

North Middlesex Regional High School

2025 - 2026

Program of Studies



North Middlesex Regional High School
19 Main Street
Townsend, Massachusetts 01469
Tel: 978-597-8721
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NORTH MIDDLESEX REGIONAL HIGH SCHOOL

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January 2025

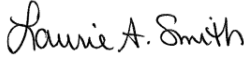
Principal's Message:

It is with great pleasure that I present the updated *Program of Studies* for the 2025 – 2026 academic year. The courses you choose will help you to meet the North Middlesex Regional High School graduation requirements and, more importantly, allow you to develop your interests and broaden your academic understanding and skills base. We offer a wide range of courses at NM. I would ask that you think carefully about your choices so that your classes both satisfy your curiosity and help to prepare you for your college and career aspirations. It is important that you leverage every minute of your high school experience to help prepare you for life after NM. That means allowing yourself time to think and reflect, time to enjoy and achieve outside of the classroom, and time to work hard on your academics.

Please be mindful of the role your teachers, parents, and guidance counselors have in this process; they know you well and have the experience and expertise to help guide you. It is important that you get the right balance between pursuing your interests through rigorous classes and by taking advantage of the numerous extra-curricular opportunities that we offer.

The *Program of Studies* is constantly evolving and the faculty has added new electives to our rich course offerings. We guarantee graduation requirements will run, however electives will run based on enrollment. Please choose the courses you want to personally take as this helps the guidance department and administration with scheduling the appropriate number of sections of courses.

Sincerely,


Laurie Smith
Principal

Statement of Accreditation

North Middlesex Regional High School was accredited in 2014 by the New England Association of Schools and Colleges, Inc., a non-governmental, nationally recognized organization whose affiliated institutions include schools through collegiate institutions offering post-graduate instruction. Accreditation of an institution by the New England Association indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group review process. An accredited school or college is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation. Accreditation by the New England Association is not partial but applies to the institution as a whole. As such, it is not a guarantee of the quality of every course or program offered or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Discrimination Statement

It is the policy of the North Middlesex Regional School District not to discriminate against students, parents, employees, or the general public on the basis of race, color, national origin, sex, religion, gender identity, sexual orientation, disability, homelessness, or age in accordance with Title VI of the Civil Rights Act of 1964 (race, color, national origin, sex, religion); Title IX of the Education Amendments of 1972 (sex); Section 504 of the Rehabilitation Act of 1973 and Title II of the Americans with Disabilities Act of 1990 (disability); M.G.L. c. 76, § 5 (race, color, sex, gender identity, religion, national origin, or sexual orientation); the McKinney-Vento Homeless Assistance Act (homelessness); and the Age Discrimination in Employment Act (age[1]).

The Committee's policy of nondiscrimination will extend to students, staff, the general public, and individuals with whom it does business; No person shall be excluded from or discriminated against in admission to a public school of any town or in obtaining the advantages, privileges, and courses of study of such public school on account of race, color, national origin, sex, religion, gender identity, sexual orientation, disability, homelessness, or age. If someone has a complaint or feels that they have been discriminated against because of their race, color, national origin, sex, religion, gender identity, sexual orientation, disability, homelessness, or age, their complaint should be registered with the Title IX compliance officer. Inquiries regarding compliance with these laws may be directed to the Superintendent of Schools, North Middlesex Regional School District (978) 597-8713, or to the Department of Elementary and Secondary Education, 75 Pleasant Street, Malden, Massachusetts 02148 (state laws) or to the United States Department of Education, Region 1, Office of Civil Rights, John W. McCormack Post Office and Courthouse, Room 222, Post Office Square, Boston, Massachusetts 02109 (federal laws).

2025-2026 Program of Studies

The administration of the North Middlesex Regional High School reserves the right to alter this *Program of Studies* as needed with notification and approval of the Superintendent of Schools and School Committee. Selection of a course during registration does not guarantee placement in a class.



District Office 66 Brookline Street Townsend, MA 01469 978-597-8713 Fax: 978-433-6368

Superintendent of Schools

Brad Morgan

Assistant Superintendent

Gary Burboa-Reese

School Committee

- | | | | |
|----------------------------|-----------|----------------------|-----------|
| ● Lisa Martin, Chair | Pepperell | ● William Hackler | Townsend |
| ● Randee Rusch, Vice Chair | Townsend | ● June McNeil | Ashby |
| ● Lisa Bloom | At-Large | ● Patrick McPhillips | Pepperell |
| ● William Burg | Townsend | ● Jill Twigg | Pepperell |
| ● Thomas Casey | Pepperell | | |



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**NORTH MIDDLESEX REGIONAL HIGH SCHOOL
Administration**

Principal
Laurie Smith

Assistant Principal/Athletic Director
Ryan DeMar

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At North Middlesex Regional High School, our students:
GROW into respectful and responsible citizens,
PURSUE goals as they challenge themselves to learn and succeed,
ACHIEVE excellence as they progress toward their
personal and academic potential.

VALUES & BELIEFS ABOUT LEARNING

WE VALUE GROWTH.

We believe all members of our educational community GROW when we:

- Think critically and creatively
- Try new things and respond to change
- Collaborate with others to better draw on the strengths, differences, and perspectives of all
- Reflect regularly on our thinking and behavior to learn from our mistakes and celebrate accomplishments

WE VALUE THE PURSUIT OF KNOWLEDGE & EXCELLENCE.

We believe:

- Learning is a life-long pursuit
- All students can learn and attain excellence
- There are many different ways of learning and definitions of excellence
- Students need time to develop and take ownership of their learning
- Learning is an opportunity for students to pursue their interests and goals

WE VALUE ACHIEVEMENT.

We believe:

- All students will rise to high expectations
- There are many ways students can achieve and succeed
- We will maintain our tradition of academic excellence and service to others as we embrace innovative ideas and face new challenges

Graduation Requirements

Students will be required to earn a minimum of 120 credits to graduate. Students are required to register for a minimum of seven (7) courses per year.

Subject Area	NMRHS Graduation Requirements	Required By MA State Colleges & Universities	Recommended By Most 4-Year Colleges	Recommended By Highly Selective Colleges
English Language Arts	4 full credit courses	4 courses	4 courses	4 courses
Mathematics	4 full credit courses	4 courses	4 courses	4 courses
Social Studies	3 full credit courses * Students must pass the Civic Action Project in US History 2	3 courses <i>Including US History</i>	3 courses <i>Including US History</i>	4 courses <i>Including US History, World History, & Economics</i>
Science	3 full credit Lab courses	3 lab courses	3 lab courses <i>including Biology, Chemistry, & Physics</i>	4 lab courses <i>including Biology, Chemistry, & Physics</i>
World Language	2 high school credit courses <i>in the same language</i>	2 high school courses <i>in the same language</i>	2-3 high school courses <i>in the same language</i>	3-4 high school courses <i>in the same language</i>
Physical Education	4 half credit courses	Varies by college/university	Varies by college/university	Varies by college/university
Arts <i>(music, visual, drama)</i>	1 half credit course	Varies by college/university	Varies by college/university	Varies by college/university
Electives	Any combination of offered electives such as business education, technology, arts, etc. [27.5 credits]			

* Civic Action Project - Graduation Requirements

In accordance with Massachusetts State Law and a mandate through the Department of Secondary Education, all students at North Middlesex Regional High School must participate in a Civic Action Project in order to fulfill all graduation requirements. The Civics Action Project will be embedded into the US History II curriculum to ensure full access and participation for all students. In the event that a student(s) is dual-enrolled during junior and/or senior years he/she will work directly with the department head (or a designee) and be provided an opportunity to complete an independent Civics Action Project.

Choosing Your Courses

North Middlesex Regional High School's courses are designed to challenge the unique talents of all students. This course catalog has been prepared to guide students through the planning of their high school experience. The course selection process is ongoing and should involve students, parents, teachers, and school counselors.

Step 1: Consult Your School Counselor and Teachers

The North Middlesex school counselors can provide a broad overview of the entire curriculum and sound advice about planning a suitable program that will prepare students as they form their post-secondary plans. Classroom teachers have an in-depth knowledge of the content of the various courses and a strong sense of the academic expectations of each course. Knowing an individual's particular learning style, a teacher can make a valid recommendation for proper placement.

Step 2: Consider the Challenge

Selecting courses should be a thoughtful process with the ultimate goal of creating an appropriately balanced educational experience. It is important to find the best course fit for each student's strengths and challenges. North Middlesex allows students to choose from Advanced Placement, Accelerated, and College Preparatory courses. Every course level provides challenging options for students over their four years of high school that are geared toward college and career preparation. Most electives are at the college preparatory level.

Advanced Placement®

Advanced Placement (AP®) courses have the greatest degree of difficulty. These courses are taught in compliance with an AP® curriculum approved by the College Board. All AP® courses require extensive summer work, assessed at the beginning of the school year. AP® courses provide a student with an opportunity to experience college-level work while still in high school. It is expected that students who enroll in AP® courses also register for the national AP® exam. For more information, please refer to each department's course offerings.

Accelerated

Curriculum topics are identical for accelerated and college preparatory courses; however, accelerated courses are delivered at a faster pace and are intended to provide the student with deeper knowledge of the topic than standard college preparatory courses. Students, who participate in accelerated courses, are expected to complete work independently requiring higher-order thinking, comprehend complex texts, and regularly reflect on their learning.

College Preparatory (College Prep)

College Preparatory courses teach students the essential skills and important information that students will need to be ready for college. In college preparatory courses, assessments and class activities teach students to apply 21st Century Skills to new knowledge to solve real-world problems. Most electives are at the college preparatory level.

Step 3: Factor in College Admissions Requirements

When selecting courses, bear in mind that the decisions made earlier in high school will be meaningful when admissions officers consider college applications. In addition to coursework, colleges and universities weigh some or many of the following factors in their admission requirements.

- **Academic Record:** Grade Point Average (GPA), class rank, consistency, improvement, and difficulty of classes.
- **Variety in Coursework:** Broad and diversified transcript.
- **Test Scores:** Results of standardized tests such as the SAT or ACT.
- **Extracurricular Activities:** Most colleges require an "Activities Resume." Students are encouraged to participate in a variety of extracurricular offerings from music, sports, or community service.
- **Letters of Recommendation:** The letters of recommendation serve to paint a broader, more personal picture of the student. These letters provide information of a personal nature that is not reflected on a student's transcript.
- **Honors and Awards:** Students who have received recognition for skills or talents should include these accolades on their Activities Resume or on college applications.
- **Essays:** Most applications for colleges will have an essay or personal statement requirement. The essay provides a personal voice and a snapshot of the student's writing ability.
- **Interviews:** While not always offered, interviews are another way to gain insight into the applicant.

Step 4: Go Online To NAVIANCE

Naviance is NM's college and career readiness software program that helps students connect their high school experience to post-high school goals. If a student is unsure of which classes to select, he or she should consider going onto the district website, select the "Links" tab and find Naviance. Once on the software, students can find and take a series of career assessments. After completion of this step, the software will identify several career options that best fit with a student's personality and learning style. By investigating college majors and careers, students will have more knowledge to help them choose their courses at the high school level, as well as, help them in planning their future college pursuits.

Step 5: Make Your Choices

The course selection process is one that should be a cooperative venture between the student, parent, teacher, and school counselor. Students should choose their classes carefully and realistically since changes to the schedule are made for academic reasons only. Any change to a student's course selection sheet or schedule must be approved by his or her parents/guardians, the teachers, and the school counselor. The reason for the change must be justified, and the student must realize that change requests are not automatically granted.

When students feel the circumstances are extenuating enough to require a course change, the student must follow the sequence below:

1. Meet with the class teacher to resolve concern(s).
2. If a resolution is not met with the first meeting, then a meeting with guidance, teacher, parents, administration, and the student will take place.
3. If the course can be changed (and it is advisable to do so), the rest of the form may be filled out.
4. The student must present parent/guardian, instructor, counselor, and administration a signed schedule change form to the instructor, return textbook(s) and/or course materials, and have the instructor provide written verification this has happened.
5. The student must present the completed and signed change of schedule form to the counselor.
6. Only after the above procedure has been followed will the request be processed.

Promotion, Credits, and Grading

PROMOTION REQUIREMENTS

Students must earn the following minimum number of credits for promotion to the next grade level:

Grade 9 30 credits
Grade 10 60 credits

Grade 11..... 90 credits
Grade 12 120 credits*

* Minimum of 120 Credits required for graduation.

GRADING SYSTEM

Transcripts and report cards reflect letter grades. The numerical equivalents are:

A+	100-97	C+	79-77
A	96-93	C	76-73
A-	92-90	C-	72-70
B+	89-87	D	69-65
B	86-83	F	64-0
B-	82-80	I	Incomplete
		P	Passing

QUALITY POINT AVERAGE (QPA) is a cumulative computation of a student's academic class standing. It is a weighted ranking system in which both the levels and course grades are used to determine the average and class standing. This system is used as a guide for the National Honor Society. Junior class rank is based on six semesters, and senior class rank is based on eight semesters. The **QPA** is used to determine the class valedictorian and salutatorian. The calculation of the **QPA** includes only academic courses, that is, courses in Advanced Placement, Accelerated, and College Prep Levels.

The **QPA** is computed by adding the weighted grade value of the final letter grade for each course and multiplying the sum by the number of credits for each course and then dividing by the total number of credits.

$$\text{QPA} = \frac{\text{SUM OF WEIGHTED GRADES X NUMBER OF CREDITS}}{\text{TOTAL CREDITS}}$$

WEIGHTED GRADE VALUES

Grade	Numerical Equivalent	AP Course	Accelerated Course	College Prep Course	Introductory Course
A+	100-97	5.5	5.0	4.5	4.0
A	96-93	5.0	4.5	4.0	3.5
A-	92-90	4.5	4.0	3.5	3.0
B+	89-87	4.3	3.8	3.3	2.8
B	86-83	4.0	3.5	3.0	2.5
B-	82-80	3.7	3.2	2.7	2.2
C+	79-77	3.4	2.9	2.4	1.9
C	76-73	3.0	2.5	2.0	1.5
C-	72-70	2.7	2.2	1.7	1.2
D	69-65	2.4	1.9	1.4	0.9
F	64-0	0	0	0	0
I	Incomplete	0	0	0	0

HONOR ROLL

The Honor Roll program exists to recognize academic achievement. Honor Roll eligibility is as follows:

HIGH HONORS: A- or above in all subjects

HONORS: B- or above in all subjects

Pass/Fail (P/F) will not count towards the determination of honor roll.

Business

Business classes provide students with the opportunity to integrate academic and career-based instruction, preparing them for success in life and education. North Middlesex currently offers accounting, business ethics, business management, international business, and marketing.

Students participating in these elective courses will develop essential skills for the 21st-century marketplace. Students will acquire in-depth understanding of accounting and finance, business law, entrepreneurship, economics, international business, information systems and business analytics, and marketing. They will utilize communication and teamwork to analyze, research, and solve real-world issues. Classes will simulate a professional setting.

BUSINESS

ACCOUNTING

5 Credit Full Year Course

Accounting is the language of business and an integral aspect of all business activities. Mastery of fundamental accounting concepts, skills, and competencies is essential to making informed business decisions. Regardless of students' chosen course of study or career path, accounting prepares them to be educated business professionals and informed consumers. This accounting course provides a foundation in the art of communicating financial information. This course addresses the needs of students who want to gain a strong working knowledge of basic accounting theory and procedures. Accounting principles will be explored, so that the student will learn how to keep accurate records for service businesses organized as a sole proprietorship and merchandising businesses organized as a corporation. Students will become proficient in using journals, ledgers, and in preparing primary financial statements.

Elective Course #: BU631

Recommended for grades 9-12

ADVANCED ACCOUNTING

2.5 Credit Semester Course

Accounting is the language of business and an integral aspect of all business activities. Mastery of fundamental accounting concepts, skills, and competencies is essential to making informed business decisions. Regardless of students' chosen course of study or career path, accounting prepares them to be educated business professionals and informed consumers. This is the capstone of a series of accounting courses for students who intend to attend a business school and pursue a career in business and/or accounting. This course emphasized the ability to work independently as one would in business. Students will venture past the pre-designed problems and into an area of accounting where they will develop their own accounting system and methodology

Accelerated Course #: BU632

Recommended for grades 10-12

BUSINESS ETHICS

2.5 Credit Semester Course

Business Ethics explores the principles of ethical behavior, values and decision-making in the context of the business world. This course provides students with the knowledge and critical thinking skills necessary to navigate the complex ethical dilemmas and responsibilities that arise in various business environments. Through discussions, case studies, and practical exercises, students will gain a deeper understanding of the ethical dimensions of commerce and develop the tools needed to make ethical business decisions.

Elective Course #: BU638

Recommended for grades 11-12

BUSINESS MANAGEMENT

2.5 Credit Semester Course

In today's world, it is necessary to have a broad understanding of how businesses operate. The informed student who understands our economic system and the business world will be better prepared as a consumer, employee, manager, and entrepreneur. This course addresses forms of business ownership, management and organization, human resources management, marketing, social media and e-business, information systems, accounting, and finance. Core topics emphasize ethics and social responsibility, small business and entrepreneurship and global issues, while new coverage examines the impact of social media on business, international business, green and socially responsible business, and sustainability.

Elective Course #: BU630

Recommended for grades 9-12

INTERNATIONAL BUSINESS

2.5 Credit Semester Course

International Business provides the foundation for studying international business and conducting a business in the global economy. Students develop the knowledge and skills to live and work in a global marketplace with real global business activities and cross-cultural settings. Engaging features draw students into the world of international business with coverage that makes it appropriate for the National Academy Foundation's International Finance course as well as the National Standards for Business Education. Real-world applications, cross-curricular links, and an emphasis on international communication and trade documentation strengthen students' global perspectives. Furthermore, this course will provide students with an understanding of how and why businesses choose to expand their operations into other countries. This course exposes students to the unique challenges facing firms doing business internationally and to the potential opportunities and markets that are lost to firms that choose not to do business in the global marketplace. Building on concepts that were introduced in previous business classes, International Business broadens student understanding of how businesses operate and how they grow and thrive in our ever-changing world.

Elective Course #: BU637

Recommended for grades 11-12

MARKETING

2.5 Credit Semester Course

Marketing focuses on what businesses do to influence consumers' buying decisions as they relate to the four principles of marketing: product, price, place, and promotion. Other topics include strategic marketing, market research, and branding. Students are expected to produce complete and detailed marketing plans. Class time is devoted to the analysis of both successful and unsuccessful marketing campaigns, as well as the impact of technology on the marketplace and principles of marketing. Students are expected to produce complete and detailed marketing plans.

Elective Course #: BU633

Recommended for grades 11-12

Engineering & Computer Science

The Engineering & Computer Science educational program introduces students to the wonders of the world of engineering and computer science through 13 active, hands-on courses. Courses offered include 7 Project Lead the Way (PLTW), 3 Computer Science and 4 Engineering courses, as well as 6 other courses in engineering skills. Engineering & Computer Science students become involved in creative problem-solving activities by researching, designing, constructing, and testing solutions to real-world problems.

The Engineering Concentration is a four-year program that can culminate in a capstone project examining one of the challenges we face as our society considers colonization of Mars. Minimum of fifteen (15) credits in Engineering & Computer Science classes to qualify for the Capstone class. This project will include a model, a research paper, oral defense of the topic, and an electronic component of the presentation (e.g. website, film).

Course List:

Engineering Concepts*	Drafting and Design
Engineering Design*	Robotics
Principles of Engineering*	Electronic Applications
Civil Engineering & Architecture*	CADD
Computer Science*	Game Design
Cyber Security*	Capstone
Computer Science Principles (AP)*	

*PLTW

ENGINEERING & COMPUTER SCIENCE

ADVANCED PLACEMENT COMPUTER SCIENCE PRINCIPLES

5 Credit Full Year Course

Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board, and teachers must receive specialized training to teach the courses. Although it is not required, it is expected that students who take AP courses will also register for the national AP exam at their own expense. This is a Project Lead the Way (PLTW)* course that opens doors in any career in computer science. Students create apps for mobile devices, automate tasks in a variety of languages, find patterns in data, and interpret simulations. Students collaborate to create and present solutions that can improve people's lives. How will computing and connectivity transform your world?

This course aims to generate excitement about the field of computing and to introduce computational tools that foster creativity. Students practice problem solving with structured activities and progress to open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills.

This course is designed to cover all learning objectives in the College Board's AP Computer Science Principles (CSP) framework and to prepare students to do well on the AP assessment. In specific CSP projects and problems, students create artifacts and associated writing for the AP Computer Science Principles Performance Tasks that is submitted to the College Board.

AP® Course #: SE750

Recommended for grades 10-12

CADD

5 Credit Full Year Course

(COMPUTER-AIDED DRAFTING AND DESIGN) This course offers students the opportunity to explore the computer-aided drafting industry with emphasis placed on providing realistic mechanical drafting and design problems. This course will require students to solve problems through the creation of computer-generated drawings using technical drawing skills and computer-aided drafting software including Inventor. Drawings will be completed to scale and will include 2D and 3D modeling drawings. This course is recommended for students interested in pursuing careers in engineering and computer-aided drafting. Competence in algebra, fractions, and drafting is essential.

Elective Course #: SE726

Recommended for grade 10-12

CIVIL ENGINEERING AND ARCHITECTURE

5 Credit Full Year Course

Civil Engineering and Architecture is a specialized course in the Project Lead the Way (PLTW)* engineering program. In this class, students are introduced to important aspects of building and site design and development. Students will use math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3D architectural design software (Autodesk Revit).

Elective Course #: SE724

Recommended for grades 10-12

Students will experience both individual and group projects and problems as they learn engineering design and development tools such as project management and peer review. Students will develop skills in engineering calculations, technical representation and documentation of design solutions, and use of 3D architectural design software to represent and communicate solutions.

COMPUTER SCIENCE CONCEPTS

5 Credit Full Year Course

This is a Project Lead the Way (PLTW)* computer science essentials course which introduces students to coding fundamentals through an approachable, block-based programming language where they will have early success in creating usable apps. As students sharpen their computational thinking skills, they will transition to programming environments that reinforce coding fundamentals by displaying block programming and text-based programming side-by-side. Students will learn the power of text-based programming as they are introduced to the Python® programming language. Finally, students will learn to program a self-driving vehicle that can act autonomously.

College Prep Course #: SE752

Recommended for grade 9

The course engages students in computational thinking practices and collaboration strategies, as well as industry standard tools authentic to computer science professional work. Students will learn about professional opportunities in computer science and how computing can be an integral part of all careers today.

CYBERSECURITY

5 Credit Full Year Course

Cybersecurity is a Project Lead the Way (PLTW)* Computer Science course that introduces the tools and concepts of cybersecurity and encourages students to create solutions that allow people to share computing resources while protecting privacy. Nationally, computational resources are vulnerable and frequently attacked; in Cybersecurity, students solve problems by understanding and closing these vulnerabilities. This course raises students' knowledge of and commitment to ethical computing behavior. It also aims to develop students' skills as consumers, friends, citizens, and employees who can effectively contribute to communities with a dependable cyber-infrastructure that moves and processes information safely.

Elective Course #: SE754

Recommended for grade 10-12

DRAFTING TECHNOLOGY AND DESIGN

2.5 Credit Semester Course

This course offers students the opportunity to explore a variety of drafting related careers. It provides students with knowledge and skills in drafting techniques, technical sketching, computer-aided drafting, dimensioning, geometric construction, orthographic projection, pictorials, architecture, engineering, and designing to scale. Projects will be given in order of complexity exposing students to a variety of drafting experiences. This course is recommended for students interested in pursuing careers in engineering, architecture, building construction industry, commercial and interior design, computer-aided drafting, and other occupations requiring drafting experience. Competence and aptitude for fractions and algebra are necessary for success. The major assessments for this include hand and CAD drawings, as well as individual and small group projects. This course can be used to fulfill the Fine Arts requirement.

College Prep Course #: SE720

Recommended for grade 9-12

ELECTRONIC APPLICATIONS

2.5 Credit Semester Course

This course is a true beginner's dive into discovering basic electronics. The presented material covers Ohm's Law and electronic component operations through electronic circuit design used in operating an Arduino microcontroller. Students will learn how to build and control devices such as a keypad operated security system and a solar tracking platform. This course is recommended for anyone curious about how electronic devices are developed.

Elective Course #: SE744

Recommended for grades 10-12

ENGINEERING CAPSTONE

2.5 Credit Semester Course

Students fulfilling the Engineering Concentration prescribed course of study will participate in this thesis course to demonstrate mastery, by resolving an approved engineering challenge of their choosing. The final resolution will be presented to a panel for evaluation. The presentation will include a research paper, oral presentation and defense, and a physical model artifact of their solution. Students will meet in a formal class/lab setting within the STEM area, in order to have full access to tools, technology, and resources needed to successfully complete their thesis work.

College Prep Course #: SC788

Recommended for 12 grade and met all requirements

ENGINEERING CONCEPTS

5 Credit Full Year Course

Lab Course

Engineering Concepts is designed to introduce students to engineering concepts that are applicable across multiple disciplines. Students will build technical skills through the use of engineering tools geographic information systems (GIS), 3-D modeling software and building prototypes. Students will learn and apply the engineering design process to develop mechanical, electronic, process and logistical solutions to relevant problems across a variety of industry sectors, including public health care, public service, product development, and manufacturing.

College Prep Course #: SC790**Accelerated Course #: SC791**

Recommended for grade 9-10

ENGINEERING DESIGN

5 Credit Full Year Course

Lab Course

Engineering Design is a foundation course in the Project Lead the Way (PLTW)* engineering program. Using an activity-project-problem-based method, students will progress through structured activities and problem solving that include the development of planning, documentation, communication, and other professional skills.

College Prep Course #: SC787**Accelerated Course #: SC784**

Recommended for grade 10-11

Students will experience both individual and group projects and problems as they learn engineering design and development tools such as project management and peer review. Skills learned include CAD and 3D modeling software (Autodesk Inventor) for documentation and communication of ideas, statistical analysis, mathematical modeling, as well as, ethical issues related to the engineering field.

GAME DESIGN

2.5 Credit Semester Course

This course offers students the opportunity to explore a variety of video game designs concepts. It provides students with knowledge and skills in scripting code, rendering game objects, creating light and camera effects, creating and changing materials and textures, using particles, giving objects collision and working with velocity, working in 2D, and working in 3D. This course is recommended for students interested in pursuing careers in game design, game artist, concept artist, application developer, software engineer, and multimedia specialist. The game engine we will use in this class is the Unity game engine. The main programming languages we will use are C# and C++.

Elective Course #: SE756

Recommended for grades 9-12

PRINCIPLES OF ENGINEERING

5 Credit Full Year Course

Lab Course

Principles of Engineering is a specialized course in the Project Lead the Way (PLTW) engineering program. This course exposes students to some of the major concepts that they will encounter in a postsecondary engineering course of study. Student will solve rigorous and relevant design problems within a collaborative learning environment. Units of the course include Energy and Power, Materials and Structures, Control Structures, and Statistics and Kinematics.

Accelerated Course #: SC789

Recommended for grade 11-12

ROBOTICS

2.5 Credit Semester Course

Since the first industrial robot was installed at a U.S. automotive plant in 1961, robotics technology has become an important factor in most types of manufacturing. In this multi-year course, students will begin by studying basic electronics, as well as the fundamental principles, systems, programming and history of robotics. Students will further develop their programming, mechanical building, critical thinking, and problem-solving skills by applying them to more complex robotics applications with the use of sensors. This is a project-based experience where students will build and control robotic devices. Students will use computers to create programs to control robot "arms" and vehicles. Major assessments for this course includes traditional quizzes as well as group project work including building and programming various robots.

Elective Course #: SE742

Recommended for grades 9-12

* Project Lead the Way (PLTW) is a nonprofit organization that provides transformative learning experiences for K-12 students and teachers across the U.S. through pathways in computer science and engineering. Students learn problem-solving strategies, critical and creative thinking, and how to communicate and collaborate.

English

The English department maintains a rigorous, rich, and diverse literacy program seeking to promote and enhance the development of reading, writing, speaking, and listening. Students at all grade levels will read traditional and contemporary works from world literature as they explore thematic issues, engage in critical analysis, and practice formal writing skills.

College prep and accelerated courses provide identical college-ready content. However, accelerated courses expect more depth of analysis and critical thinking at a faster pace with more extensive reading outside of school. Juniors and seniors have the additional offerings of Advanced Placement® courses that provide a college-level curriculum and culminate in AP exams. Electives are available at all grade levels for students who wish to continue exploring different forms of literacy.

ENGLISH

ENGLISH LANGUAGE ARTS 9

5 Credit Full Year Course

This course focuses on developing the skills of close reading, analysis, argument, and research-based writing. Units include the classical epic, introduction to argument, perspectives on society, introduction to research, Shakespearean drama, and literature as a mirror for society. Cornerstone texts include *The Odyssey*, *Romeo and Juliet*, and *The Hunger Games*. Additional novels, short stories, and essays support the core skills. Students will demonstrate their knowledge through formal and informal writing, research, collaborative work, and independent projects.

College Prep Course #: EN139

Accelerated Course #: EN138

ENGLISH LANGUAGE ARTS 10

5 Credit Full Year Course

The tenth grade English curriculum celebrates a multicultural exploration of literature and incorporates the concepts of discrimination, identity, non-conformity, censorship, tragedy, and loss. Units incorporate literary genres including novels, short stories, fiction and non-fiction essays, poetry, and drama. Modern writers and traditional canonical authors are explored. In writing, students use the process approach to strengthening thesis development, textual support, focus, clarity, organization, style, and the conventions of Standard English. Reading selections include but are not limited to the following: *Macbeth*, *Julius Caesar* and/or *Taming of the Shrew*, *Oedipus* and/or *Antigone*, *To Kill a Mockingbird*, *The Chocolate War*, *Death Watch*, *Fahrenheit 451*, *Lizzy Bright and the Buckminster Boy*, *Ethan Frome*, *Hawthorne's Short Stories (Rappaccini's Daughter, The Birthmark)*, *The Scarlett Letter*, *Of Mice and Men*, *Grapes of Wrath*, *The Catcher in the Rye*, and *The Good Earth*.

College Prep Course #: EN124

Accelerated Course #: EN127

ENGLISH LANGUAGE ARTS 11

5 Credit Full Year Course

This course develops students' understanding of what makes a work distinctively American. Students engage in critical analysis of fiction, nonfiction, drama, and poetry as they strengthen their critical thinking through collaborative discussion, reflective writing, formal essay writing, and individual and group presentations. Students develop their ability to communicate for diverse purposes and audiences. Thematic units include the personal journey and individual identity, the American dream, inequality, war, and the power of voice. Cornerstone texts include *The Great Gatsby*, *The Things They Carried*, American Romanticism, and contemporary American literature. Additional novels, short stories, and essays support the core skills. Major assessments include argument essay, persuasive speech, group and individual presentations, and analytical and reflective writing.

College Prep Course #: EN134

Accelerated Course #: EN135

ENGLISH LANGUAGE ARTS 12

5 Credit Full Year Course

Upon entering the twelfth grade, students will read and discuss European literary classics across the major genres. Students will focus on European literature from the Middle Ages to the present: from Chaucer's *Canterbury Tales* to Kafka's *Metamorphosis*. Units are arranged thematically; students will consider prominent themes for each time period, and students will see how earlier works influence later works and how forms and ideas have evolved. Writing assignments include essays and research papers. By the end of twelfth grade, students will have become familiar with some of the major works and ideas of European literature, honed their skills of literary analysis and effectively write a research paper.

College Prep Course #: EN143

Accelerated Course #: EN142

ADVANCED PLACEMENT ENGLISH LANGUAGE AND COMPOSITION**AP® Course #: EN173**

5 Credit Full Year Course

Grade 11

Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board, and teachers must receive specialized training to teach the courses. Although it is not required, it is expected that students who take AP courses will also register for the national AP exam at their own expense. AP English Language and Composition is intended to be comparable to a college composition course. This intensive writing course requires students to analyze and critique all facets of rhetorical techniques found in non-fiction, fiction, and image-based texts. Students will learn how to write nuanced synthesis essays and persuasive arguments applying the elements of rhetoric. Students will engage in all steps of the writing process and critique their work as well as the work of their peers. Major assessments include persuasive speeches and essays, analytical and reflective writing, timed writing, oral presentations, and research and synthesis projects. This course meets the Grade 11 English requirement when taken as a junior.

ADVANCED PLACEMENT LITERATURE AND COMPOSITION**AP® Course #: EN171**

5 Credit Full Year Course

Grade 12

Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board, and teachers must receive specialized training to teach the courses. Although it is not required, it is expected that students who take AP courses will also register for the national AP exam at their own expense. In this course, students will participate in a thematic and stylistic study of British literature of the sixteenth through the twenty-first centuries incorporating philosophical, political, and literary perspectives. The writing assignments require critical analysis of texts as well as the incorporation of sophisticated vocabulary and sentence structure. Classes involve seminar discussions requiring daily preparation, the ability to infer theories and draw conclusions, and higher level abstract thinking. Extensive outside reading, homework, and preparation are required. This course meets the Grade 12 English requirement when taken as a senior.

ENGLISH ELECTIVES**AMERICAN CINEMA****Elective #: EN220**

2.5 Credit Semester Course

Recommended for grades 11-12

This course explores American Cinema from the early 1900s to present day. Students will examine the elemental power of film as a literary genre, drawing conclusions about differences in plot, character, setting, theme, and tone. Students will study the four major areas of film: Editing, Sound, Camera-Work, and Mise-en-Scène. Students will discover how the major areas of film create and enhance meaning in the work. Critical viewing, thinking, and reading are integral elements of the course. Dramatic films, documentaries, and social commentaries will be explored as well. The featured films that will be viewed are *The Shining*, *The Green Mile*, *Slumdog Millionaire*, and *The Island*. All other film viewing will be in the form of short clips.

CREATIVE WRITING**Elective #: EN151**

2.5 Credit Semester Course

Recommended for grades 9 - 10

This elective course is intended for the dedicated writer who currently writes independently and wants to learn to express imagination and creativity in the writing of fiction and poetry. Creative writing is shaped by emotions, imagination, ideas, humor, curiosity, intellect, history, and personal experience. In this course, the student will learn to explore and write from the true self. Students will examine various techniques of pre-writing, writing, editing and revision, various creative genres, and several styles of storytelling. Through the examination of selected literature, students will isolate elements of style that contribute to the writer's craft. Students should be willing to share their work with classmates and to try new approaches to writing by attempting to write such works as a short story, a fantasy or adventure story, poetry, and/or an original screenplay. The class will culminate in a final writing portfolio in which the students will display their semester work.

GOTHIC LITERATURE**Elective: EN225**

2.5 Credit Semester Course

Recommended for grades 11- 12

Gothic Literature and Philosophy and Ethics are run on a two-year cycle. Gothic Literature will run during the 2025-2026 year. Students will examine the conventions of gothic fiction from the late 18th century to the present day and explore the historical evolution and appeal of fear, horror, romance, and death in literature. We will read a wide variety of texts, primarily short stories, from diverse groups of authors to explore how gothic horror has evolved over the past three hundred years. These readings will be supplemented with critical texts that outline the psychological, social, and historical foundations of fear and horror in this genre. The course will focus on analytical and comparative reading and writing skills. Primary authors include Edgar Allan Poe, Flannery O'Connor, and Stephen King.

MODERN READS

2.5 Credit Semester Course

Would you like to read a book by a current cutting-edge author? Students taking this class will explore today's popular authors that may include, but are not limited to, Sarah J. Maas, Karen McManus, Gretchen McNeil, Adam Silvera, Jenifer Lynn Barnes, and more contemporary authors. This class will frequently hold "book club" style discussions; wherein students will examine theme, characterization, plot and form. In addition to reading in class, students will engage in hands-on creative projects, which will help students understand the text more deeply. If you like to read, want to explore various popular authors, or want to find the right book for you, this class is a must take.

Elective #: EN221

Recommended for grades 9-10

PHILOSOPHY AND ETHICS

2.5 Credit Semester Course

Philosophy and Ethics and Gothic Literature are run on a two-year cycle. Philosophy and Ethics will run during the 2026-2027 year. In this course, students will discover and examine the philosophical, moral, and ethical underpinnings of various literary works. A wide variety of literature will be considered to identify basic principles of morality and critical thinking about moral judgments. Themes explored include relationships with others and relationships to the world. Why is there evil in the world and who determines what is right from wrong? Are human actions free or pre-destined? How can the study of classical and modern thinking help one achieve his or her goals in life? These are some of the questions the course attempts to seek answers to through the readings of major philosophical texts and through reflective writing.

Accelerated Elective #: EN160

Recommended for grades 11-12

UNIFIED into the Future

2.5 Credit Semester Course

Let's bridge the gap between high school graduation and the rest of your life. From financial awareness to digital citizenship, communication skills to leadership development, students will prepare for life beyond high school. Students will work together in a best buddies approach pairing differently abled students together to bring out the best in one another. Jumping into the workforce? Applying for college or a post-secondary education? Regardless of what your future holds you will build the foundation for success for your future self. The future starts NOW.

Elective #: EN148

Grades: 11-12

Mathematics

The mathematics department is committed to reaching all students with a curriculum that is designed to present mathematics as a fluid, coherent body of knowledge.

Our Algebra 1 / Geometry courses are offered as College Prep (CP) and Accelerated (Accel). These courses are comprised of standards selected from the high school conceptual categories and were written to encompass the scope of content and skills to be addressed throughout grades 9-12. Students will experience the mathematics of Algebra and Geometry while making connections across traditional domains of Trigonometry, Pre-Calculus and Statistics. Algebra 1 / Geometry (CP or Accel) are traditionally followed by Algebra 2 / Geometry and Pre-Calculus / Trigonometry in grades 10 and 11.

All students must take four years of mathematics. Our courses provide students with the body of knowledge needed to study advanced mathematics courses. Upperclassmen have the option of enrolling in Advanced Placement[®] classes in Calculus (AB or BC) as well as AP Probability and Statistics. Additional offerings such as Probability and Statistics, Calculus, and Accounting are available. It is highly recommended that students discuss their senior year mathematics' goals with their school counselors in order to make informed decisions when entering high school.

The use of graphing calculators is an integral part of all mathematics courses in the high school. The Texas Instruments TI-84+ Silver Edition calculator is strongly suggested for our courses. This graphing calculator will continue to benefit our students in college, trade schools, and the military.

MATHEMATICS

ADVANCED PLACEMENT CALCULUS AB

5 Credit Full Year Course

Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board, and teachers must receive specialized training to teach the courses. Although it is not required, it is expected that students who take AP courses will also register for the national AP exam at their own expense. This course is a college-level course in calculus for grade 11 and 12 students with strong skills in mathematics and an above average achievement level who plan to pursue a course study in mathematics, physics or engineering at a four-year college. It is recommended that students feel confident with previous math classes, and a graphing calculator. This course will cover limits, differential and integral calculus and their applications. A graphing calculator is required (TI-84+ is strongly recommended).

AP[®] Course #: MA371

Grade 12

ADVANCED PLACEMENT CALCULUS BC

5 Credit Full Year Course

Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board, and teachers must receive specialized training to teach the courses. Although it is not required, it is expected that students who take AP courses will also register for the national AP exam at their own expense. This course is a college-level course in calculus for grade 12 students with strong skills in mathematics and an above average achievement level who plan to pursue a course study in mathematics, physics or engineering at a four-year college. This course will cover limits, differential and integral calculus and their applications. Additionally, students will learn series, sequences, parametric equations and advanced integration techniques. A graphing calculator is required (TI-84+ is strongly recommended).

AP[®] Course #: MA373

Grade 12

ADVANCED PLACEMENT PROBABILITY AND STATISTICS

5 Credit Full Year Course

Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board, and teachers must receive specialized training to teach the courses. Although it is not required, it is expected that students who take AP courses will also register for the national AP exam at their own expense. The course is equivalent to a college-level statistics class. Students who successfully complete this course are prepared to take the AP Statistics exam and have the ability to earn college credit and advanced standing by passing the exam. This course for students in grade 12 is about the collection, display, summarization, analysis, interpretation of data, and concepts from the mathematic disciplines of *probability* and *statistics*. The probability portion will include such topics as the basic rules of counting, permutations, combinations, discrete distributions (binomial and geometric), and continuous distributions (normal, t-distribution, chi-square). The statistics portion topics consist of sampling, estimation, correlation, regression, confidence intervals and one-sample and two sample hypothesis testing. Emphasis is placed on the interpretation and critical evaluation of the numbers and statistics encountered outside of school. A graphing calculator is required (TI-84+ is strongly recommended).

AP® Course #: MA375

Recommended for grade 12

ALGEBRA 1 / GEOMETRY

5 Credit Full Year Course

The fundamental purpose of the Algebra 1 / Geometry course is to formalize and extend the Mathematics that students learned in middle school. This course is comprised of the standards found in the 2017 Massachusetts Curriculum Frameworks. It encompasses the scope of content and skills required for college preparation and focuses on mathematical concepts that allow students to apply real-world situations within five critical areas of instruction:

- *Extend understanding of numerical manipulation to algebraic manipulation;*
- *Synthesize understanding of function;*
- *Deepen and extend understanding of linear relationships;*
- *Apply linear models to data that exhibit a linear trend;*
- *Summarize, represent, interpret, and display data on two categorical and quantitative variables.*

College Prep Course #: MA101**Accelerated Course #: MA102**

Grade 9

ALGEBRA 2

5 Credit Full Year Course

The fundamental purpose of Algebra 2 is comprised of the standards found in the 2017 Massachusetts Curriculum Frameworks. It encompasses the scope of content and skills required for college preparation and focuses on the mathematical concepts that allow students to apply real-world situations within four critical areas of instruction:

- *Compare key characteristics of quadratic functions with those of linear and exponential functions;*
- *Solve equations and inequalities involving linear, exponential, and quadratic expressions;*
- *Build upon understanding of the functions families and identify appropriate types of functions to model a given situation;*

Expand understanding of functions and graphing to include trigonometric functions.

College Prep Course #: MA323

Grade 11

ALGEBRA 2 / GEOMETRY

5 Credit Full Year Course

The fundamental purpose of the Algebra 2 / Geometry course is comprised of the standards found in the 2017 Massachusetts Curriculum Frameworks. It encompasses the scope of content and skills required for college preparation and focuses on mathematical concepts that allow students to apply real-world situations to five critical areas of instruction:

- *Extend the laws of exponents to rational exponents;*
- *Compare key characteristics of quadratic functions with those of linear and exponential functions;*
- *Create and solve equations and inequalities involving linear, exponential, and quadratic expressions;*
- *Establish criteria for similarity of triangles based on proportional reasoning;*
- *Establish criteria for similarity of triangles based on proportional reasoning; summarize, represent, interpret, and display data on two categorical and quantitative variables.*

College Prep Course #: MA337**Accelerated Course #: MA347**

Grade 10

CALCULUS

5 Credit Full Year Course

College Prep Course #: MA430

Accelerated Course #: MA431

Grade 12

This course is for students with a good aptitude for mathematics, who may pursue a course study in mathematics, computer, science or engineering. This course will cover many of the topics normally studied during the first semester of college calculus including limits, methods of differentiation, applications of derivatives, techniques of integration and applications of the integral. It is recommended that students feel confident with previous math classes, Pre-calculus/Trigonometry concepts, and a graphing calculator.

PRE-CALCULUS / TRIGONOMETRY

5 Credit Full Year Course

College Prep Course #: MA348

Accelerated Course #: MA349

Grade 11

The fundamental purpose of Pre-calculus / Trigonometry is comprised of the standards found in the 2017 Massachusetts Curriculum Frameworks. It combines algebraic, geometric and trigonometric techniques needed to prepare students for the study of calculus. It encompasses the scope of content and skills required for college preparation and focuses on the mathematical concepts that allow students to apply real-world situations to four critical areas of instruction and continue work with:

- *Trigonometry: Create trigonometric graphs, prove trigonometric identities, and convert trigonometric forms of complex numbers.*
- *Functions: Expand student understanding of functions to include logarithmic and trigonometric functions. This includes the role of e , natural and common logarithms, laws of exponents and logarithms, and the solutions of logarithmic and exponential equations.*
- *Fundamental Theorem of Algebra: Deepen student understanding of the Fundamental Theorem of Algebra by investigating, identifying, graphing and converting between the geometric description and equations of conic sections.*
- *Calculus: Recognize the fundamental elements of calculus. This includes the introduction of limits with both an algebraic and graphical representation as well as the concept of derivatives.*

PROBABILITY AND STATISTICS

5 Credit Full Year Course

College Prep Course #: MA344

Accelerated Course #: MA345

Recommended for grades 11-12

This course for students in grades 11 and 12 is about the collection, display, summarization, analysis, interpretation of data, and concepts from the mathematic disciplines of *probability* and *statistics*. The probability portion will include topics such as the basic rules of counting, permutations, combinations, discrete distributions (binomial and geometric), and continuous distributions (normal, t-distribution, chi-square). The statistics portion topics consist of sampling, estimation, correlation, regression, confidence intervals and one-sample and two sample hypothesis testing. Emphasis is placed on the interpretation and critical evaluation of the numbers and statistics encountered outside of school.

MATH ELECTIVES

BRUSHSTROKES and ALGORITHMS: The Mathematical World of Art

2.5 Credit Semester Course

College Prep Course #: MA357

Recommended for Grades 9-12

Mathematics and art may seem like an unlikely pair, but they share a deep and intertwined history. In this course, you will explore the mathematical principles that underpin some of the world's most famous artworks and gain a deeper understanding of the creative process. We'll delve into topics such as symmetry, fractals, geometry, perspective, and much more, all of which contribute to the magic of art. No prior artistic or mathematical experience is necessary. All you need is curiosity and a desire to explore the hidden connections between numbers, shapes, and the captivating world of art.

DATA WIZARDRY: Unleashing the Power of Data Science

2.5 Credit Semester Course

College Prep Course #: MA354

Recommended for Grades 10-12

Our world is full of information, requiring individuals to constantly separate fact from fiction. Our new data intensive world can be difficult to navigate. Decisions that used to be straightforward are now complex. Everywhere we turn, data is telling and weaving stories about our world. In this project-based course, students will be data explorers, and develop their understanding of data analysis, sampling, correlation/causation, bias and uncertainty, probability, modeling with data, making and evaluating data-based arguments, and more! Students will explore data science through tools such as Google Sheets, Python, Data Commons and Tableau.

MIND GAMES: Understanding Strategy through Game Theory

2.5 Credit Semester Course

College Prep Course #: MA355

Recommended for Grades 10-12

Are you interested in games? Do you ever wonder if you're using "the right" strategy? How do you decide? What makes one strategy better than another? In this course, we explore a branch of mathematics known as game theory, which answers these questions and many more. Mathematical games have many applications as we face dilemmas and conflicts every day. Significant global events from fields like diplomacy, political science, engineering, anthropology, philosophy, economics, and popular culture can all be described with mathematical games. Specific topics in this course include two-person zero-sum games, two person non-zero-sum games, sequential games, multiplayer games, linear optimization, and vote counting methods.

PERSONAL FINANCE

2.5 Credit Semester Course

Elective Course #: MA353

Recommended for grades 9-12

Personal Finance is designed to provide students with the essential knowledge and skills required to make informed financial decisions, manage their personal finances, and build a strong foundation for financial well-being. This course empowers students to navigate the complexities of financial life, from budgeting and saving to investing and planning for their future. By fostering financial responsibility, this course aims to equip students with lifelong skills that will serve them in both personal and professional contexts.

TOPICS IN GRAPHING

2.5 Credit Semester Course

College Prep Course #: MA385

Recommended for grades 11 -12

Recommended: Algebra 1/Geometry and Algebra 2/Geometry

In this elective course, Students will be exposed to new and intellectually stimulating types of graphical systems, such as three-dimensional graphing, parametric representations of equations, and the polar coordinate system. During this semester course, Students will learn how to graph various equations in the three-dimensional plane. Students will also be introduced to the use of matrices in order to solve systems of linear three-dimensional equations. Students will learn the importance of parametric equations and the applications of parametric equations in physics. Finally, students will be exposed to representing equations in the polar coordinate system and the numerous important applications that arise from this topic. The course will review and expand the students' knowledge of algebra, geometry, and trigonometry and further explore the relationships between the topics. This course is also designed to prepare students for taking college related exams. This course is composed of standards found in the 2017 Massachusetts Curriculum Frameworks for Mathematics and reflects the National Common Core Standards.

Sequence of topics:

Unit 1: Parametric Equations

Unit 2: Polar Graphing Matrices

Unit 3: Three-Dimensional Graphing

Unit 4: Matrices

Performing Arts

The Performing Arts Department provides a curriculum that enriches academic and cultural learning. At the heart of this curriculum is the creation and performance of various types of art as well as respect for the vast diversity of art across genres and time periods.

Our Performing Arts courses range from beginning instruction in piano and guitar through the advanced study of choral and instrumental literature. Our diverse course offerings are designed to meet the needs, experience levels, and career goals of all students. Students without prior experience can begin study; students who have been in choir or band, or have had previous performing art courses can continue their study, and students who wish to study the Performing Arts in college can be challenged at the highest levels of rigor.

Performing Arts

ACTING & PLAYWRITING

2.5 Credit Semester Course

This course is a basic introduction to acting and playwriting for the stage that will explore awareness, observation, storytelling, and performing. In the Acting strand of this course, students will have the opportunity to develop skills that embolden self-confidence, spontaneity, and imagination through a variety of improvisational activities. In the Playwriting strand of this course, students will read scenes from famous plays, write scenes of their own, and develop their own unique writing style. Students will act in each other's original work throughout the semester.

Elective Course #: VP890

Recommended for grades 9-12

CONCERT CHOIR

5 Credit Full Year Course

Concert Choir is for mixed voices (soprano, alto, tenor, and bass) in grades 9-12. In Concert Choir, students will perform music in a variety of styles, genres, and time periods and will gain an understanding of what makes musical periods different from one another. Emphasis will be placed on personal musical development, including the study of the voice as an instrument, music notation, and performing with others. Students are required to perform in four (4) evening concerts at the high school as well as the MICCA Choral Festival. No audition is required, but students must be able to match pitch and sing a simple song.

Elective Course #: VP842

Recommended for grades 9-12

CHAMBER CHOIR

5 Credit Full Year Course

This is an accelerated course in which the vocal and musical development begun in Concert Choir is continued with a higher level of proficiency. Emphasis is placed on solo singing, vocal technique, and full ensemble performance. Students will have the opportunity to audition for Central District and All-State Choruses. Students will be selected to participate in this ensemble based on musical ability and responsibility toward the preparation and performance of many musical styles. The singers perform many times throughout the year in school and the community. Students are required to perform in four (4) evening concerts at the high school as well as the MICCA Choral Festival. Although not required, private study is highly recommended for students enrolled in this course. *Admission to this class is by audition only.*

Accelerated Course #: VP846

Recommended for grades 9-12, Audition Only

CLASSICAL GUITAR

2.5 Credit Semester Course

This course is designed for the beginning guitar student looking to learn the basics of the instrument. Emphasis will be placed on proper technique, tuning, musical notation, chords, and introductory music theory. The students are expected to develop their performance skill by developing a basic repertoire of solos and duets.

Elective Course #: VP862

Recommended for grades 9-12

HISTORY OF ROCK and ROLL

2.5 Credit Semester Course

This is a college prep course for students who are interested in the musical genre of Rock and Roll. Students will learn where and when rock music started, how it evolved, its highs and lows, its outlaws and visionaries, and how it changed social history by combating racism and challenging the establishment with alternate lifestyles and fashions. By the end of the course, students will be able to identify major artists, recognize different styles, and explain the impact of culture, society, and politics on the genre. This course does not require any prior musical knowledge or skill.

College Prep #: VP848

Recommended for Grades 9-12

HISTORY OF JAZZ

2.5 Credit Semester Course

The History of Jazz class provides a comprehensive exploration of the evolution of jazz music, examining its origins in African American culture, key stylistic eras like Dixieland, Swing, Bebop, and beyond, influential artists, social contexts, and the impact of jazz on American and global music, allowing students to develop a deep understanding and appreciation for this uniquely improvisational art form through listening exercises, discussions, and historical analysis.

Elective Course #: VP891

Recommended for Grades 9-12

MUSIC TECHNOLOGY and SOUND ENGINEERING

2.5 Credit Semester Course

Music Technology is an introductory course in the principles of audio and sound recording and engineering. Topics include: sound waves, acoustics and the audio spectrum, console & signal flow, equalization & compression, microphones, effects, and digital audio formats. Emphasis is placed upon advancing students' digital literacy and technical abilities through collaborative projects that challenge students to "think different." The Music Technology (Music Tech for short) class allows students to make meaningful connections between school music and the music in their own lives. It will be project based offering several opportunities for teaching music production and sound recording, fostering digital collaboration and creativity.

Elective Course #: vp892

Recommended for Grades 11-12

MUSIC THEORY

2.5 Credit Semester Course

Music Theory introduces students to the analysis of music. Through the examination of conventional western music, students will learn how to construct melodic and harmonic structures and explore how composers use those structures. This course requires music reading fluency in at least one clef and is designed for students who have basic music reading skills gained through either playing an instrument or singing.

Elective Course #: VP859

Recommended for grades 10-12

PIANO 1

2.5 Credit Semester Course

This course is designed for students with no prior piano playing experience. Through individualized and group instruction, students will learn how to play simple pieces on the piano, as well as basic music reading and music theory skills.

Elective Course #: VP869

Recommended for grades 9-12

PERCUSSION ENSEMBLE

2.5 Credit Semester Course

Percussion Ensemble is an instrumental ensemble for people who play, or want to play, percussion instruments. Percussion instruments include marimba, vibraphone, xylophone, glockenspiel, piano, snare drum, tenor drums, bass drum, auxiliary percussion, and timpani. Emphasis will be on the presentation and performance of grade III-V percussion literature. Students will hone individual playing techniques, as well as develop ensemble skills throughout the year. The focus will be full ensemble performance, although chamber music, music theory, and music history will also be studied. Students will have the opportunity to audition for the Central District Music Festival. Although it is not required, private study is highly recommended for students in this class. Students are required to perform in all band concerts at the high school. This semester course can repeat for credit.

Elective Course #: VP878

Recommended for grades 9-12

STAGECRAFT

2.5 Credit Semester Course

In this hands-on course, students will engage in activities and projects specifically geared to the production of the high school's drama and musical theatre productions. Topics will include backstage workings, theater terminology, lighting, sound, set design/construction, costuming, and make-up. Students will also engage in the duties and responsibilities of "running the house", including ticket design/sales, public relations, program layout, and intermission activities. Students enrolled in the course will become the stage crew/production team for the productions that occur during the semester in which they are enrolled.

Elective Course #: VP861

Recommended for grades 9-12

SCREENWRITING & FILMMAKING

2.5 Credit Semester Course

This course is designed for students with an interest in storytelling and creative writing. This passion will be focused on crafting stories designed to be told through the medium of film, and the specific restrictions and opportunities that come with those parameters. We will watch sections of select short and feature films, alongside analyzing the script, so that students may better understand how the words on the page become the moving pictures on the screen. We will craft a series of original scripts throughout the course that students will analyze and workshop as a class, and then turn those scripts into original short films. The goal of this course is to start students down the journey of self-guided filmmaking, while also crafting a portfolio of short films and ready to film scripts.

Elective Course #: VP868

Recommended for grades 9-12

SONGWRITING & COMPOSITION

2.5 Credit Semester Course

This course is for students with a passion for making music who wish to learn more about the creative process of writing original songs and composing instrumental/choral music. Students will have the opportunity to analyze songs to better understand the components of songwriting, to experiment with their own writing styles, and to share their music in front of their peers. Students will be asked to collect their work into a robust and diverse portfolio that can be shared with the wider world. Students must have taken at least one other music course in high school as a prerequisite to this course.

Accelerated Elective Course #: VP889

Recommended for Grades 11-12

TREBLE CHOIR

5 Credit Full Year Course

Treble Choir is for skilled soprano and alto voices. This choir studies and works to master vocal registers and transitions, breathing technique, diction, sight singing skills, and multi-part harmony, all of which address specific Vocal Performance Standards in Music Education. Repertoire appropriate to treble voices will be studied and performed throughout the year. The level of this choir's repertoire is upper secondary to collegiate level. Students are required to participate in all four (4) evening choral concerts throughout this school year, as well as participate in the MICCA Choral Festival. *Acceptance to this class is by audition.*

Accelerated Elective Course #: VP887

Recommended for grades 9-12

WIND SYMPHONY

5 Credit Full Year Course

Wind Symphony is an accelerated large ensemble for students who play band instruments. Emphasis will be on the preparation and performance of grade IV-VI wind literature. Students will hone individual playing techniques as well as develop ensemble skills throughout the year. Although the focus will be full ensemble performance, chamber music, music theory, and music history will be studied. Students will have the opportunity to audition for the Central District Music Festival. Although it is not required, private study is highly recommended for students enrolled in this course. Students are required to perform in all band performances at the high school and the MICCA Festival.

Accelerated Course #: VP883

Recommended for grades 9-12

Physical Education / Wellness

The Health, Nutrition, and Fitness courses are designed to educate students in promoting their personal health, while encouraging them to practice healthy habits, reduce unhealthy risk-taking, and make informed decisions. The comprehensive health curriculum is aligned with both the State and National health and physical education standards. The Physical Education program encourages students to learn about their physiological development and to properly maintain a practical use of fitness in everyday life. The department offers a variety of courses that encompass the wellness paradigm of physical, mental and social health. Students will attain the attitude, knowledge, and skills to achieve health literacy, practice health-enhancing behaviors, and make health-promoting decisions for life.

During freshmen year, students take **Fundamentals of Fitness**, a physical education class in which they learn the core elements of developing and maintaining a healthy lifestyle. **Wellness**, taken by all sophomores, prepares students to acquire, manage and promote their physical, psychological, social and sexual health.

Upperclassmen have the opportunity to take a wide range of elective courses that were created to meet the needs of every student with their unique talent, ability, and interest. Elective courses include opportunities to participate in team sports, compete, or explore alternative opportunities in physical education.

PHYSICAL EDUCATION / WELLNESS REQUIREMENTS

FUNDAMENTALS OF FITNESS

2.5 Credit Semester Course

The freshman Fundamentals of Fitness course provides the foundation of knowledge necessary to improve all components of physical fitness: flexibility, cardio-respiratory fitness, muscle fitness (including endurance and strength training) and body composition. Through personal goal setting, use of the F.I.T. parameters of overload and other training principles, students create an individualized fitness program that includes cardio-respiratory and resistance training components in compliance with the state and national standards. Emphasis is placed on training the core and developing proper body mechanics and safety when using the resistance training equipment and cardio machines in the Fitness Room. This course also offers an introduction to the health and wellness curriculum by including a brief overview of nutrition principles, including the essential nutrients and dietary choices as they relate to body composition and lifelong physical fitness. A change from regular school clothing to PE attire is required for each class. This is for personal hygiene purposes.

Required Course #: PE921

Grade 9 Requirement

WELLNESS

2.5 Credit Semester Course

The Wellness course focuses on the interrelationship between physical, mental, and social health. The curriculum encompasses specific overarching objectives, including disease prevention, personal health promotion, and health literacy. Core themes include making healthy choices, personality and self-esteem, stress management, relationships, reproductive health, violence prevention, and alcohol, tobacco and drug prevention. The course is structured around cooperative learning, small group activities, role-playing, discussion, problem solving, and project presentations. Teamwork, respectful dialogue, cooperation, and active participation are expected during all class interactions. This course also includes physical activity in order to strive for a healthy active lifestyle. In addition, we partner with local healthcare agencies to provide educational resources and facilitate presentations on current health topics. A change from regular school clothing to PE attire is required for each class. This is for personal hygiene purposes.

Required Course #: PE913

Grade 10 Requirement

PHYSICAL EDUCATION ELECTIVES

LIFETIME FITNESS

2.5 Credit Semester Course

Staying healthy and fit should be a lifelong goal. A lifetime fitness curriculum aims to educate students on topics such as exercise, nutrition, and stress management to promote healthy choices throughout a lifetime. This course will help students understand the positive effect exercise has on the body and mind, and the role good nutrition has on their well-being. It is created to expose students to activities such as strength training, yoga, Pilates, barre, walking for fitness, racquet sports and other group games in a non-competitive environment. This course will demonstrate the many diverse ways to stay active and physical throughout your life while also learning about healthy eating and stress coping behaviors. A change from regular school clothing to PE attire is required for each class. This is for personal hygiene purposes.

Elective Course #: PE910

Recommended for grades 11-12

MIND-BODY FITNESS

2.5 Credit Semester Course

The Mind Body Fitness elective is designed to provide an array of physical fitness exercises that incorporate a meditative or mindful state. These exercises will combine body movement, mental focus, and controlled breathing to improve strength, balance, endurance and flexibility. The physical exercise modalities will include yoga, Pilates, walking, cardio machines and resistance training with emphasis on breath awareness and mindfulness. Various relaxation and meditation techniques will also be implemented. These practices will promote inner mental focus, concentration of muscle movement, synchronization of movement and breathing patterns, personal wellbeing and overall stress management. A change from regular school clothing to PE attire is required for each class. This is for personal hygiene purposes.

Elective Course #: PE923

Recommended for grades 11-12

PERSONAL/GROUP FITNESS TRAINING

2.5 Credit Semester Course

The Personal/Group Fitness Course is an elective course that is intended to follow the Fundamentals of Fitness Course in the department continuum. This course is based on the four aspects of Physical Fitness: Cardio Respiratory Fitness, Muscle Fitness, Flexibility, and Body Composition. Students will design their own personal workout programs and the majority of class time will be spent exercising according to these personal plans. Students will also have the opportunity to participate in group exercise such as different types of fitness circuits. Students will apply systematic aerobic conditioning concepts to find heart rate training zones and F.I.T. (frequency, intensity, and time) measures for their cardio respiratory plans. Students will learn and apply many muscle fitness principles and will also employ the F.I.T. measures for their personal program goals. We will use the Fitness Room, including the cardio machines, free-standing weights, weight machines, stability/medicine balls, bosu trainers, and resistance bands. This very independent participation based course promotes learning through physical performance of learned skills and techniques. A change from regular school clothing to PE attire is required for each class. This is for personal hygiene purposes.

Elective Course#: PE912

Recommended for Grades 11-12

TEAM SPORTS

2.5 Credit Semester Course

This team sports class will include instruction of skills and active participation in a variety of sports and alternative team based games. Some of the sports and activities offered in this course will include traditional games such as soccer, volleyball, basketball, softball; also, team centered alternative games such as tchoukbal, capture the flag, flag football, nitroball, speedball, futsal, triangleball, ultimate Frisbee; and racquet sports such as pickleball and badminton. This participation course promotes respect, healthy competition, sportsmanship, cooperation, and self-motivation. Students should have a general knowledge/background of sports as they enter this course. A change from regular school clothing to PE attire is required for each class. This is for personal hygiene purposes.

Elective Course #: PE918

Recommended for grade 11-12

UNIFIED. Learn. Practice. Play.

2.5 Credit Semester Course

Physical education meets health and wellness on a platform that meets you where you are. Learn the ins and outs of a healthy lifestyle including self-defense, fitness, nutrition, humanity and leadership, in this unified class bringing together students with neurological disabilities and those enrolled in the general education setting. Students will work together in a best buddies approach pairing differently abled students together to bring out the best in one another. Become a teammate, mentor and/or athlete as you develop the skills to care for your mind, body, and fitness and establish your happiness in a healthy way.

Elective Course #: PE900

Grades: 11-12

Science

The science department offers courses that are designed to accommodate both the academic needs, as well as the interests of our students. Our courses teach students the knowledge and skills necessary to ask questions, make observations, design experiments, gather and analyze data, and draw conclusions that can be shared and communicated to others. Laboratory courses, in particular, provide an opportunity for students to utilize the technological tools of the scientist in developing the practices and skills necessary for graduation and beyond.

The graduation requirement in science coursework is the successful completion of three laboratory science classes (15 credits). It is recommended that college-bound students take courses in biology, chemistry, and physics, beginning with biology their freshman year. Students may enroll in more than one full credit science course in any given academic year, as well as any electives they are interested in, individual schedules permitting. We offer Advanced Placement[®] (AP) courses in biology, chemistry, physics and environmental science as well as a wide range of electives such as *Animal Behavior*, *Astronomy*, *Forensics*, *Anatomy and Physiology*.

SCIENCES

ADVANCED PLACEMENT BIOLOGY

5 Credit Full Year Course
Lab Course

AP[®] Course #: SC571

Recommended for grades 10-12

Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board, and teachers must receive specialized training to teach the courses. Although it is not required, it is expected that students who take AP courses will also register for the national AP exam at their own expense. The course is an in-depth study of the fundamentals of biology and focuses on four major themes: 1) the process of evolution drives the diversity and unity of life. 2) Biological systems utilize free energy and molecular building blocks to grow, reproduce and maintain dynamic homeostasis. 3) Living systems store, retrieve, transmit, and respond to information essential to life processes. 4) Biological systems interact, and these systems and their interactions possess complex properties. A series of inquiry-based laboratories will be completed during the year, which will involve a considerable amount of data analysis. Students should expect a summer assignment. Students who enroll in this course should have demonstrated the ability to gather and analyze large amounts of data in a timely fashion, think clearly and express ideas orally and in writing with clarity and logic. It is recommended that the student has had experience in Biology.

ADVANCED PLACEMENT CHEMISTRY

5 Credit Full Year Course
Lab Course

AP[®] Course #: SC581

Recommended for grade 11- 12

Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board, and teachers must receive specialized training to teach the courses. Although it is not required, it is expected that students who take AP courses will also register for the national AP exam at their own expense. AP[®] Chemistry is a rigorous math-based course, with a strong laboratory component that is intended to develop the student's ability to apply mathematical skills to solve chemistry problems. The pace, depth and amount of material covered exceeds the standard high school chemistry course, as does the college-level textbook, laboratory experiments and analysis, and time and effort required of students. Students should plan on spending at least eight hours per week in independent study. Topics include states and structure of matter, chemical reactions, thermodynamics, kinetics, equilibrium, acids and bases, electrochemistry, and colligative properties. It is recommended that the student have a background in Chemistry.

ADVANCED PLACEMENT ENVIRONMENTAL SCIENCE

5 Credit Full Year Course

Lab Course

Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board, and teachers must receive specialized training to teach the courses. Although it is not required, it is expected that students who take AP courses will also register for the national AP exam at their own expense. The AP Environmental Science course is designed to be the equivalent of an introductory college course in environmental science. In this course, students will be studying modern environmental issues integrating concepts from biology, earth science, and chemistry. The course is designed to provide students with scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and man-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Students will participate in field studies to collect and analyze authentic data and to evaluate specific environments.

AP® Course #: SC583

Recommended for grades 11-12

ADVANCED PLACEMENT PHYSICS 1

5 Credit Full Year Course

Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board, and teachers must receive specialized training to teach the courses. Although it is not required, it is expected that students who take AP courses will also register for the national AP exam at their own expense. AP Physics 1 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of Physics through inquiry-based investigations, as they explore topics such as Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. The course is based on six Big Ideas, which encompass core scientific principles, theories, and processes that cut across traditional boundaries and provide a broad way of thinking about the physical world.

AP® Course #: SC544

Recommended for grades 11-12

ADVANCED PLACEMENT PHYSICS C: Mechanics

5 Credit Full Year Course

*Recommended for grade 12 students who have taken or are taking a calculus course and have completed a physics course. Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board and teachers must receive specialized training to teach the course. Although it is not required, it is expected that students who take AP courses will also register for the national AP exam at their own expense. AP Physics C: Mechanics is a calculus-based, college-level physics course, especially appropriate for students planning to specialize or major in one of the physical science or ENGINEERING. Students cultivate their understanding of physics through classroom study and activities as well as hands-on laboratory work as they explore concepts like change, force interactions, fields and conservation.

AP® Course #: SC545

Grade 12*

BIOLOGY

5 Credit Full Year Course

Lab Course

Students will learn about complex phenomena related to genetics, the functioning of organisms, and interrelationships between organisms, populations, and the environment. Through lecture, laboratory experiments, modeling, discussion, reading, writing, and technology, students will develop a foundation in the biological sciences. Accelerated Biology is a course in which the highly motivated, independent learner acquires a deeper understanding of the principles presented in CP Biology. The course topics are directly correlated to the Massachusetts Curriculum Framework in Science. As such, the students will be prepared to take the Biology MCAS exam.

College Prep Course #: SC523**Accelerated Course #: SC522**

Recommended for grades 9-10

CHEMISTRY

5 Credit Full Year Course

Lab Course

Students will learn about physical and chemical changes that occur in matter. Students will develop strong problem solving skills, be asked to think analytically and perform a variety of laboratory experiments. Topics covered include: atomic theory, stoichiometry, gases, compounds and bonding, solutions, and thermodynamics. Accelerated Chemistry is a course in which the highly motivated, independent learner acquires a deeper understanding of the principles presented in CP Chemistry. This course is intended for students who have excellent science abilities, strong study habits, and a desire to learn rigorous course content at an accelerated pace. Accelerated Chemistry is recommended for students who plan to take one or more AP science courses.

College Prep Course #: SC533**Accelerated Course #: SC532**

Recommended for grades 10-12

ENVIRONMENTAL SCIENCE

5 Credit Full Year Course
Lab Course

This course combines the study of local ecosystems with that of current issues. Human use and misuse of the environment are emphasized. Topics include energy production and consumption, soil properties, water use and water ecology, water quality, natural disasters, habitat destruction, human population growth, global climate change, and solid waste issues. The course involves a variety of hands-on labs and projects, as well as long-range research assignments relating to environmental issues. Frequent trips outdoors should be expected, even in cold weather.

Elective Course #: SC556

Recommended for grades 11-12

PHYSICS

5 Credit Full Year Course
Lab Course

Relying on their math skills, diligent lab work, and the scientific method, students will complete lab and project work to recognize and solve problems in these classic topic areas: light, sound, wave theory, linear and circular motion, projectile and 2-dimensional motion, freefall, forces, universal gravitation, work, power, energy, impulse and momentum, magnetism, and electricity. Students electing the Accelerated version of this course should possess very strong math skills.

College Prep Course #: SC543**Accelerated Course #: SC542**

Recommended for grade 11-12

SCIENCE ELECTIVES**ANATOMY AND PHYSIOLOGY**

5 Credit Full Year Course
Lab Course

In this Project Lead the Way (PLTW) course, students study the structure and function of the human body. Students design experiments, conduct investigations, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal mannequin, work through interesting real world cases, and often play the role of biomedical professionals to solve medical mysteries.

Accelerated Elective #: SE553

Recommended for grades 10-12

ANIMAL BEHAVIOR

2.5 Credit Semester Course

Animal Behavior and Marine Biology are run on a two-year cycle. Animal Behavior will run during the 2026-2027 academic year. Would you like to work in a zoo? Do you want to know about careers for people that love to work with animals? Do you ever wonder how animals communicate or behave the way they do? This course will explore the answers to these questions and much more as we learn about the fascinating work of animal behavior. In this course, we will learn how animals are classified, analyze the amazing diversity of life on our planet, interpret animal communication and social structures, and explore career options in the field of animal science.

Elective Course #: SE580

Grades 9-12

ASTRONOMY

2.5 Credit Semester Course

Astronomy and Forensic Science are run on a two-year cycle. Astronomy will run during the 2025-2026 academic year. Astronomy is an elective course which offers an introduction to the study of space, stars, planets, galaxies, and the cosmic forces that shape them. Students will examine the history of astronomy, the solar system, the life cycles of stars, black holes, and the structure of the universe. Students will also learn about space exploration, telescopes, and the tools used to observe celestial objects. Through lab activities, stargazing, and interactive simulations, students will apply scientific principles to better understand the universe. This course will review pertinent science concepts from prior science courses, and serves as a way for students to combine physics, chemistry, and biology concepts through the study of astronomy.

Elective Course #: SE561

Grades 11-12

BIOMEDICAL INNOVATIONS ACCELERATED

5 Credit Full Year Course

In this capstone Project Lead the Way (PLTW) course, students apply their knowledge and skills to answer questions or solve problems related to the biomedical sciences. Students design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. Students have the opportunity to work on an independent project and may work with a mentor or advisor from a university, hospital, physician's office, or industry. Throughout the course, students are expected to present their work in a variety of formats. It is recommended that students have taken Medical Interventions and/or AP Biology prior to taking this course.

Accelerated Elective #: SC562

Recommended for Grade 12

FORENSIC SCIENCE

2.5 Credit Semester Course

Forensic Science and Astronomy are run on a two-year cycle. Forensic Science will run during the 2026-2027 academic year. Forensic science is an elective course for those who wish to study the application of science to law. This is a project-based course involving all areas of science, including biology, anatomy, chemistry, physics, and environmental studies. There is an emphasis on complex reasoning and critical thinking. Topics will include forensic science versus investigation and other scientific processes, fingerprint recovery and identification systems, lip and bite print identification, hair and fibers, body tissues and parasites, documentation, bombs, arson, and profiling. Guest speakers, when available, will share their expertise with the students.

Due to the nature of the material, a certain level of maturity is required, as well as the ability to work safely. Note: Forensic Science will not replace the college entry requirement of Chemistry.

Elective Course #: SE587

Recommended for grades 11-12

MARINE BIOLOGY

2.5 Credit Semester Course

Marine Biology and Animal Behavior are run on a two-year cycle. Marine Biology will run during the 2025-2026 academic year. Dive into the fascinating world of the ocean with Marine Biology. This course introduces students to the diverse ecosystems found in marine environments and explores the organisms that inhabit them, from microscopic plankton to massive whales. Students will study topics such as marine ecosystems, oceanography, marine organisms, coral reefs, and human impacts on the ocean. The course will also cover adaptations to life in water, marine food webs, and conservation efforts. Through lab activities, projects, and hands-on investigations, students will gain a deeper understanding of marine life and the importance of preserving ocean ecosystems. This course is ideal for students interested in marine science, environmental studies, or simply those curious about the ocean. No prior biology coursework is required.

Elective Course #: SC524

Recommended for grades 9-12

MEDICAL INTERVENTIONS ACCELERATED

5 Credit Full Year Course

Medical Interventions* (MI) is a Project Lead the Way (PLTW) course in which students investigate the variety of interventions involved in the preventions, diagnosis, and treatment of disease as they follow the lives of a fictitious family. A "How-To" manual for maintaining overall health and homeostasis in the body, the course will explore how to prevent and fight infection, how to screen and evaluate the code in our DNA, how to prevent, diagnose, and treat cancer, and how to prevail when the organs of the body begin to fail. Students practice problem solving with structured activities and progress to open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills (PLTW Course Outline).

Accelerated Elective #: SC563

Recommended for Grades 11-12

Social Studies

Our Social Studies curriculum is designed to teach and engage students in the history of the modern world, as well as in our own nation's diverse cultural and political heritage. It is through the study of the world and American history that students will begin to recognize how our nation's ideals and worldwide events have influenced the issues, institutions, and practices of modern day. It is also a focus of our curriculum to encourage and allow students to become informed and active citizens in the communities in which they live.

As freshmen, students will first explore topics in world history such as the early world empires and how these ancient regimes were toppled and overthrown as changes to government and religion dramatically reshaped the world order. New ideas on government and a citizen's place in society will be introduced in the Enlightenment and the French Revolution, planting the seeds of knowledge for the students' future studies of the birth of our own nation. Students will examine historic events, literature, art and music, and will demonstrate their knowledge through independent research, collaboration, and projects.

Sophomores will take US History I exploring the beginnings of the nation through the end of the 19th century, focusing on the issues that challenged and divided the new nation. Juniors will continue their study of history with US History II. In this course, students will dive into 20th century America, stressing the political, economic, cultural and social changes that defined America in modern times. Students in these classes will demonstrate their understanding through presentations, essays, projects and exams. Juniors also have the choice to take Advanced Placement US History, which culminates in an AP exam in May.

All students are encouraged to take advantage of the wide range of electives offered in the Social Studies department. Popular electives offered include *Exploring History Through Pop Culture*, *Modern World History*, and *Sociology & Psychology*.

SOCIAL STUDIES

ADVANCED PLACEMENT® U.S. HISTORY

5 Credit Full Year Course

Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board, and teachers must receive specialized training to teach the courses. Although it is not required, it is expected that students who take AP courses will also register for the national AP exam at their own expense. This course is organized as a survey of United States history. Students will improve their analytical skills and will be expected to make use of a variety of supplementary reading materials, while writing essays. This course is fast-paced and involves considerable textbook reading and note-taking. This course meets the Grade 11 social studies requirement when taken as a junior.

AP® Course #: SS270

Recommended for grades 11-12

U.S. HISTORY 1

5 Credit Full Year Course

Students begin with a review of the origins of the American Revolution and how ideas and goals of a democratic society translates into actions within social elements and government. Students will then examine how democratization and expansion tested the relationships between federal and state authority, and how changing roles in leadership and ideas influenced differing responses and experiences from multiple perspectives. Students will also identify and analyze how economic and technological developments in transportation, industrialization, and agriculture influenced the creation of social hierarchies as well as how the role of slavery influenced and impacted the economy and politics of the time. Students will continue to use these themes to help explore the social and political causes and consequences of the Civil War, immigration and industry. Major assessments include an independent research paper, group and individual projects, and various types of class presentations

College Prep Course #: SS233

Accelerated Course #: SS232

Grade 10

U.S. HISTORY 2

5 Credit Full Year Course

College Prep Course #: SS235**Accelerated Course #: SS234**

Grade 11

This junior course begins with a review of the effects of Industrialization on American society at the beginning of the 20th century and the Progressive reformers who sought to make positive change. It is in this unit that juniors will be introduced to their civic action project, which will be assigned and completed in Semester 2. Students will also learn about the economic history and circumstances surrounding events such as WWI, the Great Depression, New Deal, WWII and the Cold War. Other major topics of study include the Civil Rights movements, Watergate, end of the Cold War, and 9/11. Utilizing a variety of primary and secondary sources, students will engage in a variety of assignments and assessments including essays, research projects, tests, quizzes, and class presentations.

WORLD HISTORY 800-1814

5 Credit Full Year Course

College Prep Course #: SS220**Accelerated Course #: SS222**

Grade 9

In this course, students will explore the beginnings of modern Europe and the Middle East from 800 to 1814 CE. Societies began to form on the basis of ethnicities, religion, and government, leading to long lasting empires (the Ottoman Empire and Seljuk Turks) that students will trace the progress of. Major revelations and events that brought great change to Europe that will be covered include dynastic societies, the Crusades, the Renaissance, Reformation, Scientific Revolution, and the French Revolution. In this course, students will focus on developing note-taking skills which will benefit them for the remainder of the history courses that they will take throughout high school. Students will have opportunities to continually improve upon their writing skills by composing essays as well as DBQs, which will introduce them to primary sources. Group projects will be assigned to ensure that students learn how to work with others as well as fine-tuning their time management skills.

SOCIAL STUDIES ELECTIVES**ADVANCED PLACEMENT® MACROECONOMICS**

5 Credit Full Year Course

AP® Course #: SS278

Recommended for grades 11-12

AP Macroeconomics and AP Microeconomics are run on a two-year cycle. AP Macroeconomics will run during the 2025-2026 academic year. This course is an introductory college-level macroeconomics course. Students study the principles that apply to an economic system as a whole. Students will learn about the US economy by using principles and models to describe economic situations. Students will predict and explain outcomes using graphs, charts, and data as they explore concepts like economic measurements, markets, macroeconomic models, and macroeconomic policies.

ADVANCED PLACEMENT® MICROECONOMICS

5 Credit Full Year Course

AP® Course #: SS277

Recommended for grades 11-12

AP Macroeconomics and AP Microeconomics are run on a two-year cycle. AP Microeconomics will run during the 2026-2027 academic year. AP Microeconomics is an introductory college-level microeconomics course. Students will study the economic functions of individual economic decision-makers. Students will learn about how households and businesses interact in the economy using theories and models to describe economic situations and predict outcomes. Students will use graphs, charts, and data as they explore concepts like scarcity and markets; costs, benefits, and marginal analysis; production choices and behavior; and market inefficiency and public policy.

ADVANCED PLACEMENT® PSYCHOLOGY

5 Credit Full Year Course

AP® Course #: SS259

Recommended for grades 11-12

Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board, and teachers must receive specialized training to teach the courses. Although it is not required, it is expected that students who take AP courses will also register for the national AP exam at their own expense. This yearlong course will introduce students to the systematic and scientific study of human behavior and mental processes. By the end of this course, students will be able to understand the human mind and behavior and be able to figure out why people think, feel, and do what they do. Students will be prepared to take the AP exam in the spring by taking the class. The goal of this course is to provide an overview of the theory and empirical research in the field of psychology. Students learn the various methods psychologists use in their practice. Students will follow in the footsteps of psychologists and be asked to question, develop theories, and conduct experiments to better understand human behavior.

AMERICAN GOVERNMENT and POLITICS

5 Credit Full Year Course

In this accelerated level course, students will revisit and review the founding documents of the United States and Massachusetts with an emphasis on understanding their relevance and impact on policies and politics in the present. Students will explore what it means to be an active and informed citizen as well as developing an opinion on how involved America should be in world affairs. This course is designed around supporting questions that are intended to stimulate teachers' and students' own questions for discussion and research. Some of these questions include "How are the founding principles reflected in contemporary debates over the role of government?" and "What are the roles of political parties, interest groups, and media in influencing public policy?" Major assessments will include classroom debates and discussions as well as a research based opinion paper on a contemporary political issue of the students' choice.

Accelerated Elective #: SS246

Grade 12 only

ECONOMICS

5 Credit Full Year Course

This accelerated level course introduces students to the building blocks of our economy. Students will learn how individuals and businesses interact in the marketplace. Key concepts include supply and demand, the labor market, money and banking, and the role of individual businesses in our economy. In addition, this course provides an introduction to key concepts of economics as a whole. Students will study how GDP, unemployment, and income are measured in our country. Students will also learn about economic booms and busts and policies that are used to reduce the negative impact of those fluctuations. Finally, the course will study the impact of globalization on the world economy. Students will learn these concepts in both theory and real-world applications.

Accelerated Elective #: SS254

Recommended for grades 11- 12

ENGAGING OUR COMMUNITY

2.5 Credit Semester Course

This half-year elective, open to 11th and 12th graders, is designed to help build a connection between students and our community. Students will research and report on topics that impact both our school and our surrounding towns. The topics covered will shine a light on activities and news in our school, as well as inform students about opportunities and issues beyond our walls. The class will investigate these topics in a variety of ways, including interviews, surveys, and observations. Students will then share their findings utilizing technology to create media presentations in a number of different formats. Possible projects include making short films, news broadcasts, and promotional materials that inform and highlight individuals, programs, and events in our district and towns. There will be a strong focus on encouraging students to become positive forces and active citizens in their communities. This project based course will require active participation from all class members.

Elective Course #: SS250

Recommended for grades 11-12

EXPLORING HISTORY THROUGH POP CULTURE

2.5 Credit Semester Course

Comic books, graphic novels, and pop culture often parallel or adapt to the real world events surrounding them. In this course students will critically analyze eras of history, people, and characters spanning the 1930s to present day through the medium of comics, graphic novels, music, movies, and pop culture. Assignments include creating your own comic complete with writing and sequential art, developing podcasts, videos, and other multimedia projects as well as strengthening writing and research skills.

Elective Course #: SS239

Recommended for grades 9-10

JUSTICE AND THE LAW

2.5 Credit Semester Course

Justice and the Law is a semester long social studies elective that serves as an introductory course to law and legal systems in the United States. During the semester, students will cover topics such as Introduction to Law, Constitutional Law, Criminal Law, and Civil Law and learn how they apply to real life situations. Students will learn through the use of case studies, research projects, group discussion/debate, guest speakers, and mock trials throughout the year in this engaging class.

Elective Course #: SS251

Recommended for grades 9-10

MODERN WORLD HISTORY

5 Credit Full Year Course

This elective will allow students to study and put into context many of the major issues of our world today. Each topic will be looked at with a historical perspective in an effort to better understand how and why these current events have taken place. Spanning events across the globe with a focus on 1950-present, topics and current issues to be covered include: the Middle East, the Cold War, the Vietnam War, modern Russia, and the current Age of Terrorism. Each unit will conclude with how the issue affects our present world economically, socially, politically, and militarily. Instructional activities and assessments will include individual and group projects, classroom simulations, primary source activities, film discussions, and various writing assignments.

Elective Course # SS225

Recommended for grades 11-12

SOCIOLOGY & PSYCHOLOGY

5 Credit Full Year Course

Elective #: SS282

Recommended for grades 11-12

This full year course is designed to give a general introduction into the fields of psychology and sociology. The field of psychology helps us to understand our human behavior and mental processes from an individual point of view. Major topics will include origins of psychology, their research methods, biological psychology: our brain, states of consciousness: sleep, dreams, and effects of drug use, and cognition: memory. The field of sociology can help us to understand ourselves better as we examine how the social world influences the way we think, feel, and act. Major topics will include origins of sociology, their research methods, socialization, deviance, and social inequality. The purpose of this course is to provide a window into the fields so we can better understand ourselves and the world around us. Group interaction, discussion, and reflection are core expectations for students enrolled in the course.

Special Education

All students at North Middlesex Regional High School, including students identified with special learning needs, are enrolled in courses aligned with the academic standards in the Massachusetts Curriculum Frameworks. The Special Education Department at North Middlesex Regional High School implements the Massachusetts Curriculum Frameworks by providing active student involvement in the subject matter directly connected to the common core of learning. Students identified with special learning needs through the evaluation process will access instructional materials and information through various means to proactively target skills. The Special Education TEAM will determine specific classes for each student. If you have any specific questions about your child's schedule, please contact Kristi Montolio, Special Education Department Chair at kmontolio@nmrsd.org or call 978-597-8721 and ask for Kristi.

Specialized Programs

ACADEMIC ESSENTIALS

2.5 Credit Semester Course

Course #: SP914

Students will enroll in a specialized learning center based on their Individualized Education Program. Students will receive support based on their individualized goals identified in their IEP. This class also focuses on the development of study, comprehension and retention strategies, and organizational skills needed to improve performance in content area classes. Students enrolled in the class must have Academic Assistance on their service delivery grid and will work with Special Education staff to make progress towards their executive functioning goals.

ENGLISH LANGUAGE LEARNING 1 - Foundational

Course #: EN187

5 Credit Full Year Course

This course introduces Foundational level English Learner (EL) students to basic structures and vocabulary of the English language through the skills of reading, writing, speaking and listening. EL students learn strategies to advance their reading, listening, and pronunciation skills. They expand oral comprehensibility and write complete sentences, a standard paragraph, and short content-based essays. They utilize level-appropriate conventions of grammar and punctuation with a minimum of errors. This course contributes to skills needed in mainstream classes.

ENGLISH LANGUAGE LEARNING 2 - Transitional

Course #: EN188

5 Credit Full Year Course

In this course, Transitional English Learner (EL) students discover how to use and extend their vocabulary, grammar, and communication skills more consciously and effectively for academic purposes. This course is similar to a mainstream English course in that students analyze classic literature and write multi-draft essays of various forms. Students participate in whole-class and small-group academic discussions. This course contributes to skills needed in mainstream classes and higher education.

EXTERNSHIP

2.5 Credit Semester Course

Grade 12 only

5 Credit Full Year Course

Elective Course #: CS991

Elective Course #: CS990

Juniors with a "C" average or better may apply to complete an External Internship (outside of NMRHS) in their senior year. This elective course is an opportunity for students to gain valuable experience in a potential college major field of study. Students will propose the location of the external internship and submit appropriate documentation showing approval by the prospective company. Interested students must have reliable transportation. Program requirements will include work logs, reflections and site check-ins. Students will be expected to intern for five hours per week per block. Due to the rotating schedule at NMRHS, hours may be completed after school or on weekends. Approved students may sign in late, sign out early or use the designated block as a study time in the NMRHS library. Applications will be approved by parents, school counselor, as well as the externship coordinator. Externship is open to students who are in good standing in academics, attendance, and conduct

Independent Education Center

Course #: SP967

2.5 Credit Semester Course

Grades: 9-12

This course is designed to provide students with specifically designed instruction focusing on new skills and strategies to understand themselves as learners and self-identify a goal for independent learning. This class also focuses on the development of study, comprehension and retention strategies, and organizational skills needed to improve performance in content area classes with the support of special education staff. A variety of methods including breaking assignments into manageable steps, re-teaching, and guided practice are incorporated into the daily curriculum. This course is not designed for students who are actively taking Advanced Placement or Accelerated courses.

INTERNSHIP

Elective Course #: CS264

Credits: varies

Recommended for grades 11 & 12

This program is an occupational internship, which provides students with "hands-on" work experience. Students are encouraged to locate a site related to their career interests. Educational and professional, as well as occupational experiences are the responsibility of the student. Internship is open to students who are in good standing in academics, attendance, and conduct. Students must complete proper paperwork with the assistant principal and school counselor before signing up for the course.

VIRTUAL HIGH SCHOOL (VHS)

2.5 Credit Semester Course

5 Credit Full Year Course

Recommended for grades 11-12

Virtual High School is a rigorous online learning opportunity. Over 250 semester, full year, and Advanced Placement courses are offered. To see the entire list of courses, go to www.govhs.org and click on the Program Catalog. Courses follow a set academic calendar, but students can complete their work online at any time of day or night, as long as they meet their specified due dates. Online learning is tailored to self-motivated, dedicated, hard-working students who are interested in challenging themselves. Paperwork is available in the library and spots are limited.

Visual Arts

The Visual Art Department provides courses that range from introductory/foundations in traditional and digital media through Advanced Placement offerings. The sequential curriculum is designed to build a body of knowledge in all the visual art disciplines -- ceramics, drawing & painting, and graphic design. Students gain practical skills and the opportunity for real-world experience via exhibitions, state and national competitions, community partnerships, etc. The Visual Art department provides support for students who plan on pursuing a career in art by assisting students in preparing an art portfolio for college admission, and facilitating guest visits and presentations from leading art colleges.

GENERAL ARTS

The following art courses can be taken without having completed any prior art courses.

PHOTOGRAPHY

2.5 Credit Semester Course

Elective Course #: VP780

Grades: 11-12

This introductory class will study and practice the basic techniques of photography. Students will learn the art and history of photography. Students will learn to control, and manage a 35mm digital DSLR camera. Students can expect to use class time to take pictures with a digital 35mm DSLR camera provided by the school. Cameras may not be taken off campus.

Students should expect to participate in-group critiques and in all classroom demonstrations. This course will help students become familiar in the fundamentals of digital photography and critique. Four areas of instruction will be emphasized: How cameras work, the rule of thirds, how lighting effects and image, how to use Adobe Photoshop for basic editing skills. Students will receive instruction, demonstrations, and see samples of the desired outcomes, at the beginning of each period.

At the end of this course, you will:

- Know how to use various technical features of the camera to have creative control of your photographs.
- Be able to decide what type of lighting to use in a given situation to produce optimum results.
- See how photographic composition can influence the viewer
- Understand how to use Adobe Photoshop to improve the overall appearance of images

FINE ARTS

The following art courses provide sequenced instruction for learners to continue to build a body of knowledge in each discipline.

FOUNDATIONS OF ART

2.5 Credit Semester Course

Elective Course #: VP826

Recommended for grades 9-12

The focus of this course is to develop the artistic skills and techniques required for further study in the visual arts. In this combined academic/studio art course, the student will be introduced to the fundamental components of visual art through the study of the elements of art and principles of design. Through project-based experiences, students will explore a variety of materials while learning skills in areas of observational drawing, color theory & painting, linear perspective, and sculptural activities. Sketchbooks will be used for practice and proficiency activities. Students will be required to use the course textbook to read and complete supplemental course work; complete homework assignments; and conduct research. **This course is necessary for those who plan to continue their study of art in the upper-level courses such as Ceramics and Drawing & Painting.**

CERAMICS 1

5 Credit Full Year Course

Elective Course #: VP860

Recommended for grades 10-12

This course is open to students who have completed Foundations of Art. The Foundations of Art requirement can only be waived through portfolio review. Students in Ceramics 1 will explore three-dimensional design using clay as the medium, with an emphasis on the fundamentals of formation, surface design, and glaze applications. Students will create both functional and decorative sculptural pieces through traditional hand-building techniques (pinch, slab, coil, and press/drape molds) with a focus on technique and craftsmanship. Learning will occur within the context of art history/culture and criticism. Students will be required to know and use art and ceramics terminology; maintain a sketchbook for drawing practice and project planning activities; complete homework assignments, and conduct research.

CERAMICS 2

5 Credit Full Year Course

This course is open to students who have completed Ceramics 1. This course continues the progressive development of technical skills learned in Ceramics 1 with a focus on advanced hand-building techniques and introduction to wheel throwing. Students will be expected to demonstrate initiative, commitment, and experimentation with an emphasis on the development of personal style. Students will explore conceptual problem solving through more involved and complex assignments, and will experiment with slips, resists, and layered finishing techniques. Learning will occur within the context of art history/culture and criticism. Students will be required to know and use art and ceramics terminology; maintain a sketchbook for drawing practice and project planning activities; complete homework assignments, and conduct research.

Elective Course #: VP864

Recommended for grades 11-12

CERAMICS 3: WHEEL THROWING

2.5 Credit Semester Course

This course is open to students who completed Ceramics 2, and is dedicated to working strictly on the pottery wheel. Students will continue the progressive development of wheel throwing skills learned in Ceramics 2 with a focus on more technically challenging wheel thrown forms (bowls, mugs, plates, vases, pitchers, etc). Students will explore approaches to making larger works, a series of forms, altering and combining forms, trimming techniques, and working with various surface decorations/glaze applications. Learning will occur through demonstrations and critiques (individual and group), and within the context of art history/culture, and criticism. Students will be required to know and use art and ceramics terminology; maintain a sketchbook for drawing practice and project planning activities; complete homework assignments; and conduct research. This course can be repeated for credit for students willing to work at a more challenging pace.

Elective Course #: VP865

Grades: 11-12

DRAWING & PAINTING 1

5 Credit Full Year Course

This course is open to students who have completed Foundations of Art. Using skills and techniques acquired in Foundations of Art, students will continue to develop their technical abilities in drawing from observation and imagination. Students will be introduced to drawing and painting styles and methods, both traditional and contemporary, with an emphasis on expressing ideas through various media. The mediums used in this class may include graphite, pen & ink, ink wash, charcoal, pastels, colored pencils, acrylics, oils, watercolors, and mixed media. Learning will occur within the context of art history/culture and criticism. Students will be required to maintain a sketchbook within and outside the classroom, complete homework assignments, and conduct research.

Elective Course #: VP829

Recommended for grades 10-12

DRAWING & PAINTING 2

5 Credit Full Year Course

This course is open to students who have completed Drawing & Painting I. This course furthers the development of skills and techniques learned in Drawing & Painting I. Students will focus on the development of a personal style and originality of concepts and images through more involved and advanced assignments, with an emphasis on higher level thinking skills and aesthetics. Traditional and experimental techniques will be explored using a wide variety of drawing and painting media. Learning will occur in the context of art history/culture and art criticism. Students will be required to maintain a sketchbook within and outside the classroom, complete homework assignments, conduct research, and participate in written and oral critiques.

Elective Course #: VP840

Recommended for grades 11-12

DRAWING & PAINTING 3

5 Credit Full Year Course

This course is designed for students who have completed Drawing & painting 2, and wish to continue their study of art, whether to prepare for a career path or to simply develop their skills and techniques at the next level. Students will focus on developing a body of work in a series, using mediums of their choice. Originality of concepts and images through more involved and advance assignments will be emphasized. Students may build a portfolio of work for the college application process. Learning will occur in the context of art history/culture and art criticism. Students will be required to maintain a sketchbook within and outside the classroom, complete homework assignments, conduct research, and participate in written and oral critiques.

Elective Course #: VP835

Recommended for grade 12

GRAPHIC ARTS

The following art courses provide sequenced instruction for learners to continue to build a body of knowledge in each discipline.

FOUNDATIONS OF GRAPHIC DESIGN

2.5 Credit Semester Course

Students will learn the basic principles of design, composition, and color theory in this introductory course. Projects and class meetings will be structured to help students develop a design concept using the elements of art. The goal of this course is to provide a rigorous understanding of these foundational principles and skills, which will then serve as a strong base for all future graphic design work.

This course is necessary for those who plan to continue their study of art in upper-level graphic design courses.

Elective Course #: VP733

Recommended for grades 9-10

GRAPHIC DESIGN 1

5 Credit Full Year course

This course is for students who have successfully completed Foundations of Graphic Design. Students will engage in a continuing examination of principles of design, spatial relationships, typography and imagery as they apply to practical visual solutions for print and web. Color theory and composition techniques are explored and practiced. Adobe Illustrator and Photoshop are used as the design media for all projects.

Elective Course #: VP731

Recommended for grades 11-12

GRAPHIC DESIGN 2

5 Credit Full Year course

This course is for students who have successfully completed the full year Graphic Design 1 course. This course is designed for students with interest in art and design as a career choice. Emphasis is on the development of strong concepts and how to communicate persuasively and effectively. Graphic Design students should have strong Adobe Illustrator / Photoshop skills.

Elective Course #: VP732

Recommended for grades 11-12

ADVANCED PLACEMENT ARTS

ADVANCED PLACEMENT 2-D Art and Design

ADVANCED PLACEMENT 3-D Art and Design

5 Credit Full Year Course

Admission to this course is by Portfolio Review only. Students taking AP 2-D Art and Design must have completed Drawing and Painting 1 and 2 or Graphic Design 1 and 2. Students taking 3-D Art and Design* must have completed Ceramics 1 & 2. (*Note: Student who select any 3-D approach other than ceramics must provide their own materials.) **Students enrolled in this course must meet with the instructor during the fourth quarter of the preceding school year to discuss requirements and receive summer assignments.**

AP® Course #: VP839

AP® Course #: VP841

Recommended for grades 11-12

This course is designed for students seriously interested in the study of visual art, who anticipate entrance to college with a major or minor in the visual arts. It has the rigor of a college-level course, and all assignments require significant additional time/work beyond class time to complete. AP Art and Design is not based on a written exam; instead, students submit portfolios for evaluation to the College Board. Students create a portfolio of work to demonstrate inquiry through art and design and development of materials, processes, and ideas over the course of a year. Portfolios include works of art and design, process documentation, and written information about the work presented. In May, students submit portfolios for evaluation based on specific criteria, which include skillful synthesis of materials, processes, and ideas and sustained investigation through practice, experimentation, and revision.

World Languages

Students must earn a minimum of 10 credits in the same World Language (at the high school level) to fulfill MassCore and college admissions requirements. However, it is strongly recommended if a student is planning on attending college that the student continues to study the same language for all four years of high school. When a student enrolls in a World Language course, he or she can view the world with a broader mindset. The study of language and culture allows students to appreciate the rich diversity of the world in which they live and will work. Students who intend to pursue a language related career should study an additional language.

FRENCH

FRENCH 1

5 Credit Full Year course

The French 1 course focuses on the active use of French, and develops the basic skills of listening, speaking, reading, and writing, along with an introduction to the culture and diversity of France and the French-speaking world. Students are expected to use familiar vocabulary and expressions to communicate in French. Students are taught using authentic resources as much as possible, such as songs, poems, and video clips, and practice their skills through games and guided exercises. Units of study are divided into themes, such as family and community, contemporary life, and celebrations. Assessment will consist of practical tasks, such as having a conversation, culture research projects, and describing a scene. By the end of French 1, students are expected to communicate using simple sentences.

College Prep Course #: WL410

Recommended for grades 9-12

FRENCH 2

5 Credit Full Year course

French 2 students will continue to build on what they have learned in French 1, but with greater detail, and will improve their speaking, listening, reading and writing skills in French. Students are expected to use familiar vocabulary and expressions to communicate. They will understand spoken French with sufficient accuracy to grasp the main idea, and will be able to have short conversations with a native speaker relating to everyday life. They will continue to explore the culture and diversity of the French-speaking world. Students learn and practice the language through a variety of ways, such as movie talks, reading and writing stories, and listening to music. Units of study are divided into themes, such as art and architecture, and global challenges. Assessments will be real-world tasks, such as communicating with a native speaker, discussing future plans, ordering food in a restaurant, and researching a French city.

College Prep Course #: WL420

Accelerated Course #: WL424

Recommended for grades 10-12

FRENCH 3

5 Credit Full Year course

French 3 students continue to build on their reading, writing, speaking, and listening skills within a current cultural context. They will study the language through authentic texts, such as poems, and adapted texts, and will continue to learn through guided writing, conversation circles, video clips, and pair activities. Assessments reflect real-life situations in order to make students' experience as authentic as possible, such as buying new clothes, and discussing a trip. Students will use their skills to explore their interests, in order to develop cultural awareness and sensitivity.

Accelerated Course #: WL430

Recommended for grades 11-12

FRENCH 4

5 Credit Full Year course

French 4 students actively participate in the functional use of the French language by interacting with their peers and teacher in French, and studying authentic sources such as music, newspaper articles, and literature. Students study French cinema and current events, and will continue to learn through guided writing, conversation circles, video clips, and pair activities. Assessments are based on practical tasks, such as making a video to share, writing a critique, and responding to questions. Students will be able to communicate using complex sentences. Units of study are based on themes, such as science and technology, and contemporary life.

Accelerated Course #: WL440

Recommended for grade 12

SPANISH

SPANISH 1

5 Credit Full Year course

This course is intended for students who have never studied Spanish or who have studied another World Language. It is designed to introduce students to the Spanish language and culture. In this entry-level course, the emphasis is placed on the important role that Hispanics play in the United States today. Students practice vocabulary and grammar concepts in guided and structured exercises both oral and written. In addition to daily homework assignments and class participation, student assessments may include written and oral quizzes and tests, conversation, presentations, and projects. The goal of this course is to develop students' second language skills to prepare them for a successful transition to Spanish II. Students are expected to use familiar vocabulary and expressions to communicate in the target language.

College Prep Course #: WL411

Recommended for grades 9-12

SPANISH 2

5 Credit Full Year course

Students who enroll in this course continue to develop their communication skills in listening, reading, writing and speaking by acquiring and using modern vocabulary. In this beginning level course, new grammatical concepts continue to focus on basic communication. Students participate in structured and guided exercises, both oral and written, to practice new vocabulary and grammatical concepts. Assessments, both daily and long-term, are designed to strengthen and improve language skills. A variety of assessments may include written and oral quizzes and tests, conversations, presentations and projects focusing on unit themes. Students are expected to use level-appropriate language to communicate.

College Prep Course #: WL421

Accelerated Course #: WL425

Recommended for grades 9-12

SPANISH 3

5 Credit Full Year course

Students who enroll in this course begin to apply their skills in listening, speaking, reading, and writing while developing cultural sensitivity to the everyday activities of Spanish-speaking countries. Students improve their skills through individual, pair or group activities, conversations, presentations, and guided writing activities, to communicate in authentic, real-life situations. A variety of cultural materials supplement the curriculum. Assessments focus on listening, speaking, reading, and writing skills.

College Prep Course #: WL434

Accelerated Course #: WL431

Recommended for grades 10-12

SPANISH 4

5 Credit Full Year course

Spanish is the primary language of instruction in this course. Discussions, note taking, writing samples, and extemporaneous conversations in Spanish are requirements. Students expand their vocabulary, participate in authentic oral/aural situations, and practice advanced grammatical concepts. Students read a variety of literature, which may include poetry, short stories, biographies, and legends. Listening comprehension activities, oral presentations, and writing assignments are some of the criteria used to assess a student's progress. Effective communication is the major goal of this course. Reading Selections include *Leyendas Norteamericanas* and *Lazarillo de Tormes*.

Accelerated Course #: WL441

Recommended for grades 11-12

ADVANCED PLACEMENT SPANISH LANGUAGE AND CULTURE

5 Credit Full Year course

Advanced Placement Courses provide an opportunity for students to experience a college course while still in high school. AP courses follow a syllabus that has been approved by the College Board, and teachers must receive specialized training to teach the courses. It is expected that students who take AP courses will also register for the national AP exam at their own expense. The AP Spanish Language class covers the equivalent of a third-year college-level course in advanced Spanish reading, writing, and conversation. It encompasses aural/oral skills, reading comprehension, grammar, and composition. Emphasizing the use of Spanish for active and effective communication, the students will have the following goals:

AP® Course #: WL490

Recommended for grades 11-12

- 1) To comprehend formal and informal spoken Spanish
- 2) To express ideas orally with accuracy and fluency
- 3) To acquire vocabulary and to understand grammatical structures
- 4) To compose expository and creative passages
- 5) To read critically

Assessment is an ongoing process that focuses on the language skills evaluated on the AP Spanish Language test. Students will write essays, prepare speech samples and engage in listening and audiovisual comprehension activities.

WORLD LANGUAGE ELECTIVES

HISPANIC FOLKTALES

5 Credit Full Year Course

Students who enroll in this course continue to develop second language proficiency in listening and speaking, and will strengthen reading and writing skills through the study of bilingual Hispanic folktales. Students will develop a deeper understanding of culture through comparisons of the target culture and their own. For example, they will identify the various cultural aspects of selected folktales, including recurring themes, attitudes, and social mores. Classroom discussion will be used to analyze folktales and link present day cultural situations. Based on what they learn, students will write their own brief Hispanic-style folktale and may engage in role-playing activities. The language of instruction will depend on the level of the students. Reading selections include *Historias de Espana* and *Historias de Mexico*.

*Prerequisite: Spanish 2 #WL421 or Spanish 2 Accelerated #WL425

Elective Course #: WL443

Recommended for grades 10-12

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