Byram Hills High School

School Counseling Department

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Course Selections

2021-2022

REVISED DECEMBER 2020

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School Counseling

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School Counseling and Programming

The Byram Hills High School (BHHS) School Counseling Department provides individual services to students and families through a comprehensive developmental program of academic, personal, career, and college counseling.

Our Philosophy

In building a school schedule and four-year program of study, counselors encourage students to pursue the most rigorous program that they can handle successfully. Students are also encouraged to take classes they enjoy and others which foster creativity and imagination.

The School Counseling Program

School counselors carry out their role through planned and informal contacts with students and parents. During 9th grade, counselors meet with students to help with adjustment to the high school and to ensure an appropriate academic program; an evening meeting is also held in the fall for parents of first-year students. In grade 10, a program of career exploration and resume development is provided. In grades 11 and 12, the focus shifts to post-high school planning. Starting in November of the junior year, parents of 11th grade students are invited to an evening college planning meeting which is followed by individual conferences with students and parents. Continuous contact and support are maintained through this structured series of meetings, as well as through scheduled classroom sessions for the remainder of junior year and the first semester of senior year.

The Student Schedule

One of the key roles played by BHHS school counselors is that of academic advisor. Each spring, counselors meet individually with their students to plan a program for the following school year that will help achieve the students' post- high school goals.

The BHHS curriculum includes Advanced Placement (AP), Advanced and Accelerated classes, Regents "college prep" courses and our pioneering Science Research program. Students who need help with basic skills may receive accommodations by being designated as "Modified" within their regular English and Social Studies classes. "Expanded" courses in Mathematics and Science allow more time for students to prepare for required Regents examinations.

Additionally, a variety of elective courses provide enrichment in Art, Music and Theatre, with special opportunities in advanced work for gifted and talented students. Also, special programs such as Mentor, Peer Leadership and Big Brother/Big Sister offer opportunities for leadership and service for seniors.

The Selection Process

Each spring students are invited to apply for Advanced and AP level courses for the following school year. Each department has its own selection procedures, and students are informed of the application process, beginning with grade-level assemblies, early in the new calendar year.

Graduation Requirements

New York State (NYS) has set specific requirements, depending on grade level, for courses, units and Regents examinations that students must achieve in order to earn a high school diploma.

In order to ensure satisfactory progress toward graduation, BHHS recommends that students be enrolled in at least six (6) courses and Physical Education each semester throughout their high school careers. Detailed information on NYS graduation requirements is provided in the Appendix at the back of this booklet.

The required courses are aligned with the NYS Department of Education learning standards and curricula. This excludes AP courses which follow the standards and curricula of The College Board.

The College Board offers 20 subject tests, but the curricula may not always match its BHHS counterpart in all regards. Thus, students are encouraged to use self-study to prepare for subject tests offered by The College Board.

Media and Visual Arts

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The Art Department places a high value on the unique qualities in each person. For each art course, there are many different and appropriate solutions as students try to communicate ideas and feelings through the language of Art. Students are encouraged to be curious, to experiment for the best effect, to respect knowledge, and to strive for self-discipline in their work.

Studio Art

(602 - 1/2 Unit)

This course is a prerequisite for enrollment in all Art Department courses.

Studio Art is designed to introduce students to a variety of concepts, media and methods used by visual artists. Art history is integrated as a creative motivation and catalyst for new ideas. The assigned projects may include drawing, painting, printmaking, graphic design and sculpture.

Drawing and Painting

(600 - 1/2 Unit)

In this half-year course, a variety of drawing media (pencil, charcoal, marker, ink, crayon, etc.) and painting materials (watercolor, tempura, acrylic, mixed media, etc.) will be used to explore the figure, still-life, etc., as well as more experimental, less traditional, approaches to art. At the end of the course, students will be able to: demonstrate and apply their knowledge of color theory; show their understanding of the effects of light, contour line, proportion, value, linear and aerial perspective in creating an illusion of three-dimensional space; apply knowledge of composition through the use of positive and negative space. Students will be encouraged to find a unique personal solution to each problem. This class is an elective for an Art or Fine Arts sequence.

Advanced Drawing and Painting

(622 - 1 Unit)

Prerequisite: Drawing and Painting

In this full year course, a variety of drawing media (pencil, charcoal, marker, ink, crayon, etc.) and painting materials (watercolor, tempura, acrylic, mixed media, etc.) will be used to explore the figure, still-life, etc., as well as more experimental, less traditional, approaches to art. Students will study major paintings by artists and movements in art. At the end of the course, students will be able to: demonstrate and apply their knowledge of color theory; show their understanding of the effects of light, contour line, proportion, value, linear and aerial perspective in creating an illusion of three-dimensional space; apply knowledge of composition through the use of positive and negative space; apply knowledge of facial proportion and means of expression through self-portraiture. This

class is an elective for an Art or Fine Arts sequence and a requirement for application to the AP Studio Art Program.

Sculpture and Ceramics

(601 - 1/2 Unit)

This course is designed for the student to experience and develop ideas of expression while working with a variety of sculpture materials including clay, wire, paper, and cardboard. The student will explore the concepts of form in space, and compare characteristics of functional and nonfunctional form. Students will experience hand building techniques and learn about glazes and surface decoration. Works of various sculptors, ancient and contemporary cultures, and ceramic artists will be examined.

Ceramics II

(609 - 1/2 Unit)

Prerequisite: Sculpture and Ceramics

Ceramics II is a one-semester course for students interested in focusing on clay as a vehicle for expression. Students will learn to use a potter's wheel and continue to develop skill using hand-building methods of construction. They will extend their understanding of the elements and principles of design to create 3-dimensional works emphasizing composition, form, texture, structure and function. They will also expand their knowledge of glazing and surface decoration techniques. This class is an elective and a course option in the pathway for application to the AP 3-D Design Program.

Ceramics Workshop

(612 - 1/2 Unit)

Prerequisite: Ceramics II and permission of instructor

Ceramics Workshop is a course for students who want to continue to develop their skills in ceramics, either through wheel-throwing, hand building, or a combination. Students must be capable of working independently to plan, execute, document and reflect on their work. They will learn advanced construction and surface design techniques, while creating a portfolio of pieces for exhibition. With permission from the instructor, Ceramics Workshop may be repeated for more than one semester.

Sculpture II

(618 - 1/2 Unit)

Prerequisite: Sculpture and Ceramics

In this semester-long course, students will explore a variety of nonclay materials, including stone, plaster, paper, cardboard, wood, fiber, wire, and found objects to express ideas in three-dimensions. Sculpture methods will include carving, casting, and assemblage. Students will demonstrate their understanding of how to activate space, use elements and principles of design, and communicate visually, including through the use of digital modeling and new technologies, such as 3-D printing and laser cutting. Students will also learn about leading sculptors, architects, and designers; look at three-dimensional art from different cultures and historical periods; and examine the role of sculpture and design in society. This class is an elective and a course option in the pathway for application to

the AP 3-D Design Program.

Metalsmithing & Jewelry Design

(613 - 1/2 Unit)

Prerequisite: Studio Art

This is a 3-dimensional design course which reinforces the students' understanding of the art elements and principles of design. Students will create small scale sculptural works of art in metal and mixed media. Students will learn metalsmithing techniques while examining the historical backgrounds of jewelry design from ancient to contemporary cultures. They will learn fabrication techniques, understand how to layout a design and create it in metal, and how to communicate their ideas through their works of art. Students will participate in both self and group assessments and evaluations. This class is an elective and a course option in the pathway for application to the AP 3-D Design Program.

Photography

(610 - 1/2 Unit)

This course is designed to introduce students to the technical and creative aspects of black and white photography. At the end of this course, students will be able to operate a 35mm manual camera, develop black and white film and use the darkroom to make enlargements. Students will also work with digital photography and will be introduced to Adobe Photoshop. A manually adjustable 35 mm camera is required. (Cameras which are strictly automatic are not appropriate for this course.) This course is a prerequisite for Advanced Photography.

Advanced Photography

(611 - 1/2 Unit)

Prerequisite: Photography

This course challenges the student with complex photographic problems and experimental projects. Advanced Photography emphasizes the student's personal photographic essay. Course emphasis is on unique personal solutions to problems, technical depth, high quality craftsmanship, exhibition techniques, portfolio development, and the use of technology. Students will work with the darkroom and digital photography to create a body of work. This course is a prerequisite for AP Photography.

Movie Making and Media

(620 - 1/2 Unit)

In this course, students will learn the skills of film production. Students will analyze films created by the great innovators of film history. While working individually and in small groups, students will create short films that demonstrate an understanding of the basic terms and techniques of film-making. Students will learn the skills of pre-production planning as well as post-production digital editing.

Introduction to Film

(623 - 1/2 Unit)

Prerequisite: Movie Making and Media

*** 3 college credits are available through the SUNY Early College Experience Program**

In this course, students will refine production skills as they complete short films. Students will create narrative as well as artistic expressive films. Post-production digital editing and expressive special effects will be emphasized. Students will work individually and with small groups. Students will be required to shoot most projects outside of school as part of their regular homework assignments. It is recommended that students have access to a personal video camera. Students will have the option to submit a film to a student film festival.

Digital Storytelling

(627 - 1/2 Unit)

Prerequisite: Movie Making and Media and Introduction to Film

*** 3 college credits are available through the SUNY Early College Experience Program**

Digital Storytelling is an advanced course emphasizing the expressive medium of film. Students will work individually and in small groups to create films about issues that intrigue them. In Digital Storytelling, students will explore film ideas and techniques such as: advanced script writing, stop-motion animation, blue screen effects, advanced post-production software, documentary techniques, film genres, and the use of lighting, sound and art design in film development. All assignments will be filmed outside of the school day. Class time will be devoted to script writing, pre-production planning, editing, and post-production work. It is strongly advised that students have access to a personal video camera.

Graphic Design I

(606 - 1/2 Unit)

Using famous works of art as motivation, students will use the computer to visualize their creative ideas. Students will learn and use the following techniques and related software: painting, picture editing, illustrations and graphic design.

Graphic Design II

(607 - 1/2 Unit)

Prerequisite: Graphic Design I

Graphic Design is the art of communicating visually. This course introduces students to a broad base of visual communication concepts and tools. Students learn fundamentals of typography, design, layout and digital skills. This course provides an essential introduction to the design skills needed to produce graphics for print, advertising, corporate identity and other media. This class is a requirement for application to the AP Graphic Design Program.

AP Art Courses

The AP Art courses are designed to meet the needs of the highly motivated art student who is ready to prepare for college level work while still in high school. These courses involve significantly more commitment and accomplishment than the typical high school art course.

Three main goals accompany these courses:
1. Sense of quality in a student's work
2. Student's need for breadth of experience
3. Student's concentration on a particular visual interest

These courses are open to juniors and seniors and may be taken for one or two years. Students will submit a portfolio in May for the AP exam.

AP Photography
(615P - 1 Unit)
Prerequisite: Successful completion of Advanced Photography and Portfolio approval by the Art department.

AP Studio Art
(615S - 1 Unit)
Prerequisite: Successful completion of Advanced Drawing and Painting Portfolio approval by the Art department.

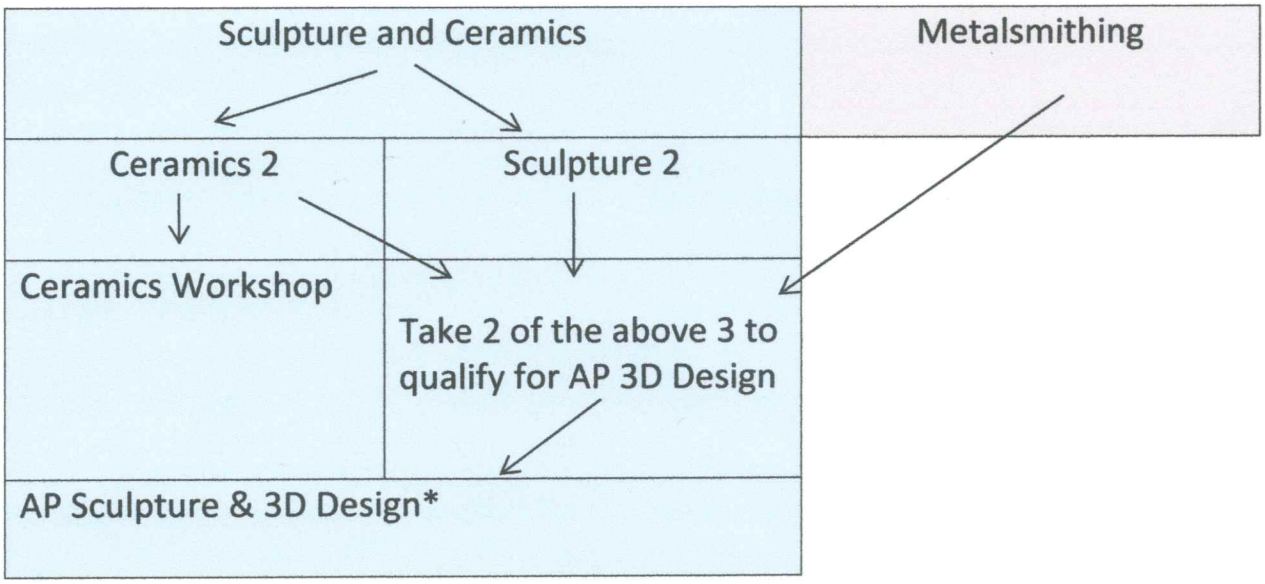
AP Graphic Design
(615G - 1 Unit)
Prerequisite: Successful completion of Graphic Design II and Portfolio approval by the Art department.

AP 3D Design
(615A - 1 Unit)
Prerequisite: Successful completion of Studio Art, Sculpture & Ceramics, plus 2 additional courses (Metalsmithing, Ceramics II, Sculpture II and/or Ceramics Workshop.

Where can students go from here?

Studio Art is a prerequisite for the following sequences:

Drawing & Painting	Photography	Movie Making & Media	Graphic Design 1
↓	↓	↓	↓
Advanced Drawing & Painting	Advanced Photo	Intro to Film**	Graphic Design 2
↓	↓	↓	↓
AP Studio*	AP Photo*	Digital Storytelling**	AP Graphic Design*



*Indicates a full year course.

**Can be taken for college credit.

For AP courses, additional application materials are also required.

Computer Science

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Introduction to Computer Science

(707 - 1/2 Unit)

Prerequisite: Algebra 1 or concurrent

This course explores an introduction to programming using the graphing calculator, programmable robots, HTML, JavaScript, Karel Robot virtual robot simulator, Alice, and Java. Topics emphasized include design and implementation of computer programs, social, legal, and ethical issues in Computer Science.

AP Computer Science

(700 - 1 Unit)

Prerequisite: Algebra2/Trigonometry or concurrent, and Introduction to Computer Science

AP Computer Science is an introductory college-level computer science course that emphasizes object oriented programming methodology as well as problem solving. Topics in AP Computer Science include programming design, implementation techniques, programming analysis, data structures, standard algorithms, and hardware and software. The course emphasizes the process of problem-solving in addition to the solution itself. High-level thinking skills are developed as students utilize “real-life” skills, such as problem analysis, organizing a solution, and knowledge of computer control. Students will learn the JAVA programming language to meet the goals of the course. Furthermore, students are required to take the AP Exam in May.

AP Computer Science Principles

(701 - 1 Unit)

Prerequisite: Geometry

This course serves as a first-semester college course in introductory computing (no programming experience is required). Students will gain programming experience in C, Scratch, SQL, Java Script, and Python. The course is organized around the study of seven big ideas: Creativity, Abstraction, Data and Information, Algorithms, Programming, The Internet, and Global Impact. Students will work individually as well as in groups to explore how computing can be used to solve societal and global problems. Student solutions will include the same iterative approach to design that is used by engineers, writers, and artists. Students develop computational thinking that can be applied across multiple disciplines. Course assessments will include performance-based tasks which will serve as part of their grade for the required AP exam in May.

English

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At the heart of the Byram Hills English program are the following fundamental beliefs:

- Reading a challenging array of literary and informational texts has value beyond the texts themselves
- Reading and writing are communal tasks that inspire shared understandings in a complex world
- Reading and writing are challenging tasks that require stamina and critical awareness
- Questioning one's own beliefs leads to cultural awareness and a sensitivity to the needs of others
- Learning is a reflective process

The Byram Hills English program aligns with the Common Core State Standards for English Language Arts. Students across grade levels investigate a core selection of works (e.g., *A Raisin in the Sun, Fahrenheit 451, The Great Gatsby, The Stranger*) designed to foster an appreciation for classic literature. As part of our Independent Reading Initiative, students examine self-selected fiction and informational texts. Written assessments include formal expository writing, personal essays, creative writing, timed essays, and research papers. At each grade level, students have numerous public speaking opportunities that range from informal classroom discussions to formal speeches and presentations. Vocabulary and grammar instruction occurs both in isolation and as an integrated part of teaching the skills associated with reading and writing.

English 9 / Reg English 9

(10 / 10C / Z0001 - 1 Unit)

This course lays the groundwork for success in the English classroom. Students are introduced to the concept of close reading and are expected to think critically about the decisions authors make. A review of literary terms begins the year and sets students on a course of discovery that includes the reading of seminal texts like *The Catcher in the Rye* and *Macbeth*. These works, among others, help students understand complex themes and the relationship between disparate works of literature. Through an introduction to rhetorical strategies, students begin to craft sophisticated essays and speeches that take into account the perceptions of an audience. All students complete the Grade 9 Opposite-Argument Research Paper wherein they learn to integrate data from a variety of sources (e.g., periodicals, books, reference volumes, the Internet, personal interviews) and how to cite according to MLA guidelines. As part of a study of rhetoric, all freshmen prepare a speech on a topic of social relevance, helping students become sensitive listeners who can interpret and respond to the ideas expressed by their classmates.

Writing Workshop

(19 - 1/2 Unit)

Freshmen Only

Designed to reinforce skills in writing and critical reading, this second semester freshman course acts as a supplement to curricular work in English 9. The course provides foundational support through a variety of in-class activities related to the writing process (e.g., brainstorming, outlining, drafting, revising, editing). Throughout the semester, students work to develop individualized close reading strategies. Writing Workshop is a mandated academic intervention service related to student performance on the Grade 8 NYS English Language Arts Examination.

English 10 / Reg English 10

(20 / 20C / Z0007 - 1 Unit)

Beginning with an introduction to memoir, this course seeks to help students appreciate an understanding of self through a careful study of literary and informational works. Students are asked to consider the point of view from which a story is told as a method of interpretation. *Death of a Salesman* and *Fahrenheit 451* remain staples of sophomore English with an emphasis on how Miller and Bradbury examine tragedy and provide social commentary. Students use published writing as models from which to base their own original work, including a short story portfolio and a satire project. All students complete the iSearch Paper, an argumentative research paper on a topic derived from personal interests.

English 11 / Reg English 11

(30CC / 30C / Z0006CC - 1 Unit)

This course focuses on significant works by representative American writers (e.g., Hemingway, Fitzgerald, Kesey) with a continued emphasis on developing close reading skills. Beyond a strict understanding of the text, students are asked to consider how learning biographical facts about the author and researching critical essays shifts their understanding of a work. For the Voices of Influence Paper, students investigate how movements and/or people have shaped our modern world. Throughout the course, students will submit a written proposal, annotated bibliography, final paper, and a multimodal presentation. All students complete a Junior Writing Portfolio, culminating with a reflective metatext that recognizes areas of growth and an awareness of the writing process. A major goal of the course is to engage students in probing and productive classroom discussions centered around critical analyses of writing. All students sit for the Regents in English Language Arts (Common Core) in June.

AP English 11: Language & Composition

(36CC - 1 Unit)

Juniors Only

Departmental approval required. Students must complete an entrance portfolio as part of a selection process.

This course investigates the inevitable conflict between society and the self-inherent in the American identity. Students are asked to question the struggle between an individual and collective consciousness along with the major themes within American literature. Throughout the course,

students read a challenging array of authors (e.g., Emerson, Thoreau, Hemingway, Fitzgerald, Hurston, Morrison) and explore how the American identity is reflected in the literature of this country. Like those in English 11, students in the AP course complete the Shaper of the World Paper and the Junior Writing Portfolio. Weekly assignments include an exploration of various modes (e.g., narrative, description, exemplification, division, classification) and are designed to stress the development of an individual writing style and voice. Students are expected to read novels in their entirety and arrive to class prepared to provide critical insight regarding particular passages. An innate curiosity and time management skills are essential to success in the AP classroom. All students are required to sit for the AP exam in May. Students also take the Regents in English Language Arts (Common Core) in June.

English 12 / Reg English 12

(40 / Z0005 - 1 Unit)

This course represents the culmination of a student's experience at Byram Hills. Throughout the year, students read works that explore a variety of universal themes, philosophies, and ideas, establishing a framework for studying literature and writing at the college level. During the first quarter, students investigate the reflective nature of writing in O'Brien's *The Things They Carried*. In addition, all students complete a comprehensive study of Shakespeare's *Hamlet*. During the second quarter, students participate in a theme-based seminar. Current titles include Postmodernism, Ethics and Morality, and Imprisonment and Consciousness. The focus in the third quarter shifts to public speaking and presentation skills. Instead of writing a traditional senior thesis, students present a "TED" Talk, thereby demonstrating their capacity for independent research and their critical understanding of a self-selected topic.

English 12: Humanities Seminar: Multimedia Journalism

(41 - 1 Unit)

In this course, students will learn about journalism in the Internet age and gain practical experience with writing, editing, web and print design, podcasting, and video storytelling. They will plan and create content for *The Oracle* (the school newspaper) and *The Arch* (the yearbook), as well as collaborate with Bobcat TV and the Byram Hills Media Center. Students will use industry-standard Adobe software, Google productivity and communication apps, and social media tools. In addition, students will explore broader issues related to the role of the journalist, including ethics, privacy, and the ways online publishing has impacted traditional journalism while also creating new audiences. If you see yourself working in communications in the future, this is the course for you!

English 12: Humanities Seminar: Race, Class and Culture in the United States

(42 - 1 Unit)

English 12 or Social Studies 12 (including Economics)

Our country's history reveals that although race, gender, and class have long shaped life in the United States--some groups have historically been marginalized. This course will allow for an in-depth look at African American and Latino experiences in the United States, post industrialization to the post-slavery present day. Students will be challenged to deepen their perspectives regarding other cultures and identities through a humanities based approach. Students will examine important

literary works in an effort to gain an understanding and appreciation for the experiences and perspectives of people of color in the United States. The first half of the course will focus upon the African-American experience. The second half of the course will focus on the Latino (Latinx) experience. Using Problem Based Learning, the class will culminate with students selecting and studying a marginalized group and presenting their research and findings in a formal setting. Students will grapple with questions such as: What does it mean to be Black or Latino in America? What is whiteness? What is racism? How does race contribute to one's identity? Why do we think racially? Should our policies be color-blind? How have economics impacted race and race relations in the United States? What political shifts have been impacted by elements of race and racism?

English 12: Humanities Seminar: Podcasting: The Art of Multimedia Narrative

(45 - 1 Unit)

In the past ten years, podcasting has exploded in our country and throughout the world, quickly becoming a reliable and effective source of communication and information. Podcasts ranging from ten-episode crime capers to daily or weekly general information programs to nationally relevant shows with popular branding that fuel conversation in the workplace and in cafeterias, this medium is now established as a popular and important format in American culture. Just as in novels, short stories, graphic novels, and great journalism, podcasts tell a story and harken back to the days of oral tradition and radio programs prior to television. Students will have opportunities to record, edit, write, produce, and publish podcasts ranging from solo productions, duos and students will work in teams to produce documentary style podcasts. There will be an exciting balance between short podcasts, longer podcasts with teams and partners and we will also have a student-produced podcast that will be published on various Byram Hills CSD platforms. Students will also be reading a number of materials about podcasting while also reading two novels and a variety of short stories for the purpose of exploring how the traditional narrative format applies to podcasts. Students will listen to a number of podcasts throughout the course. This will be an amazing opportunity for students to use great equipment, explore how podcasts are made, study how important the art of the narrative is across different mediums, and to create student-produced content.

AP English 12: Literature & Composition

(44 - 1 Unit)

Seniors Only

Departmental approval required.

Students must complete an entrance portfolio as part of a selection process. Motivated students who seek a rigorous study of literature will enjoy this college-level experience. Through the study of challenging texts (e.g., *Beowulf*, *Grendel*, *Hamlet*, *Beloved*), students will engage in rich language-based discussions that emphasize critical perceptions and thematic connections. Students are expected to read novels in their entirety before composing original essays that engage the reader and involve sophisticated arguments. Throughout the course, students investigate a variety of poetry. Though writing assignments vary, expository writing forms the basis of a student's response to literature. All students must sit for the AP exam in May.

Perspectives in Literature

(43 - 2 Units)

Seniors Only

Departmental approval required.

Students must complete an entrance portfolio as part of a selection process. This course is a double period, advanced class, developed around a series of thematic units (e.g. existentialism, modern art, surrealism, film noir). For each unit, students are taught a concept in its artistic and literary senses, using both a historical and a thematic approach. For instance, students study the Spanish Civil War, read Sartre's "The Wall," and deconstruct Picasso's "Guernica" to arrive at conclusions about how understanding the history provides for a different appreciation of the art. Students complete historical projects, study films and literature, and write short fiction. As the means of evaluation, students submit individual portfolios each marking period. A major purpose for the class is to help students explore the relationship between a given period of history and the decisions made by writers and artists during that historical period. Students may opt to sit for the AP exam in May.

Creative Writing

(46 - 1/2 Unit)

Sophomores, Juniors and Seniors

Students in this course should expect to write from prompts that explore a variety of narrative techniques and poetic devices. Throughout the course, students will imitate selected readings and work to develop individual styles. Students are frequently asked to share writing with classmates and/or publish work in *The Canvas*, the school literary magazine. At the conclusion of the course, students submit a writing portfolio and reflection. A significant portion of class time is dedicated to writing and conferencing about progress.

Speech Communication

(12 - 1/2 Unit)

Freshmen Only

The ability to speak clearly and persuasively is an essential component of any well-rounded education. This introductory level course is designed to help the student develop the following: improved skills in self-expression, ease in speaking before a group, effective organizational strategies and the ability to think on one's feet. In preparation and delivery, students will use appropriate technology to deliver both informative and persuasive speeches. A major goal of this course is to help students understand the rhetorical tools used by speakers and to practice using them.

Health Education

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Health Education

(760 - 1/2 Unit)

A graduation requirement, Health explores contemporary health topics from the physical, mental and social perspectives. Self-awareness and personal risk reduction are stressed. Course content includes mental health, chronic and infectious disease, nutrition, substance abuse and family life education. It is offered both semesters of the sophomore year.

Sports Science and Nutrition

(795 - 1/2 Unit)

Grades 9-12

Through a unique blend of classroom presentation and discussion, this semester course will expand on various topics not covered in depth in either Health or Physical Education. Students will focus on nutrition, personal fitness, anatomy and sport psychology. Other contemporary topics such as Sports Medicine and Sports Enhancement will be discussed and guest speakers will be invited for presentations. Students with an interest in sports and fitness are encouraged to enroll. **Note: This course may not be used to replace required courses in Health and Physical Education.**

Wellness for Life

(796 - 1/2 Unit)

Grades 9-12

Wellness for Life is designed to inspire students to live their best lives through the lens of overall wellness. The course aims to educate students on practical methods for addressing their physical, emotional, and social wellness needs. This course will offer students the opportunity to document their experiences, set personal wellness goals, and revitalize the way they eat, move, and live. Each unit is designed for students to make connections and apply the activities immediately to their daily lives. Students will research topics, debate theories, and experience and explore physical activities within both the classroom and greater community. The goal of the course is to get students to take ownership of their physical, emotional, and social wellness by reflecting on their learning, analyzing various wellness theories and applications, and self-advocating for the wellness plan that applies to their immediate lives and future goals.

History and Social Studies

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The field of social science in the 21st Century has evolved beyond acquisition of factual knowledge. Students are expected to utilize historical thinking skills to analyze events of the past, as well as, current issues. In order to support students in their acquisition of historical thinking skills, the social studies department is creating classroom environments in which students are doing the work of historians. The New York State Social Studies Framework and the College Board History courses have been revised in recent years to include a strong focus on the skills of history. The standards target and the assessments measure students ability to apply conceptual understanding of history through the use of historical thinking skills. History can be used to understand and grapple with current complex issues. In order to do so successfully, we need to create an environment in which our students can ask questions, share their thoughts and seek answers while strengthening their historical thinking skills. To that end, the social studies department emphasizes productive classroom discussions to lead to more civically engaged and responsible students.

Global History and Geography I

(110 / 110C - 1 Unit) 9th Grade

Global History and Geography II

(120 / 120C - 1 Unit) 10th Grade

The major theme of this two-year course is how people have related to each other, particularly in the areas of political ideas, economic theory, and intellectual and social conflict. The course is arranged chronologically, covering world history from the ancient period through the present. Students are required to take the NYS Regents in June of their tenth grade year.

AP World History

(115 - 1 Unit)

Prerequisite: Global History and Geography I, Historical Thinking Skills Self-Assessment, and departmental approval required.

An advanced college-level course based on in-depth readings for analysis of selected periods in World History from the year 1200 C.E. to the present. Primary sources as well as interpretive and narrative history are an integral part of the course. Substantial and significant reading assignments are to be anticipated with individual study and research required. Group discussion dynamics are also integrated within the course's seminar structure. Students are required to take the Advanced Placement examination in May and the NYS Regents in June.

United States History and Government

(130 / 130C - 1 Unit)

Prerequisite: Global History and Geography II

This course chronologically surveys American History with concentration on the varied forces that have molded contemporary America, such as economic and political structures (past and present). Source readings and current events will be used. The course begins with colonial America and ends with the contemporary time period. Students are required to take the Regents exam in June.

AP United States History

(135 - 1 Unit)

Juniors Only

Prerequisite: Global History and Geography II or AP World History, Historical Thinking Skills Self-Assessment, and departmental approval required.

This course is an advanced course based on in-depth readings for analysis of selected periods in American History. The content emphasizes issues and problems in American History from 1750 to the present. Considerable attention is paid to the organization and writing of essays that assess historical evidence and interpretation. Readings in primary sources as well as interpretive and narrative history are an integral part of the course. Substantial and significant assignments are to be anticipated with individual study and research encouraged. Group discussion dynamics are also employed within the seminar structure of the course. The Advanced Placement examination is required in May. Students are required to take the Regents exam in June.

Senior Year Social Studies Credit

During their senior year students must take one of the following from each column:

Choose one course from this column	Choose one course from this column
The Human Conscience in History **(1/2 Unit)**	**Economics** **(1/2 Unit)**
Practical Law **(1/2 Unit)**	
Psychology **(1/2 Unit)**	
The Twentieth Century **(1/2 Unit)**	

OR:

AP European History/Economics

(1 Unit)

AP Human Geography/Economics
(1 Unit)
AP US Government and Politics/Economics
(1 Unit)
Humanities Seminar: Race, Class and Culture in the United States
(1 Unit)

Semester Course Offerings

Economics
(140 - 1/2 Unit)
Seniors Only
Required for graduation.
This semester course provides an introduction to the basic principles and concepts of microeconomics and macroeconomics, such as scarcity, supply and demand, prices, money, the banking system, inflation, unemployment, gross national product, monetary and fiscal policy, income distribution. Students also study current economic issues, monitor the stock market, and learn how different economic systems try to solve universal economic problems.

The Human Conscience in History
(127 - 1/2 Unit)
Juniors and Seniors Only
Human behavior is founded in the truths that people believe about the world. But what is “the truth” and how are individuals and societies influenced by the truths that they are taught? This course highlights the connection between human behavior and tragedies that have occurred in history. The course will examine what motivates the perpetrators, victims, bystanders (observers) and up standers (heroes), as well as the circumstances and environment of particular historic situations. Through case studies, students will examine how politics, conflicts, cultural myths, literature, art, media and many other factors influence and reflect events, thereby shaping history and the human condition. By studying the historical development and lessons of crises, students will become prepared to make a connection between history and the ethical choices they confront in their own lives. This course is rooted in the values and resources of the Facing History and Ourselves program.

Practical Law
(143 - 1/2 Unit)
Seniors Only
This semester course deals with current legal problems faced by the individual in today's American society. The course focuses on such topics as juvenile status and rights, juvenile crime, the federal and state court systems, Supreme Court decisions, prison, family and marriage laws, wills, contracts, consumer protectionism, the death penalty controversy, juries, and the Constitution. Course content comes from a variety of contemporary readings, videotapes, outside speakers, and current legal events. Students perform mock trials to apply their knowledge of the legal system.

Psychology

(142 - 1/2 Unit)

Seniors Only

This semester course provides a general introduction to the basic principles of psychology. It focuses on such topics as Freudian psychoanalytical theory, the study of the unconscious mind/sleep, mental disorders, conformity/social psychology, multiple intelligence theory and behavioral control. This elective is about student participation and relating your everyday life to elements of psychology. Course content comes from a variety of sources including motion pictures, periodicals, blogs and a textbook.

The Twentieth Century

(146 - 1/2 Unit)

Juniors and Seniors Only

This semester course provides an in-depth study of 20th century American historical events which are examined through a broader global and comparative context. This performance based class includes indepth research projects, simulations, field trips, guest speakers and film. The course will examine five major themes; one of which will be selected by the class. Past themes have included: prohibition, immigration, 1960s counter culture, terrorism, The Cold War, American foreign policy in the Middle East, and Civil Rights.

Full Year Course Offerings

Humanities Seminar: Race, Class and Culture in the United States

(42 - 1 Unit)

Social Studies 12 (including Economics) or English 12

Our country's history reveals that although race, gender, and class have long shaped life in the United States--some groups have historically been marginalized. This course will allow for an in-depth look at African American and Latino experiences in the United States, post industrialization to the post-slavery present day. Students will be challenged to deepen their perspectives regarding other cultures and identities through a humanities based approach. Students will examine important literary works in an effort to gain an understanding and appreciation for the experiences and perspectives of people of color in the United States. The first half of the course will focus upon the African-American experience. The second half of the course will focus on the Latino (Latinx) experience. Using Problem Based Learning, the class will culminate with students selecting and studying a marginalized group and present their research and findings in a formal presentation setting. Students will grapple with questions such as: What does it mean to be Black or Latino in America? What is whiteness? What is racism? How does race contribute to one's identity? Why do we think racially? Should our policies be color-blind? How have economics impacted race and race relations in the United States? What political shifts have been impacted by elements of race and racism?

AP European History/Economics

(145 - 1 Unit)

Seniors Only

Prerequisite: Historical Thinking Skills Self-Assessment and departmental approval required.

This course is an advanced in-depth study of European History from the Renaissance to the modern period. There is emphasis on class discussion, individual research, historiography, analysis of historical sources, and interpretation of historical causal relationships. Some topics of study include the Renaissance, the Reformation, absolutism, wars of religion, the Enlightenment, French and Russian Revolutions, industrialization, nationalism, the world wars. Economics content and standards are integrated throughout the course. The Advanced Placement examination is required in May.

AP Human Geography/Economics

(144 - 1 Unit)

Seniors Only

Prerequisite: Historical Thinking Skills Self-Assessment and departmental approval required.

This course is an introduction to the Advanced Placement experience designed for students who have not taken any prior AP social studies classes. AP Human Geography will teach students about the patterns and processes that explain how and why we live where we do. We delve into how humans have changed the earth, been changed by the earth, and how they have interacted with each other on the earth. It is a course that focuses on the present, using the past simply to understand the present. Topics include globalization and regionalization, population and migration, culture and ethnicity, land use, both urban and rural, industrialization and economic development. Mathematical reasoning, critical thinking, research and reading skills will be developed through a series of simulations, computer lab time, discussions, and presentations. In addition to the economic concepts addressed throughout the course, students will also explore individual responsibility for managing personal finances. Students will be assessed through performance assessments and also with traditional multiple choice and essay tests. The Advanced Placement examination is required in May.

AP U.S. Government and Politics/Economics

(136 - 1 Unit)

Seniors Only

Prerequisite: Historical Thinking Skills Self-Assessment and department approval required.

This course provides a college-level, nonpartisan introduction to key political concepts, institutions, policies, interaction, roles, and behaviors that characterize the constitutional system and political culture of the United States. Students will study the U.S. foundational documents, Supreme Court decisions, and other text and visuals to gain an understanding of the relationships and interactions among political institutions, processes, and behaviors. They will also engage in disciplinary practices that require them to read and interpret data, make comparisons and applications, and develop evidence-based arguments. In addition, they will complete a political science research or applied civics project. This course will also integrate course content for Economics through the examination of: the principles of the United States free market economy in a global context, individual responsibility for managing personal finances, the role of supply and demand in determining the

prices individuals and businesses face in the product and factor markets, and the global nature of these markets. Additionally, 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. Students will explore the challenges facing the United States free market economy in a global environment and various policy-making opportunities available to government to address these challenges.

Electives Also Open to Underclassmen

Understanding Current Events

(123 - 1/2 Unit)

Freshmen, Sophomores, and Juniors

How do we know what we know about ourselves and the world around us? In this course students will examine theories of knowledge to help them better understand themselves as learners, and better understand the changing world around us, through an examination of current world events. Students will engage in authentic tasks in which they apply what they have learned to make a difference in the world around them. There will be debates, simulations, research, writing tasks, and other projects.

Investments and Markets

(746 - 1/2 Unit)

Sophomores, Juniors, and Seniors

This semester course is an introduction to the variety of investments and markets in the American economy. Through the use of newspapers, magazines and the Internet, students will become familiar with markets and investments. This will provide a foundation for students to make intelligent investment decisions as they build a personal investment portfolio. Speakers, trips to exchanges, stock market simulations, and analysis of current events will be an integral part of the course.

Popular Culture

(122 - 1/2 Unit)

Freshmen and Sophomores

A semester-long class that provides students an opportunity to discuss, analyze and evaluate historical and current popular culture. This will include music, television and film. The class also provides in-depth study and evaluation of the media that surrounds us today, and looks at how it is influencing the lives of people (especially teenagers). Students will study various advertising and marketing methods, and attempt to identify how these methods are influencing and shaping teenage culture. The evaluation of Popular Culture will include applying basic philosophical ideas, as well as reading about leading authors of the field.

Mathematics

Lisa Pellegrino • Chairperson

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The Mathematics Department is committed to providing experiences that encourage and enable students to value mathematics, gain confidence in their own mathematical ability, become mathematical problem solvers, communicate and reason mathematically, and connect meaning to the real world. It is our belief that all students should learn important mathematical concepts and processes with understanding. Furthermore, it is our hope that students appreciate and value the beauty of mathematics as well. We offer mathematics courses at different levels and different paces as well as a variety of electives to encourage our students to take mathematics for four years.

Math Workshop

(200 - 1/2 Unit)

Freshmen Only

This half year course is required for second semester freshmen who have been identified by their score on the eighth grade New York State Mathematics exam as needing academic intervention services in the area of mathematics, and are enrolled concurrently in Algebra 1. Additional students may be recommended.

Algebra 1

(212CC - 1 Unit)

Prerequisite: Math 8

Algebra 1 is the first course based on the high school Common Core curriculum. Students will take the Algebra 1 Regents exam in June. The course content focuses heavily on functions, specifically linear, quadratic and exponential functions, expressions, equations, inequalities, equivalence, and statistics. To help students become mathematically proficient, classroom activities integrate three components of learning: conceptual understanding, procedural fluency and problem-solving.

Algebra 1 Part 1

(213CC - 1 Unit)

Prerequisite: Math 8

Algebra 1 Part 1 is the first course of a three-year sequence for students who benefit from studying mathematics with additional time on each topic. The course covers approximately half of the content described above for the course, Algebra 1. Students will take the Algebra Regents exam after the third year of the sequence, Algebra 1 Part 2. To help students become mathematically proficient, classroom activities integrate three components of learning: conceptual understanding, procedural fluency and problem-solving.

Geometry

(203CC - 1 Unit) 9th Grade

*** only applies to students who entered 9th grade before September 2018.**

(204CC - 1 Unit) 10th Grade

Prerequisite: Algebra 1

Geometry is the second course based on the high school Common Core Curriculum. Students will utilize visual and spatial reasoning to analyze geometric relationships and identify and justify these relationships through formal and informal proofs. Additionally, students will apply transformations, symmetry and coordinate geometry to problem solving situations. Students apply algebra skills and concepts to various geometric concepts. To help students become mathematically proficient, classroom activities integrate three components of learning: conceptual understanding, procedural fluency and problem solving.

Geometry A

(206CC - 1 Unit)

Prerequisite: Algebra 1 and departmental approval.

Geometry A is the second course based on the high school Common Core Curriculum. The course follows the description for Geometry listed above. However, additional topics are integrated throughout the units of study. Therefore, strong algebraic skills and reasoning are expected as the depth and breadth of the content necessitates a fast pace. An emphasis is placed on developing conceptual understanding, mathematical reasoning and proof, and analysis and synthesis of the content.

Geometry B

(202 - 1 Unit)

Prerequisite: Algebra 1 Part 1 or Algebra 1

Geometry B is the second course in a three-year sequence for students who benefit from studying mathematics with additional time on each topic. Geometry B is also an option for students who have completed Algebra 1, but would benefit from a Geometry course with additional time on each topic. It is designed around the same topics as the Common Core Geometry, but with less formal proof work required, and additional integration of foundational algebra.

Algebra 2

(234 - 1 Unit)

Prerequisite: Geometry, Geometry B, or Algebra 1 Part 2 with departmental approval.

This course is designed for college bound students who would benefit from studying Algebra 2/Trigonometry at a slower pace. Algebra 2 allows students to strengthen their foundational algebraic understandings and develop them further to address more complex algebraic problems. Students will complete the Algebra 2/Trigonometry syllabus by studying trigonometry the following year and begin their Precalculus studies in Trigonometry/Precalculus.

Algebra 1 Part 2

(218CC - 1 Unit)

Prerequisites: Algebra 1 Part 1 and Geometry B

Algebra 1 Part 2 is the third course in a three-year sequence for students who benefit from studying mathematics with additional time on each topic. This course completes the second half of the algebra curriculum and students take the Algebra 1 Regents exam in January or June. To help students become mathematically proficient, classroom activities integrate three components of learning: conceptual understanding, procedural fluency and problem solving.

Algebra 2 and Trigonometry

(244 - 1 Unit) 10th Grade

*** only applies to students who entered 9th grade before September 2018.**

(248 - 1 Unit) 11th Grade

Prerequisite: Geometry

The course content focuses on: exponential, radical, polynomial, absolute value and trigonometric expressions and equations; systems of equations; the complex number system; sequences and series; and transformations of functions. Integrated throughout this course are topics from number sense and operations. To help students become mathematically proficient, classroom activities integrate three components of learning: conceptual understanding, procedural fluency and problem solving.

Algebra 2 and Trigonometry A

(249 - 1 Unit)

Prerequisite: Geometry A and departmental approval.

The course follows the description for Algebra 2/Trigonometry listed above. However, additional topics are integrated throughout the units of study. Therefore, strong algebraic skills and reasoning are expected as the depth and breadth of the content necessitates a fast pace. An emphasis is placed on developing conceptual understanding, mathematical reasoning and proof, and analysis and synthesis of the content. Students benefit from being independent learners.

Precalculus

(239 - 1 Unit) 11th Grade

(240 - 1 Unit) 12th Grade

Prerequisite: Algebra 2 and Trigonometry

This course provides preparation for those students who intend to continue their study of mathematics, whether in the direction of the natural or physical sciences, or in the direction of the social sciences. Content emphasis will include: functions from an algebraic and analytical perspective including their application to real life models; trigonometric functions and their application; and sequences and series. Other topics may include matrices, polar coordinates, parametric equations, limits and an introduction to calculus.

Trigonometry and Algebra 2

(237 - 1 Unit)

**** only applies to students who entered 10th grade on or after September 2020**

This is the first of a two-year math sequence created to offer a second pathway of acceleration at the end of 9th grade. Students will study both Geometry and Algebra 2/Trigonometry concepts, including logic, postulates, congruence, transformations, geometry of solids, similarity, right triangles, geometry of circles, the unit circle and trigonometry, trigonometric equations, exponential functions, rational expressions, complex numbers and probability. Students will complete advanced algebraic and additional pre-calculus concepts the following year.

Trigonometry/Precalculus

(243 - 1 Unit)

Prerequisite: Algebra 2

This course is a continuation of Algebra 2 covering Trigonometry and includes the study of a number of Precalculus units. See Precalculus description. Students will study trigonometry during the first semester and study Precalculus the second semester in preparation for college algebra. An emphasis is placed on the integration of real-world applications and strong algebraic skills.

Introduction to Probability and Statistics

(251 - 1 Unit)

Prerequisite: Algebra 1 Part 2

Students will study concepts in probability and statistics through real world applications. Students will study exploratory data analysis, experimental design, sampling techniques, basic probability theory, normal distributions and modeling and regression. Models studied include linear, quadratic, and exponential functions, and students will rely on technology to produce their models. Students will also use the technology to analyze data and explore probability theory. Portions of this class are project based.

Advanced Precalculus/Calculus

(235 - 1 Unit)

Prerequisite: Algebra 2 and Trigonometry A, and department approval.

Advanced Precalculus covers advanced mathematical concepts with an emphasis on functions and real-life models, from both an algebraic and analytical perspective. Additional topics include trigonometric functions, sequences and series, polar equations, limits and an introduction to derivatives. Emphasis is placed on proper mathematical notation, proving and developing a theoretical understanding of concepts, and using the graphing calculator. This course is designed for students who plan to take the BC Advanced Placement Calculus course.

Calculus

(247 - 1 Unit)

Prerequisite: Precalculus or Advanced Precalculus/Calculus

An introduction to the concepts of Calculus, this course will expose students to topics traditionally found in a first semester college Calculus class. Students will have the opportunity to explore these

topics numerically and graphically as well as algebraically. Technology will be integrated throughout the year in order to provide a rich variety of interesting applications. Topics will include the study of functions and their limits, the concepts of the derivative and the integral and how these may be used to model real world problem situations.

AP Calculus AB

(245 - 1 Unit)

Prerequisite: Precalculus (239-11th Grade) or Advanced Precalculus/Calculus and departmental approval required.

An Advanced Placement (AP) course in calculus consists of a full high school academic year of work that is comparable to calculus courses in colleges and universities. It is expected that students who take an AP course in calculus will seek college credit, college placement or both, from institutions of higher learning. Calculus AB is primarily concerned with developing the students' understanding of the concepts of calculus and providing experience with its methods and applications. The course emphasizes a multi-representational approach to calculus. Concepts, results and problem situations will be expressed geometrically, numerically, analytically, and verbally. The connections between these representations are also emphasized. Students are exposed to three broad conceptual themes: 1) Functions, Graphs, and Limits, 2) Derivatives, 3) Integrals. Considerable attention is paid to conceptual understanding as well as strong computational skills. Furthermore, a large amount of work outside of class is expected in addition to participation in class discussions. Students are expected to take the AP exam in May.

AP Calculus BC

(246 - 1 Unit)

Prerequisite: Advanced Precalculus/Calculus and departmental approval required.

The BC Calculus course is a full year course comparable to two semesters of college calculus. Students who take this Advanced Placement course are expected to seek college credit and/or placement. The emphasis of this course is on developing a theoretical understanding of the concepts of differential and integral calculus. Significant time is spent on exploring the motivation for and proof of the major theorems involved. A multi-representational approach including geometric, numerical, analytic and verbal representations is used. Calculus BC begins with the study of derivatives and integrals of a single variable. This course includes all topics covered in Calculus AB plus additional topics such as: the calculus of parametric, polar and vector functions, additional integration techniques, applications of integration, and the study of sequences and series. Methods of estimation and error are explored throughout the course, beginning with limits and differentials and concluding with the study of Taylor Polynomials. The course finishes with the study of Power series and the derivation of Euler's Equation and Euler's Identity. Calculus BC is both an extension and enhancement to Calculus AB. Students are expected to take the BC calculus exam in May after which they will receive both a BC score and an AB subscore.

AP Statistics

(252 - 1 Unit)

Juniors and Seniors Only

Prerequisite: Precalculus previously or concurrently and departmental approval required.

The purpose of the Advanced Placement course in statistics is to introduce students to the major concepts and tolls for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad conceptual themes: 1) Exploring Data: Observing patterns and departures from patterns, 2) Planning a Study: Deciding what and how to measure, 3) Anticipating Patterns in Advance: Producing models using probability and simulation, 4) Statistical Inference: Confirming models. Students who successfully complete the course and examination may receive unit and /or advanced placement for a one-semester introductory college statistics course. Participation in class discussions is expected. Students are expected to take the AP Exam in May.

Pathways in Engineering

(702 - 1/2 Unit)

Prerequisite: Algebra I/Geometry previously or concurrently.

Pathways in Engineering is a research based engineering course in which students work in teams or individually to research, design, test and construct a solution to an open-ended engineering problem. Student solutions will include the same product development life cycle and design process that is used by engineers, writers, and artists and will include research into a pathway of interest as well as the practical application of that research. When possible, students are encouraged to work in conjunction with research scientists and professionals within their field of research. Students are required to keep a longitudinal portfolio of their research. At the conclusion of the course, student teams present and defend their solutions to a panel of outside reviewers. A portion of the class will include a student run help desk which prepares students to provide first-line technical support to students, support staff, and teachers. Students are trained to listen, observe, and assess general end-user issues. Students may enroll in this program for more than one semester.

A Guide to Mathematics Course Selection

	8th	9th	10th	11th	12th
Accelerated Sequences	Algebra 1 Algebra 1	Geometry A Geometry	Alg 2 / Trig A Alg 2 / Trig	Adv Precalc Precalculus	AP Calculus AB or BC AP Statistics Calculus or AP Calculus AB
Regular Sequence	Math 8	Algebra 1	Geometry Geometry B	Alg 2 / Trig Algebra 2	Precalculus AP Statistics Trig / Precalc
Expanded	Math 8	Algebra 1,Pt. 1	Geometry B	Algebra 1, Pt.2	Introduction to Probability and Statistics Algebra 2

A Guide to Mathematics Course Selection
(Applies to students entering 8th grade in September 2018)

	8th	9th	10th	11th	12th
Advanced Sequence	Algebra 1A	Geometry A	Alg 2 / Trig A	Adv Precalc	AP Calculus AB or BC
Accelerated Sequences	Pre-Algebra	Algebra 1	Precalculus 1	Precalculus 2	AP Statistics Calculus or AP Calculus AB
Regular Sequence	Pre-Algebra	Algebra 1	Geometry Geometry B	Alg 2 / Trig Algebra 2	Precalculus AP Statistics Trig / Precalc
Expanded	Pre-Algebra	Algebra 1,Pt. 1	Geometry B	Algebra 1, Pt.2	Introduction to Probability and Statistics Algebra 2

Music and Theatre

Pete Pauliks • Director

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Concert Choir

(641 - 1 Unit)

The Concert Choir is open to all students in grades 9-12. This ensemble provides students an opportunity to sing all types of choral repertoire in a mixed ensemble. The class is designed to reinforce basic vocal skills and development and to cultivate musical understanding and appreciation. Students will learn and perform a variety of music from classical, popular and holiday vocal repertoire (NYSSMA levels IV – VI). Participation in Concert Choir is required for any student wishing to audition for select choral ensembles including Jazz Choir.

Concert Orchestra

(635 - 1 Unit)

The Concert Orchestra is a performance class open to all qualified students in Grade 9 who play the violin, viola, cello, or string bass. The objective of the Concert Orchestra is to develop technical, performance, and musicianship skills learned in Middle School Orchestra. The ensemble is designed to create opportunities for orchestral musicians to study and perform a variety of repertoire composed for string ensembles. Concert Orchestra members are required to perform in all concerts throughout the year. Participation in Concert Orchestra or String Orchestra is required for any student wishing to audition for select string ensembles.

String Orchestra

(636 - 1 Unit)

The String Orchestra is a performance-based class open to all qualified students in Grades 10-12 who play the violin, viola, cello, or string bass. The ensemble performs a variety of literature (NYSSMA Levels III-V), with an emphasis placed on the organic growth of advanced technical, performance, and musicianship skills learned in Concert Orchestra. String Orchestra members are required to perform in all concerts throughout the year. Participation in String Orchestra is required for any student wishing to audition for select string ensembles.

Concert Band

(639 - 1 Unit)

The Concert Band is open to all qualified wind, brass and percussion students in Grades 9-10. The objective of the Concert Band is to continue the development of performance skills, technique and musicianship fundamentals learned in the middle school band program. The ensemble will perform a variety of band literature for both concert and marching band. This is a performance-based class that requires many performances throughout the year, including home football games, concerts, and

festivals. Participation in Concert Band is required for any student wishing to audition for select band ensembles including Jazz Band.

Symphonic Winds

(634 - 1 Unit)

Prerequisite: Successful completion of Concert Band.

Symphonic Winds is an advanced performing group designed for the most experienced wind, brass and percussion students in grades 11-12. The ensemble performs advanced high school and collegiate level band literature covering a wide variety of musical styles (NYSSMA levels V and VI). Skill development will include individual musicianship and technical development particular to each student's chosen instrument. This is a performance-based class that requires performances throughout the year, including community events, concerts, and festivals. Participation in Symphonic Winds is required for any student wishing to audition for select band ensembles including Jazz Band.

Music Theory

(646 - 1/2 Unit)

Music Theory is a course open to all vocal and instrumental students in grades 10-12. Theory students must be able to read basic music notation to enroll in this course. Students will study the foundations of Music Theory: elements of musical form and structure, basic harmonic analysis, and composition. Music Theory is a prerequisite for the AP Music Course.

AP Music Theory

(655 - 1 Unit)

Prerequisite: Music Theory

AP Music Theory is a course open to advanced music students in grades 10-12. AP Theory students must be able to read music notation at NYSSMA Level 5 and demonstrate understanding of theory fundamentals (scales, chord structures, basic harmonic progressions) to enroll in this course. Students can demonstrate their mastery in these areas through an audition or interview with a member of the high school music faculty for admission into AP Music Theory. The study of AP Music Theory integrates aspects of melody, harmony, texture, rhythm, form, musical analysis, elementary composition, and to some extent, history and style. Musicianship skills such as dictation and other listening skills, sight-singing, and keyboard harmony are an important part of the theory course. The ultimate goal of an AP Music Theory course is to develop a student's ability to recognize, understand, and describe the basic materials and processes of music that are heard or presented in a score. Students will learn fundamental aural, analytical, and compositional skills using both listening and written exercises, harmonize melody by selecting appropriate chords, compose a musical bass line to provide two-voice counterpoint, and perform the realization of figured-bass notation.

Private Music Instruction

(645 - 1/2 Unit)

Students who take weekly private instruction for an entire school year (from September through June) in voice, piano or any instrument may receive school unit for this study. This unit does not satisfy the graduation arts requirement; however, it will be noted on a student's transcript. The

student and private music teacher must fill out forms, which are available from their high school music teachers. Private Instruction is considered an activity for which the state grants one-half unit, but is not considered a course.

Studio Music Production and Composition

(644 - 1/2 Unit)

Studio Music Production and Composition is open to all students in grades 9-12. Students will be introduced to the elements of music (form, rhythm, melody, harmony, texture, history and style) through electronic means. This course provides students with the experience of composing music using computers, microphones, and digital recording. The class is designed with a hands-on approach where students create their own original electronic music compositions.

Studio Music Production and Composition II

(648 - 1/2 Unit)

Prerequisite: Studio Music Production and Composition

Students will develop a music portfolio containing completely original works reflecting current trends in popular music. Using the Logic Pro software, they will design and construct all elements of their compositions (harmony, melody, rhythm, form) while recording live instrumental and vocal tracks. The students will be paired with performers from concurrent music courses or outside clubs in order to collaborate on various recording projects. In addition, students will analyze current styles of electronica and recreate selected styles using their own compositional voice. Each student will gain a fundamental understanding of Music Theory and keyboard skills that will further enhance his or her creative potential. This course will serve as a college preparatory course for students who are interested in further pursuing Studio Music Production.

Guitar Workshop

(651 - 1/2 Unit)

Guitar Workshop is a one-semester course for beginning musicians. Students will learn to play basic guitar chords and chord progressions, read guitar tablature and traditional musical notation, and perform songs in a variety of styles. Class activities include group rehearsal and group performance. Students will also be introduced to master guitarists through recordings and video. Students will work on projects appropriate to their experience and performance goals. This course is open to all students in grades 10-12.

Theatre Workshop

(652 - 1/2 Unit)

Theatre Workshop is a one-semester experiential course appropriate for both the veteran theatre student and the absolute novice. Class activities might include improvisation, theatre games, monologue performance, scene study, technical theatre and one act play production. Students will work on projects and materials appropriate for their experience and performance goals. This course is open to all students in grades 9-12.

Theatre Tech

(654 - 1 Unit)

Departmental approval required.

Theatre Tech is an advanced course open to students in grades 10-12. Students should have a strong interest in the technical elements of theatre and must have completed a minimum of three shows with BHHS Stage, the high school theatre company. The tech theatre students receive instruction in lighting, sound and production and coordinate all the tech work for school assemblies and evening student activities. Instructor approval is required.

Physical Education

Robert Castagna • Director

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Physical Education

(791 - 1/2 Unit) Grades 9-10

(799 - 1/2 Unit) Grades 11-12

Through individual, dual, and team sports, cardiovascular fitness activities, self- testing activities and rhythmical activities, the physical education staff works to instill in students the importance of maintaining fitness now and throughout their lives. This program is offered to grades 9-12 on a required basis. However, periodically students are given choices of activities.

Activities are chosen from the following areas:

TEAM SPORTS	INDIVIDUAL and DUAL SPORTS
Basketball	Aerobics
European Handball	Archery
Field Hockey	Badminton
Flag Football	Dance
Floor Gym Hockey	First Aid
Indoor Soccer	Fitness
Rugby	Fitness Walk
Scooter Handball	Golf
Scooter Hockey	Leisure Sports
Soccer	Pickleball
Softball	Pilates
TRI	Tennis
Ultimate Frisbee	Weight Training
Volleyball	Yoga
Volley Tennis	

CPR (Cardiopulmonary Resuscitation)

(790 - 0 Units)

This course is required for graduation and is part of the freshman/sophomore physical education program. It is offered every other year.

Science

Debra Cayea • Chairperson

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The Science Department offers a complete selection of courses for all students. The four major branches of science—Earth Science, Life Science, Chemistry and Physics—are all represented. The Science Department also offers a wide selection of electives and advanced offerings intended for students who have completed, or are in the process of completing, an initial three unit science sequence.

Graduation Requirements

Students must earn three units of credit in science to graduate. Two of the units must be comprised of one course from the Physical Setting (Earth Science, Chemistry, or Physics) and one course from the Living Environment core curricula. The third may be from either life sciences or physical sciences, or from an approved course integrating math, science and technology. All science courses include a critical laboratory component. Students taking Physical Setting/Earth Science, Living Environment/Biology and Physical Setting/Chemistry must successfully complete the State-mandated laboratory requirement, which includes 1200 minutes (20 hours) of hands-on laboratory experience with satisfactory laboratory reports. Students must pass one Regents examination in science for a Regents Diploma.

Please note:
As per Section 809 subdivision 4 of the education law: Certain laboratory science classes may involve the dissection of preserved animal specimens. Students and parents/guardians will be advised well in advance if this form of laboratory work is included in the course where the student is enrolled. Any student with a moral or religious objection to participating or witnessing an animal dissection, substantiated in writing by a parent or legal guardian, shall be provided with an approved alternative project.

Ninth Grade Science Placement

Ninth grade students will take Physical Setting/Earth Science or Living Environment if the prerequisites are met.

Physical Setting/Earth Science Regents

(314 / L0314 - 1 Unit)

This is the first course in the regular college preparatory science sequence. The program of studies is that which is outlined in the New York State Physical Setting/Earth Science Core Curriculum Guide. There will be a strong emphasis on understanding terrestrial systems through laboratory work and mathematical analysis. The course includes an in-depth study of measurement, earth dimensions, rocks and minerals, the dynamic earth, surface processes and landforms, the hydrologic cycle and groundwater movement, meteorology, geologic history, and the earth in space. Students will be expected to take the New York State Regents Examination in Physical Setting/Earth Science at the end of the course.

Laboratory Requirement:

As a prerequisite for admission to the Regents examination in Earth Science, students must have successfully completed and have on file, 1200 minutes of laboratory experience with satisfactory written reports for each laboratory investigation. ****(Please refer to "Laboratory Report Criteria" at the end of the section)**

The Living Environment/Biology A Regents*

(316 / L0316 - 1 Unit)

*Prerequisite: Earth Science A (8th grade) or 9th grade Earth Science teacher recommendation for ***Criteria for Review Process.*

The curriculum is based on the New York State Learning Standards for Mathematics, Science, and Technology as well as the NYS Living Environment Core Curriculum Guide. The course is designed to prepare students to explain, both accurately and with appropriate depth, the most important ideas about our living environment. Topics include cell theory, chemistry of life, plant and animal physiology, genetics, evolution and ecology. Open-ended laboratory exercises provide training in the scientific method rather than learning by rote. The application of biological concepts to real world situations is emphasized. In June, students will be expected to take the New York State Regents Examination in the Living Environment.

Laboratory Requirement:

As a prerequisite for admission to the Regents examination in the Living Environment, students must have successfully completed and have on file 1200 minutes of laboratory experience with satisfactory written reports for each laboratory investigation. ****(Please refer to "Laboratory Report Criteria" at the end of the section)**

The Living Environment/Regents Biology*

(317 / L0317 - 1 Unit)

Prerequisite: Earth Science

The curriculum is based on the New York State Learning Standards for Mathematics, Science, and Technology as well as the NYS Living Environment Core Curriculum Guide. The course addresses fundamentals of the science of life. It explores such topics as cell theory, evolution, chemistry of life, plant and animal physiology, genetics and ecology. Open ended laboratory exercises provide training

in the scientific method rather than learning by rote. The Living Environment Regents Exam will be taken in June.

Laboratory Requirement:
As a prerequisite for admission to the Regents examination in The Living Environment, students must have successfully completed and have on file, 1200 minutes of laboratory experience with 30 satisfactory written reports for each laboratory investigation. ****(Please refer to "Laboratory Report Criteria" at the end of the section)**

Physical Setting/Chemistry Regents A

(332A / L0332A - 1 Unit)

Prerequisite: Biology A, Geometry and departmental approval.
Corequisite: Algebra 2/Trigonometry, Algebra 2/Trigonometry A preferred, Chemistry A is for accelerated tenth grade students.

This course involves higher level problem solving skills, accelerated math skills and conceptual application. The program of studies is outlined in the New York State Regents curriculum Physical Setting/Chemistry. Classroom topics are reinforced by laboratory work, demonstration and technology integration which enhances a "hands-on", inquiry-based approach to chemistry. Chemistry A is an advanced course covering major topics such as: energy and matter; atomic structure; chemical bonding; the periodic table; moles and stoichiometry; kinetics and equilibrium; thermodynamics; acids, bases and salts; oxidation and reduction; organic chemistry and nuclear chemistry. Students are required to take the New York State Regents Examination in Chemistry in June.

Laboratory Requirement:
As a prerequisite for admission to the Regents examination in Chemistry, students must have successfully completed and have on file, 1200 minutes of laboratory experience with satisfactory written reports for each laboratory investigation. ****(Please refer to "Laboratory Report Criteria" at the end of the section)**

Physical Setting/Chemistry Regents

(332 / L0332 - 1 Unit)

Prerequisite: Biology, Geometry
Corequisite: Algebra 2/Trigonometry

This rigorous course involves higher level problem solving skills and conceptual application. The program of studies is outlined in the New York State Regents curriculum Physical Setting/Chemistry. Major topics include energy and matter; atomic structure; chemical bonding; the periodic table; moles and stoichiometry; kinetics and equilibrium; thermodynamics; acids, bases and salts; oxidation and reduction; organic chemistry and nuclear chemistry. These classroom topics are reinforced by laboratory work. Students are required to take the New York State Regents Examination in Chemistry in June.

Laboratory Requirement:
As a prerequisite for admission to the Regents examination in Chemistry, students must have successfully completed and have on file, 1200 minutes of laboratory experience with satisfactory written reports for each laboratory investigation. **(Please refer to "Laboratory Report Criteria" at the end of the section)

Science, Technology and Society Courses

Science, Technology and Society (STS) is a major offered at many colleges and universities. STS courses are intended to offer students the opportunity to examine the social contexts in which science and technology occur, the organizations of people and things that make up science and technology systems, and the social and cultural consequences of scientific and technological change over time. The following STS elective courses are semester long courses that provide students with many options due to the versatility in course offerings. The courses are not sequential and can be taken in any order.

Inventions & Innovations of the 21st Century

(351 - 1/2 Unit)
Sophomores, Juniors, and Seniors
This course is an exploratory course for students to investigate the impact of science and technology on society. Students will learn about various types of technology and discuss the implications, both positive and negative, on their daily lives. They will investigate the greatest innovations and inventions of human history and how they forever changed our culture. Students will use various technology platforms to learn about 3D modeling, coding, basic robotics, electronic music production, videography, virtual reality, augmented reality, flight simulation and other interesting technology platforms. Students employ the *Engineering Design Process* and complete a number of project-based assignments, such as: designing battlebots, making a movie by programming a mini robot, taking classmates on a field trip using VR (Google Expeditions) and learning about the science of flight using a flight simulator. All tasks require creativity, imagination, attention to detail and a willingness on the part of the student to take risks. Ideally, students will take the skills learned in this class to other classrooms to enhance and increase their productivity and problem solve more effectively. This course may include a field trip and feature guest speakers regarding relevant topics of study.

Crime Scene Investigation and Forensics

(352 - 1/2 Unit)
Sophomores, Juniors, and Seniors
Forensic Science is the application of science to the criminal and civil laws that are enforced by police agencies in a criminal justice system. In this course, students will investigate the impact of science, technology and society on crime scene investigation (CSI) and forensic science. Students will use various science and engineering practices to learn about the science of forensics. Students are taught the proper collection, preservation, and laboratory analysis of various samples. They will study the analysis of hair, fiber, ballistics, fingerprints, DNA, arson, handwriting, tire tracks, footprints,

entomology, toxicology, blood spatter and digital devices. The course contains material which is graphic in nature (violence, murder, rape, bloodshed, gore, serial killsers and other crime scene related content). Students and parents should consider this carefully and use their discretion when choosing to enroll. This course may include a field trip and feature guest speakers regarding relevant topics of study.

Geology of the Hudson Valley

(353 - 1/2 Unit) Fall only

Sophomores, Juniors, and Seniors

This course focuses on geologic properties and engineering practices. Students will integrate content from Earth Science through the examination of geologic history as it relates to the evolution of the landscape of the Hudson Valley. Students will learn about natural processes and how they shape the surface of Armonk and surrounding areas. Additionally, students will learn about various geologic hazards and design potential solutions to problems created by such hazards. Topics include the genesis of minerals and rocks, natural resources, plate tectonics, and natural disasters. They will use mapping techniques and visualization of three-dimensional relationships to estimate environmental impact. Furthermore, students will develop an understanding of the social implications of geology in the role of American History and Modern Politics. Students will enhance their fundamental skills and methods in field study by participation in field work during trips to the Catskills, Bear Mountain State Park, and other local areas.

Eye to the Sky (Astronomy/Meteorology)

(354 - 1/2 Unit) Spring only

Sophomores, Juniors, and Seniors

Eye to the Sky is a hybrid Meteorology and Astronomy course designed for students to gain a deeper understanding of two of the classical sciences. Students will have the opportunity to learn about concepts related to the atmosphere and beyond by posing questions of interest. From tornadoes to comets, students will utilize investigative techniques to gain a deeper understanding of phenomena that occur in our atmosphere and beyond. This learning environment will provide students with topic choice and support them in delving deeper into areas of their own interest. Students can choose from a diverse array of topics including weather analysis and prediction, climate change, pollution, and weather-related natural disasters. Students can also choose topics in Astronomy including objects in our solar system and beyond and current investigations into the possibility/probability of life on other planets. Non-fiction novels relating to their topics will also be integrated. Students will partner with the Astronomy club as an additional resource. The culminating project will include a filming/broadcasting component to demonstrate student research and knowledge.

***Enrollment in this course provides students with the option of being considered as an STS facilitator.** *STS facilitators gain experience in leadership by working with Earth Science students on topics related to that course. Enrolled students are selected after completing an application process at the outset of the course. The STS facilitators will have opportunities to serve in a mentor/learning assistant capacity to students in Regents Earth Science. Students will also facilitate field investigations during class field trips. STS facilitators must be seniors.*

The Environmentally Conscious Citizen

(355 - 1/2 Unit)

Sophomores, Juniors, and Seniors

A project-based course that provides students with experiences to candidly assess their impact on the environment. Activities include: reviewing case studies, obtaining photographic data of local wildlife, preparing (and sharing) sustainable meals, conducting actual interviews of stakeholders (both in industry, and communities impacted by environmental degradation) and learning about green job opportunities. This course culminates in a capstone action research project. Additionally, students will work with the school's Green Team.

Environmental Impact of Natural Disasters

(356 - 1/2 Unit)

Sophomores, Juniors, and Seniors

This semester course provides an introduction to the causes, occurrence and consequences of natural disasters. Students will analyze phenomena associated with disasters as well as the distribution, frequency and magnitude of disasters. Topics include earthquakes, volcanoes, tornadoes, hurricanes, floods, wildfires, blizzards, plagues and potential extraterrestrial impacts. Case studies will include local and regional examples of historical and recent disaster data. The course will focus on naturally-occurring disasters, and will also consider the role of human activities in both contributing to and mitigating natural disasters. Students will analyze geographical areas that are prone to natural disasters, will make predictions about the type of natural disasters that are likely and will create disaster mitigation plans. Examples might include keeping homes away from floodplains, engineering bridges to withstand earthquakes, creating and enforcing effective building codes to protect property from hurricanes, and designing preparedness plans.

Biomedical Engineering, Anatomy & Physiology Part 1

(357 - 1/2 Unit)

Sophomores, Juniors, and Seniors

This course enables juniors and seniors to investigate the impact of science, technology and society on medicine and public health. Biomedical Engineering combines the fields of anatomy and physiology with technology in order to focus on applying engineering principles of design and analysis to biological systems. This course will focus on the structure and function of the human body including the following systems: *digestive, excretory, circulatory, respiratory, lymphatic and immune systems*. Emphasis is on exploring medical interventions and innovations and students will often play the role of biomedical professionals to solve medical case studies. Those students interested in health professions are introduced to the concepts which will provide them a foundation for further studies.

Biomedical Engineering, Anatomy & Physiology Part 2

(358 - 1/2 Unit)

Sophomores, Juniors, and Seniors

This course enables juniors and seniors to investigate the impact of science, technology and society on medicine and public health. Biomedical Engineering combines the fields of anatomy and

physiology with technology in order to focus on applying engineering principles of design and analysis to biological systems. This course will focus on the structure and function of the human body including the following systems: *integumentary, skeletal, muscular, nervous, endocrine and reproductive*. Emphasis is on exploring medical interventions and innovations and students will often play the role of biomedical professionals to solve medical case studies. Those students interested in health professions are introduced to the concepts which will provide them a foundation for further studies.

Robotics I

(338 - 1/2 Unit)

Sophomores, Juniors, and Seniors

Robotics is becoming an integral aspect of society. It will become commonplace in the homes of the near future. In this class, students will be introduced to some of the basic aspects of robotics. Students will build their own “Vex ClawBot” with allen keys, pliers, screwdrivers and wrenches. The ClawBot can sense the world around it through gyroscopic, sonar, and light sensors that all communicate with a central “robot brain”. It possesses encoders, allowing its four motors to be individually controlled with great precision. Students will learn how to program their robot, in RobotC, which is a programming language based off of C++. They will learn programming structures such as while loops, if statements, functions, passing parameters, and declaring variables and gain an understanding of the logical aspects of programming languages. Their robots will be given a variety of challenges and tasks to perform both autonomously and under remote control. The course will culminate with competitive activities, mirroring Vex national competitions, with different robot teams. In addition, the class will examine the future of robotics in society. No prior programming or building experience required.

Robotics II

(339 - 1/2 Unit)

Prerequisite: Robotics I

Sophomores, Juniors, and Seniors

Students in Robotics II expand upon their programming and design skills from Robotics I with the goal of participating in the Vex Robotics Competition. To do so, students will research other Vex competition robots and past design challenges as they plan and design their own robot for the competition. In the process, students design their robots using Onshape software, a computer-aided design (CAD) system, utilize various equipment to build their robot, including the 3-D printers to manufacture necessary parts, and program their robots using C++ language for autonomous control. This course provides hands-on learning as students become robotics engineers.

Robot Master

(349 - 1/2 Unit)

Prerequisite: Robotics II

Juniors and Seniors

The Robot Master course consists of three learning experiences. 1) Robotics Design and Competition: Students will further develop their design, engineering and coding skills. The curriculum

for the students will be tailored towards their specific interests. They may focus on preparing for and participating in Vex competitions, creating a robot to fit a need they see in their everyday lives, or studying different mechanisms that allow for more efficient robot design and movement, such as, scissor lifts, jack screws, and rail slides. 2) Teaching Assistant: Students will assist and support students in the classroom. They will help students in the Robotics I and Robotics II courses to debug programs and solve technical and design problems. 3) Teacher Apprentice: Students will teach other students in Robotics I and Robotics II. To prepare, they will collaborate with the teacher to plan and design whole class and small group lessons, and they will provide tutorials as needed.

Physics AP/1

(343 - 1 Unit)

Prerequisite: Algebra II/Trigonometry A, Chemistry A

Corequisite: Precalculus

Juniors and Seniors Only

SPECIAL NOTE: Students are NOT permitted to take Physics and AP Physics I. They are similar in content but taught at different levels.

Physics AP/1 is a rigorous algebra-based course that closely follows The College Board curriculum which covers a wide range of topics in mechanics, energy, wave phenomena (including light and sound), electricity, and modern physics. Mathematical models are developed to describe principles illustrated in laboratory experiments. Statistical methods and modeling techniques are taught as well as the use of the computer in gathering and analyzing laboratory data. The study of physics requires strong mathematical skills and knowledge of trigonometry. Physics AP/1 is replacing what was known as Physics A. Therefore, students are not permitted to take both Physics and AP Physics 1.

Physics

(340 / L0340 - 1 Unit)

Prerequisite Chemistry, Algebra 2/Trigonometry

Physics is a course that closely follows the New York State Regents curriculum which covers a wide range of topics in mechanics, energy, wave phenomena (including light and sound), electricity, and modern physics. Mathematical models are developed to describe principles illustrated in laboratory experiments. In addition, statistical methods and modeling techniques are taught as well as the use of the computer in gathering and analyzing laboratory data. The study of physics requires strong mathematical skills and knowledge of trigonometry.

Concepts in Physics

(342 - 1 Unit)

Prerequisite: Geometry

SPECIAL NOTE: Students are not permitted to take both Concepts in Physics and Physics/AP Physics 1.

Concepts in Physics is a non-Regents course designed to familiarize students with the basic concepts in physics. Areas covered are those appropriate to a conceptual approach in mechanics, wave electricity, magnetism, and optics. Particular attention is given to applications of physics concepts in everyday life. In class laboratory activities are designed to strengthen and enrich the

topics being covered in class.

AP Biology

(345 / L0345 - 1 Unit)

Prerequisite: Biology A, Chemistry A, and departmental approval.

Juniors and Seniors only

Advanced Placement Biology is a college level course which further explores biological concepts introduced in Regents Biology. Particular emphasis is placed on biochemistry, molecular biology, physiology, genetics and ecology. Laboratory experiments which supplement the lecture provide in-depth experiences. Students are required to take the AP Biology exam in May.

AP Chemistry

(346 / L0346 - 1 Unit)

Prerequisite: Biology A, Chemistry A, and departmental approval.

Juniors and Seniors Only

Advanced Placement Chemistry is a college level course which allows students to explore the concepts presented in Regents Chemistry in more depth. Emphasis is placed on the mathematics of chemistry. Topics include stoichiometry, gas laws, thermodynamics, oxidation-reduction, and organic chemistry. The laboratory provides an opportunity for learning advanced techniques and skills with emphasis on instrumentation and reinforcement of concepts presented in class. Students are required to take the AP Chemistry exam in May.

Physics AP/C (Calculus Based)

(341 / L0341 - 1 Unit)

Prerequisite: Biology A, Chemistry A, Physics A, Precalculus and departmental approval.

Juniors and Seniors Only

Physics Advanced Placement C is a rigorous, college-level, calculus based physics course that covers topics in mechanics and electromagnetism. The course fulfills the AP/C Physics course curriculum as outlined by the College Board. It is, by design, a second year physics course. It does not cover the full range of topics offered in either Physics or Physics A. It is intended to be an in depth study into the more intricate aspects of two principal topics: mechanics and electromagnetism. The overarching purpose of the course is to draw connections between real world systems as modeled in their ideal form and the mathematical framework that describes them. A thorough grounding in trigonometry and algebraic manipulation will be assumed. Students MUST take a calculus course (preferable AP Calculus) while taking this course. Students must also have taken either the physics course here or a general physics course elsewhere in order to succeed in this class. All students are required to take both AP Physics exam in May.

Authentic Science Research Course

(348 - 1 Unit)

By application and departmental approval only.

The Dr. Robert Pavlica Authentic Science Research Course enables students to perform authentic, original scientific research in an independent manner. This three-year program, beginning in grade

10, affords students the opportunity to participate in the community of scientific research and scholarship as part of their high school experience. This course encourages students to work in conjunction with research scientists and professionals within their field of research. Students may do independent research in mathematics, life sciences, physical sciences, engineering, psychology or the social sciences. Students are required to use Internet access, use e-mail and maintain a longitudinal portfolio of their research. Assessment is student-driven. All students are required to enter the Regeneron Science Talent Search and the Westchester Science and Engineering Fair (WESEF) in order to receive course credit. Authentic Science Research allows students to optionally obtain as many as 12 college units through the State University of New York, and three Regents units.

** This laboratory program includes the dissection of animal and/or plant specimens. The purpose of dissection is to give the student an understanding of the anatomy and physiology of plants or animals, a hands-on feel for the structure, relative size, texture and other features that characterize living things. Any student who does not wish to participate in laboratory experiments involving dissection will be provided with an alternate activity to earn an equal amount of credit.*

*** **Laboratory Report Criteria:** The New York State Education Department does maintain laboratory criteria for students in Regents science courses. All students in a Regents science course must complete that course's laboratory requirement prior to entry into a Regents examination in science. This laboratory requirement for entry into a Regents science examination is a minimum of 1200 minutes of hands-on lab, along with handing in satisfactory laboratory reports. The 1200 minutes of laboratory experience must be in addition to the required classroom instruction associated with earning a unit of credit. Science teachers may wish to establish and publicize a date by which all labs must be completed. Failure to complete the 1200 minute lab requirement along with handing in satisfactory lab reports will result in a student being prohibited from taking the Regents exam in that particular subject.*

**** **Science Department Criteria for Review Process:** The Criteria for Review Process (CFR) is an "appeal" process designed to afford students the opportunity to self-advocate and challenge their science course placement. The review process is a collaborative experience which helps in determining the most appropriate science course placement. The process begins in January whereby students collaborate with teachers, administrators and in some cases, guidance staff, and determine if they are candidates for particular science courses. Once they decide to participate in the CFR process, an application must be completed and submitted to the Science Department Chairperson by the set deadline. CFR applications are available on the Byram Hills School District webpage in the Science Department's Section.*

Chem Lab/Teaching Assistant

(I0332 - 1 Unit)

Prerequisites: The completion of AP Chemistry and the AP Chemistry Exam the previous year or currently taking AP Chemistry achieving a B or higher in AP Chemistry AND a strong recommendation from previous chemistry teacher.

This full year one credit course allows students who have completed AP Chemistry, or are seniors currently taking AP chemistry, and have been selected from an interview process, to be a teaching assistant in a Regents chemistry class. The responsibilities of the students that take this course include being scheduled into the main class of a full year Regents chemistry class, developing lesson plans and supplemental materials; developing and explaining demonstrations; teaching lessons; assessing learning, leading group discussions and work sessions; giving in class support to struggling students; and holding extra help office hours outside of class. This class was created to give high achieving students the opportunity to continue their studies in chemistry while also creating more support for Regents chemistry students.

Byram Hills High School
Science Course Offerings

Recommended Path

Physical Setting
Earth Science

↓

Living Environment (Biology)
or
Living Environment (Biology) A**

↓

Chemistry
or
Chemistry A **

↓

Concepts in Physics
or
Physics
or
AP Physics 1 (formerly Physics A)**

Electives

AUTHENTIC SCIENCE RESEARCH*
3 YEAR PROGRAM
BEGIN SOPHOMORE YEAR

****AP* Courses**

AP Biology
AP Chemistry
AP Physics 1
AP Physics C

One Semester (.5 credit)

Science, Technology & Society (STS)

STS - Inventions, Innovations and 21st Century

STS - CSI & Forensics

STS - Eye to the Sky (Meteoroloy/Astronomy)

STS - Geology of the - Hudson Valley

STS - Environmentally Concious Citizen

STS - Natural Disasters

STS - Biomedical Technology - Anatomy & Physiology Pt. 1

STS - Biomedical Technology - Anatomy & Physiology Pt. 1

Robotics 1

Robotics 2

Robot Master

Full Year (1 credit)

Chem TA

* Course may result in college credit

** Course has prerequisites

World Languages

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The Byram Hills World Languages Department believes that knowledge and a deep understanding of another language and culture fosters global citizenship. Each language offered is considered a challenging one with its own unique rewards and practical applications worldwide. The foundation for instruction is based on the American Council of Teaching Foreign Languages' three modes of language instruction; interpersonal, interpretive, and presentational. As recommended by the national standards, teachers strive to use the target language for 90% of class time, and classes are structured so that students may express themselves in the target language and strive for fluency in the new language. At all levels of language learning, the four basic skills of reading, writing, speaking and listening are addressed but with varying degrees of emphasis.

Level I: Italian, Spanish

(551, 400 - 1 Unit)

Departmental approval required.

The first level of a language course is designed to introduce students to learning the new language through a highly active and motivating audio-visual-lingual approach. The first year is a very critical year as it forms the foundation for future interest and competence in the language experience. Concentration is on building language for communication through mastery of basic vocabulary that is meaningful to young people learning a second language for the first time. Students simulate real-life situations using simple grammatical patterns and new vocabulary using many visual aids; the emphasis on this level is predominantly on the skills of speaking and listening. Reading and writing are also practiced with short selections related to the topical unit of study. Students are further offered the opportunity to practice language and learn about culture through computer projects. Cultural points of interest focus on the similarities and differences between American culture and the target culture they are studying.

Level I: Spanish Communication

(405 - 1 Unit)

Departmental Approval Required.

Students in this program experience the NYS Syllabus topics in order to immerse themselves in the Spanish language in a holistic way. This course emphasizes linguistic and cultural components while adding structured, multisensory teaching of the language. The focus of instruction is on the development of the language skills.

Level II: French, Italian, Spanish

(510, 552, 410 - 1 Unit)

Prerequisite: Level I or Study in Grades 7 & 8.

Topics of study in Level II reinforce those learned in grades 7 and 8 or Level I. This level builds on previous knowledge of learned material while simultaneously expanding it through greater development of vocabulary and more involved communicative exercises. Emphasis continues to be on the skills of speaking and listening, but more complex reading assignments and guided writing pieces are required of students. The communicative methodology is balanced with the linguistic approach incorporating more and more of the target language into the course. Extensive use of audiovisual materials helps promote mastery of all four skills and enhance the overall experience. Cultural aspects continue to be explored such as the study of major cities, monuments and events.

Level II: Spanish Communication

(406 - 1 Unit)

Departmental Approval Required.

This course is a continuation of Level I Spanish Communication. Students review and expand upon previously learned material with emphasis on greater development of vocabulary and more involved communicative exercises. The focus of instruction continues to be on the development of all four language skills. At this level, instruction also includes guided writing and reading comprehension exercises.

Level III: French, Italian, Spanish

(520, 553, 420 - 1 Unit)

Prerequisite: Level II

Audio-lingual activities are utilized in more depth in order to develop greater proficiency in the skills of speaking and listening. Representative readings which provide colloquial and formal vocabulary and idiomatic expressions further build the students' repertoire. Writing is guided and practiced with emphasis on letter writing and creative writing which is often accompanied by visuals. Students routinely participate in speaking tasks such as role-playing and spontaneous question-answer exercises. Culture is a natural component of this course through readings, discussions, textbook applications, music, film and various cultural activities in and out of school.

Spanish Communications III

(407 - 1 Unit)

Departmental Approval Required.

Students will apply previously learned material to expanding their intercultural competence of the Spanish language and culture. Emphasis is on the continued development of Spanish language skills through different modes; novels, magazines, film, and music. The course is designed to provide students with strategies to improve speaking and writing skills so they can begin to develop deeper insights into Hispanic culture in order to draw comparisons with their own culture.

Spanish IV Commerce

(424 - 1 Unit)

Prerequisites: Spanish Level III & Departmental Approval Required.

Course Expectations/Objectives: Using prior knowledge of grammar as a foundation for this course, students will work to acquire pragmatic, real-world Spanish. Additional “core expressions” in grammar will also be mastered for application in the professional workplace. The materials and methodology selected for this full year course are designed to help better prepare students to meet the needs and challenges of the intercultural exchanges in the Hispanic community. Grammar and vocabulary topics will be synthesized in reading, writing, listening and speaking activities with cross-cultural insights that are significant for interacting in the Hispanic community. Upon completion of this course, students have the option of continuing with Level IV Spanish. Some topics covered include cultural protocol, interviewing, the stock market, and global trade.

Level IV: French, Italian, Spanish

(530, 554, 430 - 1 Unit)

Prerequisite: Level III & Departmental Approval.

This course is designed for students who wish to continue with the language program for a fourth year of study. The course introduces some intermediate and advanced structures of the language, and engages students in conversational activities on a regular basis. Topics relevant to student life in particular and to life in general are explored in depth through representative readings and informal discussions. The study of more modern authors integrated into the course as a source of cultural enrichment. Newspapers, magazines, television programs and film are used throughout the course. Active aural-oral participation in this class is necessary. Emphasis is also placed on written expression of ideas in the target language using complex vocabulary and syntax. Cultural trends and literary movements are studied. This course prepares students for level V.

Level IV Pre-AP French, Italian, Spanish

(531, 556, 431 - 1 Unit)

Prerequisite: Level III & Departmental Approval Required.

This course offers intensive preparation for the Advanced Placement Language course. Students review intermediate grammatical points and are introduced to some advanced grammar through extensive exercises in all four language skills. In addition to the grammatical components of the language, students will also begin to analyze fictional pieces. A variety of audio, visual and written materials is used to refine and strengthen the students' competence achieved in previous levels. Strong emphasis is placed on language fluency and perfection of grammatical nuances. By the end of this course, students are expected to have good command of grammar, fluency in speaking and facile comprehension of spoken and written pieces by natives.

Level V: French, Italian, Spanish

(541, 555, 443 - 1 Unit)

Prerequisite: Level IV

This course is designed for students who wish to continue with the language program in their final year of high school. The course reviews intermediate and advanced structures of the language, and

engages students in conversational activities on a regular basis. Topics relevant to student life in particular and to life in general are explored in depth through representative readings and informal discussions. The study of more modern authors integrated into the course as a source of cultural enrichment. Newspapers, magazines, television programs and film are used throughout the course. Active aural-oral participation in this class is necessary. Emphasis is placed on written expression of ideas in the target language using more complex vocabulary and syntax. Cultural trends and literary movements are studied in depth.

AP French, Italian and Spanish Language

(545, 558, 445 - 1 Unit)

Prerequisite: Level IV Pre-AP Italian, Spanish, French & Departmental Approval Required.

Advanced Placement French, Italian and Spanish Language courses are designed to meet the academic needs of students who are ready to do college level work while still in high school. The emphasis in AP Language courses is on skills. A review of essential grammar, verb, tenses, moods and syntactical structures is in place in order to strengthen students' ability to express ideas with accuracy and fluency. Additionally, this level requires students to communicate primarily in the target language. The objectives of the course are: 1) Listening skills - to comprehend formal and informal spoken French/Italian/Spanish; to follow, with general understanding, oral reports and classroom lectures on nontechnical subjects; to understand the main points and some details of conversations between native speakers. 2) Reading skills - to understand magazine articles on various topics of general interest; to discriminate between different registers of language (i.e. formal/informal, literary/conversational) and to recognize their many important cultural implications. 3) Writing skills - to write a narration or description of several paragraphs in length; to present and defend ideas and points of view and to provide introductory remarks, transitions, and a conclusion in an essay. 4) Speaking skills - to communicate facts and ideas in an accent that is accurate enough not to interfere with comprehension; to discuss topics of current interest and express personal opinions while demonstrating a command of grammatical forms; to narrate, describe, and explain using targeted tenses.

Miscellaneous

Work Experience

(715 - 1/2 Unit or 1 Unit)

Juniors and Seniors

Work experience is an out-of-school activity that allows students to receive unit for supervised employment in the community. Students may find their own job or seek help from the coordinator. Approval and guidelines must be obtained from the employer, the student's parents, and the Work Experience Coordinator. A schedule adjustment is possible once approval is secured. The amount of unit awarded, a maximum of one unit per year, is based upon 300 hours of employment; 150 hours of employment earns one half unit. Work experience will be graded pass/fail and will not be included in grade point (GPA) calculation. It cannot be used to satisfy the 6 course plus physical education minimum recommended for BHHS students.

Independent Study

Students who wish to take a course in an area not presently offered by the school may take the course independently of a class for academic unit. Independent Study may be for the entire year or one semester. The student must first obtain a faculty member as an advisor. Next, he/she must plan a specific program with that advisor and present a written proposal to his or her counselor. If the request is approved, the advisor will assume full responsibility for checking the student's progress in fulfilling the original agreement. Applications for first semester must be completed by the end of September and for the second semester, the end of February.

Occupational Education

Juniors and Seniors

Students who are interested in taking certain career related courses may enroll in the BOCES Occupational Education Program. A student would spend one half of his/her school day in this program and one half day in subjects at the high school. The student receives four (4) units for each year of study and may begin study in his/her junior year. Further information about the programs will be available later in the spring. Following are the courses which will tentatively be offered during the coming school year:

Automotive Technology
Carpentry
Collision Technology
Commercial Art
Computer Information Technology
Computer Repair and Networking

Cosmetology
Culinary Arts
Electrical Construction
Fashion Design
Multimedia Production
Protective Services
Trade Electricity
TV/Video Production

Special Programs

Senior Internship

(744 - 1/2 Unit)

The Internship Program is designed to enable seniors to apply their interests, knowledge and skills in a full-time work setting in business, the professions, government, the arts or volunteer service. Students will be full-day interns from mid-May through June. A faculty advisor will help students to select suitable sites. Students in the program are required to maintain logs and make a final presentation at the conclusion of their internship experience.

Ninth Grade Mentor Program

(9 - 0 Units)

Every ninth grader participates in the Mentor Program, which meets daily during first semester, first period. Each mentor group is led by a teacher and a male and female senior. Through mentor, ninth graders become oriented to the high school, learn of the programs and activities available, build new relationships, and enjoy the influence of their leaders. In order to address these varied goals, the mentor experience involves meeting as a class, in small groups, and individually. The Mentor Program is a required activity, however no unit is granted and it is not counted toward the minimum number of courses required each semester. A “P” for pass will be recorded on the transcript.

Senior Mentor

(740 - 1/2 Unit)

Prerequisite: Selection process by committee.

The ninth grade mentoring program puts every ninth grader in daily contact with a particular faculty member and two senior mentors who are chosen and trained to be adult guides. The mentors meet with their students first semester in a class group, small group or individually. A senior mentor training session is held at the end of the summer. Senior Mentor does count toward the six courses plus physical education students should take each semester. A “P” for pass will be recorded on the transcript.

Peer Leadership

(741 - 1 Unit) (Peer Teaching: Semester 1 - 742, Semester 2 - 743 - 1 Unit)

Prerequisite: Selection process by committee.

This two semester course is for seniors interested in developing and practicing peer leadership skills, such as decision-making, interpersonal communication, and dealing with lifestyles issues. Upon mastery of those skills, peer leaders will meet with tenth grade Health classes and assist the teacher with the classroom instruction of the health curriculum. Students will be selected on the basis of interest, a short essay, and teacher recommendation. Students earn a letter grade for their participation.

Global Scholars Program

The Global Scholars Program is an in-depth interdisciplinary program that focuses on developing global awareness, critical thinking and leadership in our 21st century world. As part of the program, students will investigate global issues, analyze diverse perspectives, communicate ideas effectively in both English and a second language, and take action.

Global Scholars: Seminar

(720A - 1 Unit)

Year 1 of the course will be offered to interested sophomores, juniors and seniors. The first year will focus on an introduction to the most significant issues facing our world today: poverty, gender equality, the environment, global health, and the impact of disease. This seminar style class will help students as they begin to identify a particular issue for in-depth study. To help students gain perspective, they will connect with classrooms from around the world to discuss perspectives, identify local community organizations to examine the local impact, and study a second language in order to discuss these issues.

Global Scholars: Action Research

(720B - 1 Unit)

Prerequisite: Global Scholars: Seminar

Year 2 of the course will be offered for juniors and seniors who have completed Year 1. During the course, students will develop an individual learning plan to investigate a global issue of their choosing. They will connect with global and local communities that are dealing with their issue of choice, collaborate with organizations related to their field of study, and continue with their second language study, when applicable. Students will develop a plan of action based on their in-depth research, using elements of design thinking throughout the process. Students are encouraged to plan for a summer experiential learning experience that may include immersive summer abroad service learning trip or a local internship focused on their issue.

Global Scholars: Leadership Development

(720C - 1 Unit)

Prerequisite: Global Scholars: Seminar & Global Scholars: Action Research

Year 3 of the course will be offered for seniors who have completed Year 1 and Year 2. These students will return to the program to serve as mentors for Year 1 and Year 2 students, reconnecting with the local community and global classrooms while they continue the pursuit of their action project. Throughout the course, students will work on strengthening their leadership and facilitation skills. As part of their leadership development, the seniors will plan, organize and present a culminating defense of the work they have completed.

Big Brother/Big Sister

(745G Girls / 745B Boys - 1/2 Unit)

Prerequisite: Selection process by committee.

Big Brother/Big Sister is a leadership program available to seniors. Students who are selected through an application process are paired as Big Brother and Sister to a Coman Hill class. The Big

Brother and Sister interact with their adopted class at least two days a week and collaborate with their cooperating teacher on appropriate activities. In addition, Big Brothers and Sisters must keep a log of their experiences and meet regularly as a group to share experiences and to offer suggestions to one another. A “P” for pass will be recorded on the transcript.

Language, Communication, and Careers (LCC) Program

(777 - 0 Units)

For those students working towards a Skills Achievement Career Credential from New York State, Byram Hills High School is poised to provide students with the opportunities, training, and supports necessary for them to become career and work ready as independently as possible. The LCC Program was developed in accordance with the Skills Achievement Career Credential requirements in order to assist students in developing independent work skills necessary for successful transition to adulthood and the world of work. The LCC Program offers individualized programming which combines contextual learning that blends classroom lessons with work-based and community-based experiences. This program provides many opportunities for students to explore a wide variety of careers and fields with the aim of bridging the gap between secondary school and each student’s post-secondary goals.

Support Services

Resource Program

This program is specifically designed for students who have been approved by the Committee on Special Education. Academic support and instruction are given in small group settings. Students' identified weaknesses are addressed, and certified special education teachers provide strategies for improving organizational skills, study skills, note-taking, test-taking, study time analysis and memorization techniques. No unit is awarded for this program, and it does not count toward the minimum recommendation for courses each semester.

Support Services Special Education Consultant Teacher Model

This program is specifically designed for students who have been approved by the Committee on Special Education. Direct support from the special educator may be offered within select mainstream classes. Indirect support is offered through ongoing teacher consultation. Students' identified weaknesses are addressed and teachers provide compensatory strategies to help students achieve success in the mainstream.

Academic Services

The Academic Services Program provides a variety of services to students who require special assistance in the following areas: reading, spelling, writing, organizational and listening skills, vocabulary development, and test preparation. Academic Services is not considered a course. Academic services will be assigned on a space available basis, upon approval.

Academic Policies

Course Selection

Please refer to the Byram Hills High School Community Handbook for all academic policies.

Graduation Requirements

The NYS regulations which govern graduation requirements introduce a number of changes over the next five years. The requirements are presented on charts at the end of this booklet.

Note: All students should be enrolled in 6 units plus physical education each semester. Work Experience and Private Instruction may not be used as part of this minimum.

Graduation Requirements

Regents Diploma

Required Courses	Units
English	4
Social Studies	4
Math (a)	3
Science (a)	3
LOTE	1 (b)
Art/Music	1
Health	0.5
Physical Education	2
Sequence/Electives	3.5
Total	**22**

Required Exams

(All exams require a score of 65* or above)

English Language Arts (Common Core) Exam
Algebra I Regents (Common Core) Exam
Global Studies Regents Exam
U.S. History Regents Exam Science Regents Exam

(a) An Integrated course in mathematics/science/technology may be used to satisfy the requirements for a third unit in mathematics or science.

(b) Students are required to have completed two units of study in a Language Other Than English (LOTE) by the end of their 9th grade year. One unit of credit is earned either by passing the state LOTE proficiency exam or earning a credit of commencement level unit in a LOTE.

(c) Students acquiring 5 units in one of the following may be exempt from the Language Other Than English requirement: Art, Music, or Career and Technical Education.

*For students with disabilities, a score of 55 may satisfy graduation requirements.