardiovascular, skeletal, and muscular systems. Through a combination of laboratory work, dissections, lectures, readings, and case studies, students will explore the intricate ways in which these systems interact to maintain homeostasis, respond to environmental changes, and adapt under the influence of diseases and disorders. This challenging course demands a strong commitment to memorization and critical thinking, providing students with a solid foundation for further studies in biological sciences and health careers.

GENETIC INHERITANCE
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 1 semesters
Prerequisite: 2 Science Regents Exams
Requirement Satisfied: Elective

Genetic Inheritance is a half-year elective that will discuss different modes of acquiring/exchanging genetic information amongst various organisms on Earth both biologically AND using science and technology advancements. Students will be expected to complete some assessments that may include exams, quizzes, and/or projects.

MCSM is excited to begin the journey as an FutureReadyNYC (FRNYC) school. This is a reimagined high school experience where students learn important job skills, get paid work experience, earn early college credit, and get certificates for jobs that pay well and are in demand. This helps them plan for a bright future with good careers. We will be opening two new pathways as a result of this new partnership:

- **Business and Finance**
  Based on research from New York City, this program helps meet the important need for skilled workers in business. This program helps NYC Public Schools students become the next leaders in business, helping the economy grow and create new ideas. The Business & Finance Pathway aims to connect students with good jobs and careers, making things better for them and their communities.
  Each Business and Finance FRNYC Pathway prepares students for one of the following occupations:
    - Business Management/Operations
    - Marketing Analyst
- **Technology**
  Students who participate in a FRNYC Technology Pathway will be ready and confident to start a job or go to college in a technology-related field.
  Each FRNYC Technology Pathway prepares students for one of the following occupations:
    - Software Developer
    - Cybersecurity Analyst
    - Data Analyst

VIRTUAL ENTERPRISE

Credits: 1 credit/semester
Grade(s): 10,11,12
Length of Course: 2 semesters
Prerequisite: None
Requirement Satisfied: Elective

This course prepares students for successful futures by transforming classes into companies and bridging the divide between the classroom and the working world. VE is aligned to standards for grades 9-12.
Students test drive potential careers and develop in-demand skills and competencies that post-secondary institutions and employers are seeking. Students establish and run departments such as Administration, Accounting, Finance, Sales, Marketing, Human Resources and IT, produce key deliverables required in a real business and are evaluated based on industry standards.
Students engage in hands-on learning experiences inside and outside the classroom. They conduct market research, develop business plans and annual reports, and experience financial market dynamics. Local, regional, and national events provide opportunities for students to present their work, experience real-world competition, network with peers, and connect with college and business partners.

INTRO TO ENTREPRENEURSHIP

Credits: 1 credit/semester
Grade(s): 10,11,12
Length of Course: 2 semesters
Prerequisite: None
Requirement Satisfied:

The objective of this Entrepreneurship course is to give students the opportunity to learn what it is like to be an entrepreneur and how to create and maintain a successful business venture. Students use problem solving, decision-making, teamwork, written communication, and public speaking skills. Students also utilize current technology to create multimedia presentations, spreadsheets, written documents, and to locate up-to-date economic and business information. The course culminates in the development of a complete and working business plan for a new business venture promoting school spirit.

INTRO TO CYBERSECURITY

Credits: 1 credit/semester
Grade(s): 10
Length of Course: 2 semesters
Prerequisite: None
Requirement Satisfied:

Cybersecurity is the practice of protecting systems, networks and programs from digital attacks. On average, there are hundreds of millions of cyberattacks that occur daily throughout the world and these numbers have increased exponentially with the help of AI tools. According to NIST (The National Institute of Standards and Technology), “Adversaries can deliberately confuse or even ‘poison’ artificial intelligence (AI) systems to make them malfunction — and there’s no foolproof defense that their developers can employ.” Entry to these AI systems often begins with network-based cyber-attacks and can have devastating consequences. This course is the first of a three year pathway of Computer Science classes. Successful completion of this course will lead to one or more Cisco Networking Cybersecurity certifications: (i.e. CCST Networking and CCST Cybersecurity).

FRENCH I AND II
Credits: 1 credit/semester
Grade(s): 9
Length of Course: 2 semesters
Prerequisite: None
Requirement Satisfied: World Language

This course is designed to introduce students to the French language through the study of vocabulary related to the self, the home, and general greetings, introductions, and descriptions of time and weather. Students will learn present tense conjugations of regular and key irregular verbs, learn numbers, learn how to form questions, and to make sentences negative. Additionally, they will be introduced to French culture through lessons on Francophone countries.

FRENCH III AND IV
Credits: 1 credit/semester
Grade(s): 10
Length of Course: 2 semesters
Prerequisite: French I and II
Requirement Satisfied: World Language

This course further develops the student's ability to function in French language on various topics relevant to high school students. The goal is to develop communicative competence in the target language in the four language skills: listening, speaking, reading, and writing. French 3 & 4 instruction develops cross-cultural awareness, skills, and understanding. Students learn to use language as a tool for communication and experience the enrichment of new and different thoughts and ways of life.

FRENCH V AND VI
Credits: 1 credit/semester
Grade(s): 11
Length of Course: 2 semesters
Prerequisite: French III and IV
Requirement Satisfied: World Language

Within the framework of the NYC Comprehensive Exam (Checkpoint B) in French, French 5 & 6 offers both the linguistic and non-linguistic aspects of French, as well as the varied cultures of francophone countries. This course further develops the student's ability to function in French on various topics. There is increased practice in listening comprehension, reading comprehension, and guided and free composition. Culture is infused in the topics covered. Preparation for the NYC Comprehensive Exam in French (Checkpoint B) taken at the end of the year will include review of grammar and vocabulary, as well as the reinforcement of listening, speaking, reading, and writing skills. This course terminates with the NYC Comprehensive Exam in French (Checkpoint B) in June. Students can qualify for an Advanced Regents Diploma with the passing of this exam (65 or higher).

SPANISH I AND II
Credits: 1 credit/semester
Grade(s): 9
Length of Course: 2 semesters
Prerequisite: None
Requirement Satisfied: World Language

This course is an introduction to the Spanish language. At a beginning level, students will develop proficiency in Spanish across the four skills: Oral communication, listening comprehension, written self-expression and reading comprehension. Students will learn to ask simple questions, answer questions, respond to commands, create original dialogues and present them to the class. Students will learn to understand short conversations and dictation in Spanish. They will be able to answer reading comprehension questions from stories in complete sentences in Spanish.

SPANISH III AND IV
Credits: 1 credit/semester
Grade(s): 10
Length of Course: 2 semesters
Prerequisite: Spanish I and II
Requirement Satisfied: World Language

This course further develops the student's ability to function in Spanish language on various topics. At this level, the students will expand their knowledge of the target language using more involved vocabulary and more complex grammatical structures. Spanish 3 and 4 will increase the students' ability to create original Spanish constructions for communication. Students will continue developing proficiency in Spanish across the four skills: oral communication, listening comprehension, written self-expression and reading comprehension.

SPANISH V AND VI
Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: Spanish III and IV
Requirement Satisfied: World Language

The third year of Spanish is a year-long course that prepares students to take the Spanish Regents exam in June. The course will reinforce the knowledge they have acquired in the Spanish 1, 2, 3, 4 classes. The course focuses on the four tasks of the Regents test: writing, listening, talking and reading. In this course, students will be reviewing grammar structures and also the use of the different tenses in real life situations. Students will be prepared to be able to describe and narrate, as well as to use most tenses and moods, while speaking about familiar topics such as everyday situations, current events, job-related information and subject matter encountered in reading assignments. This course terminates with the NYC Comprehensive Exam in Spanish (Checkpoint B) in June. Students can qualify for an Advanced Regents Diploma with the passing of this exam (65 or higher).

AP SPANISH LANGUAGE

Credits: 1 credit/semester
Grade(s): 10, 11, 12
Length of Course: 2 semesters
Prerequisite: Department Supervisor's Permission
Requirement Satisfied: Elective

This AP Spanish Language course is designed to develop student's Spanish language skills and learn about the cultures in Spanish-speaking parts of the world. Students will practice communicating in Spanish and study real-life materials such as newspaper articles, films, music, and books. This course is equivalent to an intermediate level (typically third- or fourth-semester) college course in Spanish language. Students registered for this course are required to take the Advanced Placement test in May.

AP SPANISH LITERATURE

Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: Department Supervisor's Permission
Requirement Satisfied: Elective

The AP Spanish Literature course is designed to be the equivalent of a third year college course surveying Spanish literature. The course covers works from Spain and Latin America from the medieval period to the 20th century. The course is taught entirely in Spanish. Throughout the year long course, students will learn to be comfortable reading critically in Spanish, analyzing and interpreting the selected works using the literary terms and themes learned, as well as learn how to express these analyses and interpretations orally and in writing using the AP rubrics as a guide. Students registered for this course are required to take the Advanced Placement test in May.

INTRODUCTION TO VISUAL ARTS

Credits: 1 credit/semester
Grade(s): 9-12
Length of Course: 1 semester
Graduation Requirement Satisfied: Arts

This introductory visual arts course will explore the relationship between art and contemporary life, focusing on developing skills in various artistic techniques and understanding the evolution of visual arts. Students will engage in hands-on projects and analyze diverse artistic styles, aligning with key goals such as enhancing creativity, improving technical skills, and fostering critical thinking about art's role in society.

STUDIO ART

Credits: 1 credit/semester
Grade(s): 9-12
Length of Course: 1 semesters
Prerequisite: None
Requirement Satisfied: Arts

This course allows students to explore a variety of artists, art processes and materials such as drawing, painting, printmaking, two & three-dimensional design, and digital art. Student artwork will reflect aesthetics & cultural and historical contexts. Willingness to get involved in the creative process is a more important requirement than the student’s talent or previous experience.

DESKTOP PUBLISHING/YEARBOOK

Credits: 1 credit/semester
Grade(s): 11, 12
Length of Course: 2 semesters
Prerequisite: Department Supervisor's Permission
Requirement Satisfied: Arts

This is a year course offered to seniors. Students will learn to use digital cameras, Adobe Photoshop and Entourage Design software. Students are responsible for all aspects of production, including layout and design, photography and writing. The yearbook pages are submitted electronically to the yearbook publishing company.

DIGITAL PHOTOGRAPHY

Credits: 1 credit/semester
Grade(s): 10, 11, 12
Length of Course: 1 semester
Requirement Satisfied: Arts

The overall goal of this course is to introduce students to photography. The medium that we will use is the digital SLR camera (DSLR) and Adobe Photoshop. The course will cover the technical aspects of using a digital SLR camera and some basic Photoshop functions. In addition students will have an opportunity to view historically important photographers and to learn the language of critiquing their own and other students' work. The school will lend students the SLR cameras needed for the assignments.

MULTIMEDIA

Credits: 1 credit/semester
Grade(s): 10, 11, 12
Length of Course: 1 semester
Requirement Satisfied: Arts

This one semester computer course is especially appealing to students who enjoy creating visual presentations. They will learn to use Adobe CS4 software to create multimedia presentations.

MUSIC
Credits: 1 credit/semester
Grade(s): 10, 11, 12
Length of Course: 1 semester
Requirement Satisfied: Art

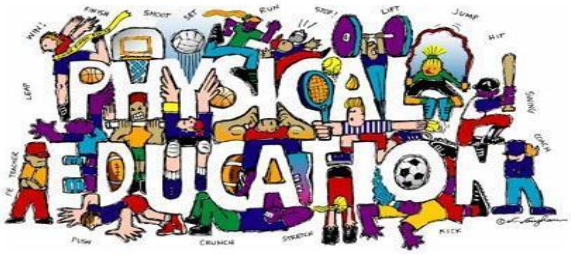
This course is an exploration into the how and why of creating, consuming, and experiencing music as human beings through embracing ethnomusicology. Together we will deconstruct our western orientation in order to evaluate the extent to which it informs and distorts our preconceptions of what music is or perhaps ought to be. Students will be exposed to various cultural musics and through this exploration experiment with various forms of notation, theory and performance.

AP ART HISTORY
Credits: 1 credit/semester
Grade(s): 10, 11, 12
Length of Course: 2 semester
Requirement Satisfied: Art

This is a college-level course where students analyze works of art from around the world and across history, exploring their cultural context, purpose, and meaning. The curriculum covers a broad range of time periods and cultures, from global prehistory to the present day, and emphasizes visual, contextual, and comparative analysis to understand art's connections to social, cultural, political, and economic systems. Students develop critical thinking skills by placing artworks within their historical and cultural frameworks to articulate their observations and interpretations.

AP 2D DRAWING
Credits: 1 credit/semester
Grade(s): 10, 11, 12
Length of Course: 2 semester
Requirement Satisfied: Art

In this year-long course, students will use the skills learned and their own ideas, to create unique works of art. Throughout the course, students will develop an inquiry that guides artmaking through practice, experimentation, and revision of materials, processes, and ideas while demonstrating 2-D art and design skills through graphic design, sequential art, photography, collage, printmaking, illustration, industrial design, animation, game design, painting, fibers, and others.



HEALTH EDUCATION
Credits: 1 credit/semester
Grade(s): 9, 10, 11 or 12
Length of Course: 1 semester
Prerequisite: None
Requirement Satisfied: Health

The health education program provides all students with the knowledge and skills that will enable them to achieve and maintain a healthful life during their time in school and beyond. Health education is an important component of a balanced educational program. Students who are health conscious increase their chances of achieving their highest academic potential. Below are the units covered in health:

- Emotional & mental health
- Nutrition and physical activity
- Alcohol, tobacco, and other drug prevention
- Abstinence, personal & sexual health
- HIV, STD & pregnancy prevention.
- Injury and violence prevention

PHYSICAL EDUCATION
Credits: 0.5 credits/per semester
Grade(s): 9, 10, 11 & 12
Length of Course: 8 semesters
Prerequisite: None
Requirement Satisfied: Physical Education

The physical education (PE) program provides all students with the knowledge and skills that will enable them to achieve and maintain a physically active and healthful life during their time in school and beyond. Physical education is an essential component of a balanced educational program. All students will have the opportunity to be assessed through the NYC Fitnessgram. Below are the PE courses offered over the 8 semesters:

- **INDIVIDUAL & TEAM SPORTS**
  The class emphasizes basic skill and participation in various individual and team sports. The activities typically offered may include: basketball, badminton, fitness, European team handball,recreational games, soccer, and volleyball. This course is set to prepare students for a basic foundation of activities and knowledge for continued participation after high school.
- **WEIGHT TRAINING**:
  The class emphasizes muscular strength & endurance activities with elements of all five of the components of fitness: cardiovascular endurance, muscular strength, muscular endurance, flexibility and body composition. Students will utilize both free weights and weight machines.This course is set to prepare students for a basic foundation of weight training exercises and knowledge after high school. Anatomy and physiology will also be introduced.
- **CARDIOVASCULAR & FITNESS TRAINING**
  The class emphasizes aerobic activity with elements of all five of the components of fitness: cardiovascular endurance, muscular strength, muscular endurance, flexibility and body composition. This course is set to prepare students for a life of fitness after high school.