

# MERRIMACK



# HIGH SCHOOL

PROGRAM OF STUDIES

2022-2023



**MERRIMACK HIGH SCHOOL**

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January 2022

Dear Students,

Over the course of your years at Merrimack High School, your course selections will give you the framework on which you will build your future. Our curriculum has been designed to prepare you for further education, entry into the work world, or other areas of interest and training.

In the 2022-2023 Program of Studies you will find a wide array of course offerings, including subjects with which you may be familiar and others which you have never explored.

Remember, forethought and planning are key components to having a successful high school experience. To this end, we encourage you to read through the course descriptions carefully and thoughtfully. As you consider your course selections, please remember that many people are available to assist you with your choices and decisions, including school counselors, teachers, and administrators, as well as your parents and guardians.

Mapping out an appropriate set of classes means meeting graduation requirements and choosing enrichment courses that are both realistic in content and demanding in scope. We encourage you to take full advantage of these opportunities *and to select the most challenging academic program* you possibly can.

Sincerely,

Steve Claire  
Interim Principal

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# USING THE PROGRAM OF STUDIES

Students are expected to give serious consideration to their course selections. Students should involve parents, teachers, counselors, and case managers in their decision-making process. Once a student has selected his/her courses and has returned the pre-enrollment form, he/she is expected to follow through with the original course selection.

Scheduling errors will be adjusted by the counselors before the beginning of school. Course issues and concerns should be brought to the counselor's attention as soon as they occur. When necessary, guidance and administration will determine the best method to resolve scheduling issues.

## COURSE LEVELS

	FOUNDATIONS	COMPREHENSIVE	HONORS/AP
<b>Goals of Course</b>	To develop reading, verbal, writing, study skills and content knowledge; to apply skills to assignments and/or problems; to prepare students who plan to further their education or enter the world of work.	To develop higher level reading, verbal, writing, study skills, and content knowledge; to develop abstract, complex language and concepts through application to problem solving; to prepare students who plan on post-secondary education including four-year colleges.	To develop advanced thinking, reading, verbal and writing skills; to develop understanding of complex concepts and themes through extensive investigation and sophisticated language and subject matter; to prepare students who plan to attend a four-year college.
<b>Prerequisite Skills</b>	Low average to average reading, writing, math, listening, and/or study skills.	Average (grade level) to above average reading, writing, math, listening, and independent study skills.	Teacher recommendation; highly developed academic and independent study skills. High degree of motivation.
<b>Methodology</b>	Instruction includes frequent student-teacher interaction, a multi-sensory approach, and practice and application of skills at a moderate rate of instruction.	Instruction assumes students are able to master content and concepts with little supervised practice and/or re-teaching. Students must be ready for independent application of skills and concepts. The rate of instruction is brisk.	These advanced courses are taught at an accelerated pace. Students must be able to conduct complex research projects and apply skills and concepts independently.
<b>Assignments</b>	Structured reinforcement and extension of taught concepts and skills with moderate independent reading and use of resource materials.	Independent study and research, critical analysis as well as reinforcement and extension of text and resource materials.	In-depth analysis and synthesis of concepts and skills. This requires identification and independent use of resources beyond textbook/class materials.
<b>Evaluation</b>	Written/oral tests, practical applications, research reports, projects, and demonstrations.	Written/oral tests, practical applications, independent research reports, projects and demonstrations.	Written/oral tests, practical applications, independent, complex research projects/reports and demonstrations.

### NON-LEVELED COURSES

These courses are not weighted and are not included in the student's grade point average (GPA).

# GRADUATION INFORMATION

## MINIMUM REQUIREMENTS FOR GRADUATION

All students must earn a minimum of 21 credits in order to graduate.

### Credits

4.0	English (9, 10, 11, 12)
2.5	Social Studies <ul style="list-style-type: none"><li>• 1 Credit in United States History</li><li>• ½ Credit in Civics and Government</li><li>• ½ Credit in Economics</li><li>• ½ Credit in World Studies, World History, Contemporary Issues</li></ul>
3.0	Math
2.0	Science <ul style="list-style-type: none"><li>• 1 Credit in Physical Science</li><li>• 1 Credit in Life Science</li></ul>
0.5	Health
1.0	Physical Education
0.5	Fine Art (Includes Art, Music, and some Technology Education classes)
0.5	Information Computer Technology (ICT)
7.0	Electives
<hr/>	<hr/>
21.0	Total Credits

**Note:** Pursuant to NHDOE Ed 306.27 “*Students shall engage in learning concerning competencies in English/Language Arts and mathematics for every year they are in high school until graduation, regardless if English/Language Arts or mathematics graduation competencies have been achieved. Such engagement may occur through integration of these graduation competencies in courses focused on content areas other than English or mathematics as long as English or mathematics competencies are clear expectations of the course.*” Students should see their School Counselor for additional information.

## DIFFERENTIATED DIPLOMAS

Merrimack High School offers a standard diploma and a modified curriculum diploma.

### Standard Diploma

A standard diploma will be issued to students who successfully complete 21 credits and meet the specific course requirements as delineated above. Meeting such requirements may include individually determined modifications to instructional and assessment methods.

### Standard Diploma with Honors

A standard diploma with honors will be issued to students who meet the above criteria and are in the top 15 percent of the graduating class as determined by the weighted grade point average (GPA).

### Modified Curriculum Diploma

A modified curriculum diploma is available only to those students who are unable to fulfill the requirements for a standard diploma even with reasonable accommodations, modifications, and supports. A student’s eligibility to pursue this option will be determined by his/her IEP team. A modified curriculum diploma will be issued when the course performance expectations have been fundamentally and substantially modified and the student has:

1. Completed a minimum of four years of high school.
2. Met the requirements of his/her Individualized Education Plan (IEP) as determined by the IEP team.
3. Or completed a program which was reviewed and approved by the Academic Review Council.

## CREDITS

Merrimack High School grants credit at the end of each semester for both year and semester long courses. Year-long classes are broken up into two individual semesters. Students are expected to pass each semester and meet all course competencies in order to obtain full credit for the course.

## AUDIT PROCEDURES

A student may elect to audit a course with permission from the student's parent/guardian, school counselor, department head, and administrator. To be eligible for an audit, a student must be enrolled in the minimum course load for the student's current grade. The student must receive approval to audit a course prior to the start of each semester and is expected to complete all class assignments.

An audit can serve several purposes for the student: the opportunity to retake courses where credit has been earned in order to improve his/her preparation for the next sequential course, determine interest for future study, and experiment in various areas of the high school curriculum.

A grade of "AU" will be noted each quarter on the student's report card and transcript, which will neither impact the student's grade point average (GPA) nor earn credit. Please see your School Counselor for additional information.

## COMPETENCY-BASED GRADING

MHS departments have defined competencies for each course offered. Students will receive the traditional grade and credit only when he/she meets the competencies. **If any course competency is not met, the student will receive an asterisk (\*) in place of the final grade indicating that coursework has not been completed. Students will have one quarter to remediate competencies.**

Attempts at remediation for the failed competency/competencies can be via assistance labs, credit recovery, Evening Academy, Nova Net, Summer School, etc. Course credit will be based on the current MHS grading system.

# COLLEGE ADMISSIONS

## RECOMMENDED COURSE PLANNING FOR COLLEGE ADMISSION

If students are considering a two- or four-year college as a goal upon graduation, the MHS Guidance Department recommends the following for a course of study:

English	4 year
Laboratory Sciences	minimum 3 years; 4 is strongly recommended
Mathematics	4 years
Social Studies	minimum 3 years; 4 is strongly recommended
World Language	minimum 2 years; 3 is strongly recommended

While there is no guaranteed formula for college acceptance, the above minimums reflect what most colleges require for entrance with an undeclared major. Additional courses may be indicated if a student has interest in pursuing a specific major upon graduation. College admissions officers also urge high school students to pursue the most challenging courses they can take while still being successful. In that regard, MHS offers many honors and AP level courses in a variety of subjects. Students should work with their school counselor to develop a plan beyond the minimum graduation requirements.

### NCAA ELIGIBILITY

Prospective student-athletes who plan to participate in intercollegiate athletics at a NCAA Division I or II institution must register online with the NCAA Eligibility Center at [www.eligibilitycenter.org](http://www.eligibilitycenter.org). It is important that prospective student-athletes understand the NCAA Freshman-Eligibility standards found on the website as well as the approved NCAA courses for our school. The MHS high school code is 300405.

Please note that Summer School courses may not meet the eligibility requirements for the NCAA regardless of level. Please refer to the NCAA guide for the College Bound Student-Athlete for information regarding credit recovery programs.

**It is the responsibility of the student and parents/guardians to meet the NCAA guidelines for athletic participation. The Merrimack High School Athletic Department is available to answer any questions you might have during the process.**

# SPECIAL PROGRAMS

## SUMMER INSTITUTE PROGRAM

**Credit Recovery** courses are available for students who have failed a class during the regular school year. Classes are tuition based and run two hours per day during a six-week session. Two class sessions are offered each day in the following subject areas: English (9, 10, 11, & 12), Algebra 1, Geometry, Physical Science, Biology, United States History, Economics, Civics, and World Studies. The Summer Institute begins in the last week of June and finishes in the first week of August.

The **8.5 Summer Academy** is available for all incoming 9<sup>th</sup> grade students to improve and build upon academic and enrichment skills prior to entering Merrimack High School in the subject areas of English, Math, Science, and Social Studies. This program is tuition free and awards elective credits to students who successfully complete the six-week program. Transportation is only provided for 8.5 Summer Academy students.

To acquire more information, contact your school counselor or the Summer Institute director.

## EVENING ACADEMY

The Evening Academy is an option for a student to earn make-up credit to help fulfill graduation requirements. Brochures are available at the beginning of each school year stating what courses are available each semester. Classes follow the school calendar. Students receive a .5 credit for each class that is successfully completed. All classes are weighted at the credit recovery level. Students may not repeat classes that they have previously passed.

## INDEPENDENT STUDIES

Students who have exhausted all course offerings in a department may investigate independent studies by contacting the department head. Independent Study forms are available in the Guidance Department. Your School Counselor determines if the student is eligible. The supervising teacher and the student complete the I.S. form. Signatures are needed by Department Head, parent and teacher. Final approval will be determined by the Assistant Principal of Curriculum. All courses must be approved prior to the beginning of the semester.

## ON-LINE AND VIRTUAL LEARNING

**Any student who would like to use credits obtained from on-line or virtual courses towards a Merrimack High School diploma must receive permission prior to registering for the course/credits.** The student must meet with their School Counselor to notify them of their intention to enroll in an on-line learning experience and to discuss the use of these credits towards their graduation requirements. The requested courses/credits must be approved by the department head in the related discipline. It is the student's responsibility to provide the official grade transcript to their school counselor which will allow for the recognition of successful completion of the course. The grade and resulting credit will be entered into the student's record at the end of the semester in which it was completed.

## ACADEMY OF BUSINESS AND FINANCE

The Academy of Business and Finance is a nationally acclaimed, industry-validated curriculum model sponsored by the National Academy Foundation. The program focuses on preparing students for careers in financial services, including course work in areas such as banking and credit, securities insurance and financial planning. AOBF helps develop young people for careers in the challenging financial services industry. The program requires students to complete rigorous course work and to participate in a summer internship after their junior year with a local employer. Students who successfully complete the program will be awarded a certificate and will be prepared for college or an entry level position in financial services. Students will also receive a ½ Internship credit. Students are also eligible for local and national scholarships. Required AOBF courses include Accounting 1, Accounting 2, Banking & Credit, International Finance, and Securities, Insurance and Financial Planning.

## **NASHUA REGIONAL CAREER & TECHNICAL PROGRAM**

Merrimack High School students entering their junior year are eligible for the two-year career and technical education program at the Nashua Technology Center located at Nashua High Schools North and South. Students must complete the necessary application materials during the pre-enrollment period in their sophomore year. The courses prepare the student with entry level skills in a variety of fields. Transportation is provided by the Merrimack School District. At least three class periods are needed to include travel time to and from Nashua. For further information, please contact the Director of School Counseling. Programs include:

- Automotive Technology
- Biotechnology
- Careers in Education
- CADD
- Computer Networking
- Construction Technology
- Cosmetology
- Culinary Arts
- Electrical Trades
- Financial Services
- Health Sciences
- Marketing
- Precision Machining
- Pre-Engineering
- Video Production and Broadcasting

## **ALVIRNE REGIONAL CAREER & TECHNICAL PROGRAM**

Merrimack High School students entering their junior year are eligible for the two-year Career and Technical program at Alvirne High School. Students must complete the necessary application materials during their pre-enrollment period in their sophomore year. The courses prepare the student with entry level skills in a variety of fields. Transportation is provided by the Merrimack School District. At least three class periods are needed to include travel time to and from Alvirne. For further information, please contact the Director of School Counseling. Programs include:

- Academy of Finance
- Accounting
- Air Force JROTC
- Building Trades
- Careers in Education
- Computer Science
- Culinary Arts
- Digital Media
- Drafting and Design
- Forest and Wildlife Management
- Health Science and Technology
- Heavy Duty Mechanics
- Marketing
- Pre-Engineering
- Veterinary Science
- Welding Technology

## **NEW HAMPSHIRE COMMUNITY TECHNICAL COLLEGES Running Start Program**

In cooperation with the New Hampshire Community Technical Colleges, certain sections of Merrimack High School courses will award both high school and college credit. The Running Start program gives seniors a chance to earn college credit while still attending high school.

## **SOUTHERN NEW HAMPSHIRE UNIVERSITY IN THE HIGH SCHOOL Dual Enrollment Program**

**SNHU in the High School's** dual enrollment program allows high school students the opportunity to earn early college credits while in high school. Designated courses have been aligned to meet the same content, rigor and learning outcomes as that of the University. The high school teachers instructing these courses met the University's adjunct faculty requirement and have been approved by the University. Students will have the opportunity to take advantage of the dual credit opportunities at the beginning of the courses by completing an application and submitting the course registration fee for each class. Once the registration period closes, students will not be allowed to register for college credit. Since these courses are college courses, grades earned while enrolled in the course are recorded on a SNHU transcript. Portability and transferability of credits rests solely with individual colleges and universities as they have varying policies on accepting transfer credits; thus, it is the students' responsibility to consult with higher educational institutions to determine whether the SNHU course(s) can be transferred. Currently, the courses offered for dual credit include: Introduction to Sports and Events Management and Accounting 3.

## **ENGLISH FOR SPEAKERS OF OTHER LANGUAGES (ESOL)**

ESOL is an elective course only available to students who meet legally predetermined criterion to qualify for ESOL direct services. The course has two components: first, to provide English Learner's (EL's) the opportunity to learn basic and academic English and the American socio-cultural skills necessary to succeed in mainstream classes at Merrimack High School; and second, to provide an opportunity for extra help with coursework in those mainstream classes. When students leave this course, they will have met state English proficiency standards, have a good understanding of American general culture and customs, and be able to function independently in MHS courses (except in cases where an EL student has an IEP). Up to one full credit is available to each student per year, dependent on the number of hours of ESOL direct service time for which the EL student is eligible and receives. The course is graded on a Pass/Fail basis, as is determined by whether the student meets his or her individual term goals. ELs will continue to enroll in and receive credit for this course yearly until they meet the legally predetermined criterion to no longer be eligible for ESOL direct services (a proficient score on the WIDA ACCESS for ELLs test).

## **DIGITAL PORTFOLIO**

Digital portfolios submitted for the 1/2 credit technology requirement must contain a minimum of fifteen (15) artifacts, three in each of the technology categories: word processing, desktop publishing, data collection and analysis, multi-media, and communication. Artifact bibliographies as appropriate to the artifact (e.g. research papers, PowerPoint presentations, audio and/or video productions, etc.) should contain evidence of research components such as the use of a variety of resources, research tools and strategies, resource evaluation techniques, and proper citations. Artifacts in each technology category must represent content from at least two different academic areas (e.g. English, World Language, Math, Social Studies, Science, etc.). Each artifact must be judged according to the category rubrics as proficient or above. The prerequisite for all elective technology courses or the digital portfolio option is either the successful completion of the 8th grade portfolio or the Computer Technology course. This course is Pass/Fail and does not calculate into GPA.

## **NEW HAMPSHIRE SCHOLARS PROGRAM**

The New Hampshire Scholars Initiative is an effort by area business and school volunteers to encourage and motivate all high school students to complete a rigorous academic course of study that prepares students for successful transition to college or university coursework or vocational and technical training. In addition to the original NH Scholars Core, students can now further personalize their education and be recognized for pathways with NH Scholars STEM Emphasis, NH Scholars Art Emphasis, and NH Scholars Career Pathway Emphasis. Details for each pathway are available at <http://www.nhscholars.org>.

Students who undertake this rigorous core course of study will challenge themselves to do their best work during their high school career and will have a wider range of postsecondary options upon graduation. Students who successfully complete the program will be recognized as NH Scholars at graduation. This program is available to any Merrimack High School Student. Please see your School Counselor for details. Additional information is available at <http://www.nhscholars.org>.

# ART

The MHS visual arts program includes seven curriculum standards to guide educators and provide New Hampshire students with visual art experiences in investigating, making art, and critiquing their own works and the works of others. It is designed sequentially and provides cognitive links with other disciplines throughout. The coursework begins with enthusiastic exploration of materials and processes. It progresses through developing imagination and individual expression and culminates with sophisticated inquiry into the aesthetic qualities of both historical works and student created pieces. Achievement of these standards will prepare students for adult lives that are enriched by an increased capacity for interpreting human experience. (NH Visual Arts Standards)

**90916. INTRODUCTION TO VISUAL ARTS Gr. 9-12 ½ Credit Half Year**  
**(BASIC ART)**

This course covers the fundamentals of visual art. This class introduces students to the studio lab environment, an independent hands on learning experience, covering foundational skills in art vocabulary, techniques, and tools that are used throughout the art department. Creative growth is encouraged through a progression of two and three-dimensional projects that explore the principles and elements of design, drawing, and color theory. **Introduction to Visual Arts (Basic Art) is the prerequisite for all upper level art classes.**

**92911. ARTS & CRAFTS Gr. 9-12 ½ Credit Half Year**  
**Foundations**

This introductory course allows students to work at their own level. Projects will be modified to match the needs of the students within the media of the project assigned. During this course students will design and produce objects in papier mache, painting, fabric, clay, and other media. **This course fulfills the Fine Arts requirement; however, it does not fulfill the prerequisite for advanced art classes.**

**Prerequisite:** Recommendation from Case Manager

**90911. ARTS & CRAFTS Gr. 9-12 ½ Credit Half Year**

This introductory course allows students to work at their own level using their personal artistic experience to explore new mediums. Students will design and produce art objects in papier mache, painting, fabric, clay, and other media. **This course fulfills the Fine Arts requirement, however it does not fulfill the prerequisite for upper level art classes.**

**92912. POTTERY Gr. 9-12 ½ Credit Half Year**

This course introduces students to clay techniques: hand building, throwing on the wheel, glazing and firing. They will develop an understanding of form and function. Students will learn about clay properties, procedures, and vocabulary as they create and finish their work.

**Prerequisite:** Introduction to Visual Arts (Basic Art)

**92913. GLASS ART Gr. 9-12 ½ Credit Half Year**

This course introduces students to glass as an art medium, a 5,000 year old art. Students will develop an understanding of the tools and techniques utilized in stained glass, etching glass, mosaic, 3 dimensional soldering techniques, slumped, and cast glass. Students will use design and composition skills to create finished glass art.

**Prerequisite:** Introduction to Visual Arts (Basic Art)

**92931. JEWELRY Gr. 10-12 ½ Credit Half Year**

This course introduces students to a variety of jewelry making techniques including, but not limited to, recycle-reuse-repurpose ideas, promoting and packaging, wire working, assemblage, beading and bead making, weaving, braiding, precious metal clay. Diverse methods of creating textures, additives, and embellishments will be explored.

**Prerequisite:** Two semesters of fine art courses or permission of instructor

<b>92915.</b>	<b>ILLUSTRATION AND DESIGN</b>	<b>Gr. 9-12</b>	<b>½ Credit</b>	<b>Half Year</b>
<b>92915H.</b>	<b>Comprehensive/Honors</b>			

Digital technology and visual art have become inextricably intertwined thanks to the development of computer technology through the synergy of art, math, science and technology. The focus of this class is to learn aspects of the Adobe Creative Suite, in particular, Illustrator, Photoshop and InDesign and to learn methods of art production using state of the art tools. **This course fulfills the Information Computer Technology (ICT) or the Fine Arts requirement for graduation.**

**Prerequisite:** Introduction to Visual Arts (Basic Art)

**Optional Honors Level:** Students will be required to spend significantly more time on the development of ideas, designs and learning the software tools. In addition, Honors students will participate in the creation and production of special assignments which could be related to school events: posters, flyers or info graphics.

<b>92932. (CM) 90932H.</b>	<b>PAINTING</b>	<b>Gr. 10-12</b>	<b>½ Credit</b>	<b>Half Year</b>
<b>90932.</b>	<b>Comprehensive/Honors/Non-Leveled</b>			

This course introduces students to acrylic, oil and watercolor media, including all the tools and vocabulary. Students will work from life and rely on their drawing experience to work out compositions in painting. Students will create works of visual art that demonstrate a connection between personal expression and the intentional use of art materials, techniques, and processes.

**Prerequisite:** Introduction to Visual Arts (Basic Art) and Drawing or permission of the instructor

**Optional Honors Level:** In addition to completion of all classroom projects, assessments and critiques, additional expectations may include but may not be limited to a written paper and visual project(s), based on specific artist, style, or concept. Honors students will be expected to be able to present their research project and sketchbook assignments to the class. Honor students will focus on their work for at least 3 hours a week outside of class time.

<b>92933. (CM) 90933H.</b>	<b>DRAWING</b>	<b>Gr. 10-12</b>	<b>½ Credit</b>	<b>Half Year</b>
<b>90933.</b>	<b>Comprehensive/Honors/Non-Leveled</b>			

Drawing students will develop their skills to apply media, techniques, and processes with sufficient skill, confidence and sensitivity in ways that reflect their intentions. A variety of drawing media will be introduced and explored. Students will create works that use the elements of art and principles of design to solve specific visual arts problems.

**Prerequisite:** Introduction to Visual Arts (Basic Art)

**Optional Honors Level:** In addition to completion of all classroom projects, assessments and critiques, additional expectations may include but are not limited to a written paper and visual project(s), based on specific artist, style, or concept. Honors students will be expected to be able to present their research project and sketchbook assignments to the class. Honor students will focus on their work for at least 3 hours a week outside of class time.

<b>92934.</b>	<b>ADVANCED DRAWING</b>	<b>Gr. 10-12</b>	<b>½ Credit</b>	<b>Half Year</b>
<b>92934H.</b>	<b>Comprehensive/Honors</b>			

Building on skills learned in drawing class, students will apply critical and aesthetic criteria in order to improve their own works of art. They will explore sophisticated approaches to developing finished drawings with a more varied selection of media and subject matter. Students will reflect on how artworks differ visually, spatially, and functionally. Students will use subject matter, symbols, ideas, and themes that demonstrate knowledge of contexts, values, and aesthetics.

**Prerequisite:** Introduction to Visual Arts (Basic Art) and Drawing

**Optional Honors Level:** In addition to completion of all classroom projects, assessments and critiques, Honors students are expected to maintain a sketchbook and do a design research project related to the course discipline. It may include but is not limited to a written paper and visual project(s), based on specific artist, style, or concept. Honors students will be expected to be able to present their research project and sketchbook assignments to the class. Honor students will focus on their work for at least 3 hours a week outside of class time.

**92935. (CM) 90935H. SCULPTURE Gr. 10-12 ½ Credit Half Year**  
**90935. Comprehensive/Honors/Non-Leveled**

Students will explore the use of materials to create three-dimensional art. Media will include clay, plaster, cardboard, paper, wire and more. Students will be challenged to generate multiple solutions to a variety of visual problems.

**Prerequisite:** Introduction to Visual Arts (Basic Art)

**Optional Honors Level:** In addition to completion of all classroom projects, assessments and critiques, Honors students are expected to maintain a sketchbook and do a design research project related to the course discipline. It may include but is not limited to a written paper and visual project(s), based on specific artist, style, or concept. Honors students will be expected to be able to present their research project and sketchbook assignments to the class. Honor students will focus on their work for at least 3 hours a week outside of class time.

**92936. ADVANCED POTTERY Gr. 10-12 ½ Credit Half Year**  
**92936H. Comprehensive/Honors**

In this upper level Pottery class students will build upon their hand-building skills: pinch, coil, slab techniques and upon their throwing techniques to be able to create more sophisticated forms and take on more challenging projects. Casting techniques and other advanced methods in ceramics will be covered. Students will select an area of concentration to be used as a means for developing expertise in a technique and as a means of self-expression.

**Prerequisite:** Introduction to Visual Arts (Basic Art), Pottery

**Optional Honors Level:** In addition to completion of all classroom projects, assessments and critiques, Honors students are expected to maintain a sketchbook and do a design research project related to the course discipline. It may include but is not limited to a written paper and visual project(s), based on specific artist, style, or concept. Honors students will be expected to be able to present their research project and sketchbook assignments to the class. Honor students will focus on their work for at least 3 hours a week outside of class time.

**92937. ADVANCED ILLUSTRATION AND DESIGN Gr. 10-12 ½ Credit Half Year**  
**92937H. Comprehensive/Honors**

This course will build on the skills from Illustration and Design using the software of Adobe Creative Suite in greater depth to provide a broader experience in animation, graphic design, and computer-generated art. Students will understand how artworks differ visually, spatially, and functionally and they will apply critical and aesthetic criteria in order to improve their own works of art. **This course fulfills the Information Computer Technology (ICT) or the Fine Arts requirement for graduation.**

**Prerequisite:** Introduction to Visual Arts (Basic Art), Illustration and Design

**Optional Honors Level:** In addition to completion of all classroom projects, assessments and critiques, , Honors students are expected to explore another software component of Adobe Creative Suite and create work that synthesizes their understanding of several software platforms within the Creative Suite. Honors students will be expected to be able to present their work to the class. Honors students will focus on their work for at least 3 hours a week outside of class time.

**90969. ADVANCED PLACEMENT STUDIO ART Gr. 11-12 1 Credit Full Year**  
**Honors**

This is the highest level class offered in the Art department. It is recommended for seniors who have taken at least 2 art classes although the expectation is that the AP student has had a thorough visual art experience. In this yearlong course, students will assemble a portfolio of Drawing, Two-Dimensional Design or Three-Dimensional Design that will be reviewed by the AP College Board. Students can receive college credit for portfolio scores of 4 and 5. Students will be expected to complete over twenty pieces of work that show a high level of expertise in design, technique and expression. Summer project, outside research and homework are part of the course.

**Prerequisite:** Introduction to Visual Arts (Basic Art), at least 2 upper level art classes and/or permission from instructor

**92970. PORTFOLIO Gr. 11-12 ½ Credit Half Year**

This semester course is designed to develop a student’s portfolio in visual art. Projects will focus on drawing, sculpture and painting and learning how to communicate ideas regularly at a high level of effectiveness in at least one visual arts medium. Students will initiate, define, and solve challenging visual arts problems independently, using intellectual skills such as analysis, synthesis, and evaluation. This class is recommended for juniors who are interested in taking AP Studio Art. Students will gain more experience with a variety of materials and with principles of composition and design to help prepare them for the rigor of AP Studio Art.

**Prerequisite:** Introduction to Visual Arts (Basic Art) and Drawing or permission of instructor

**92971. ART EDUCATION SENIOR LEADERSHIP Gr. 12 ½ Credit Half Year**

This class is open to motivated seniors that have an enhanced interest serving as a teacher assistant in a studio art class setting. Through this course, students will have opportunities to intern with the instructor and develop their leadership skills. In addition to the teacher assistant position, this class affords a student the opportunity to explore the field of art education. **This course is Pass/Fail and does not calculate into GPA.**

**Prerequisite:** Students interested must be recommended by their teacher, complete an application and interview with the department head and supervising teacher prior to enrollment. Students who have demonstrated exemplary, responsible behavior throughout the school, as well as in the Art Department, special consideration given to National Art Honor Society members in good standing. Applicants should have a strong desire to work with their younger peers. The application may be picked up from the department head.

# BUSINESS

The Business/Marketing Department not only offers **11 different semester courses each year**, but we also offer numerous clubs/organizations that provide the opportunity to earn college credits (STEM courses may be FREE, up to 2 courses per year), college scholarships and resume building experiences. These organizations include: **Academy of Finance, DECA FBLA, FinLit300 and National Business Honor Society**. Please review the additional information on these clubs/organizations found under special programs.

Listed below are the courses offered by the Business/Marketing Department. Refer to the course descriptions for the recommended year in which to take the course. Preference will be given to Academy of Finance students in all business courses.

**62630. ACCOUNTING 1 Gr. 10-12 ½ Credit Half Year**

This course prepares students to maintain basic accounting records for a small business by learning the accounting cycle. Accounting simulations will be introduced. It is recommended that any student intending on taking Accounting II take both courses in the same school year.

**62631. ACCOUNTING 2 Gr. 10-12 ½ Credit Half Year**

This course includes an introduction to accounting for merchandising businesses organized as corporations. Topics covered include special journals, payroll records, uncollectible accounts and financial statement analysis.

**Prerequisite:** Accounting 1 with a grade of C or better

**60654. ACCOUNTING 3 Gr. 11-12 ½ Credit Half Year**  
**Honors/Dual Enrollment Honors**

Financial accounting establishes the rules and regulations for preparing accounting information used by both internal and predominantly external sources to help make business decisions and to evaluate the financial health of an organization. This course will develop your abilities to interpret financial information, to communicate financial information, and to understand the system that produces this information. After completing this course, you will have a basic understanding of how business transactions are recorded in accounting records and how these records are summarized through the preparation of financial statements. More importantly, you will learn to appreciate the need for accounting standards and how their end products -- financial statements -- are analyzed to assess the financial status of an organization.

**Prerequisite:** Accounting 2 with a grade of C or better.

**Optional:** This course is being offered as a **Dual Enrollment** course through Southern NH University. Students will decide at the beginning of the semester to take the course as dual enrollment and pay a small fee. Upon completion of the course, students will receive a SNHU transferable transcript indicating the grade received in the course.

**62652. BANKING & CREDIT Gr. 10-12 ½ Credit Half Year**

This course presents a survey of the principles and practices of banking, credit and strategies of success. Students will learn about the major functions of banks, their in-house operations, and the Federal Reserve System and current trends in the banking industry. Students will also learn about credit and strategies for making sound decisions with the use of credit. Through these lessons, students will learn to make SMART choices for their future.

**62651. INTERNATIONAL FINANCE Gr. 10-12 ½ Credit Half Year**

This course explores major components of the international financial system. It includes the study of foreign trade, the international monetary system, foreign exchange rates, foreign exchange markets, international financial markets, and the multinational corporation. A semester project that requires a formal presentation is required in this course.

**62636. (CM) INTRODUCTION TO BUSINESS Gr. 10-12 ½ Credit Half Year**  
**60637. (RS) Comprehensive/Running Start Honors**

This is an introductory course designed to survey the functions of business, while exploring current trends and learning about business opportunities. Topical discussions will include, but will not be limited to, the environment in which businesses operate, business structures, business ownership models, industry competitiveness, and resource utilization.

**Optional:** This course is being offered as a **STEM Running Start Honors** course through Nashua Community College. Students will decide at the beginning of the semester to take the course as a **STEM Running Start** option. Upon completion of the course students will receive a NCC transferable transcript indicating the grade received in the course.

**62653. (CM) INTRODUCTION TO SPORTS/ EVENTS MANAGEMENT Gr. 10-12 ½ Credit Half Year**  
**62654. (H) Comprehensive/ Dual Enrollment-Honors**

This introductory course emphasizes the management principles related to the business of sport and events. It includes personnel, programs, marketing, media, financial management and an overview of career possibilities in this growing field. It was designed to alert, inform, and educate high school students about careers in sport and events management and gives students the option to receive college course credits.

**Optional:** This course is being offered as a **Dual Enrollment Honors** course through SNHU. Students will decide at the beginning of the semester to take the course as dual enrollment and pay a small fee. Upon completion of the course, students will receive a SNHU transferable transcript indicating the grade received in the course.

**62632. MARKETING 1 Gr. 10-12 ½ Credit Half Year**

This course is a program in which the students gain skills in various aspects of the marketing cycle. Students develop self-confidence and an understanding of professional business attitudes. These courses place an emphasis on the four P's of marketing: Product, price, promotion, and place (distribution). Students are encouraged to join DECA (a national organization of marketing education students).

**62634. (CM) MARKETING 2 Gr. 11-12 ½ Credit Half Year**  
**62635. (RS) Comprehensive/ Running Start Honors**

This course is a continuation of course work learned from Marketing I. In-depth analysis of consumer versus business customers, products, pricing strategies, consumer behavior, advertising, promotion, personal selling, and distribution channels are offered, as well as an advanced sales marketing project. Marketing strategic planning and marketing research are covered as well. Students are encouraged to join DECA (a national organization of marketing education students).

**Prerequisite:** Marketing 1 or permission from the Department Head

**Optional:** This course is being offered as a **STEM Running Start Honors** course through Nashua Community College. Students will decide at the beginning of the semester to take the course as a **STEM Running Start** option. Upon completion of the course students will receive an NCC transferable transcript indicating the grade received in the course.

**62640. (CM) PRINCIPLES OF MANAGEMENT Gr. 11-12 ½ Credit Half Year**  
**60641. (RS) Comprehensive/Running Start Honors**

This course is designed to expose the student to the nature of the organizational environment and the major activities performed by its managers in today's business world. The course is organized around the functions of management: planning, organizing, leading, and controlling. Case studies are used to apply the principles of management to hypothetical business situations.

**Optional:** This course is being offered as a **STEM Running Start Honors** course through Nashua Community College. Students will decide at the beginning of the semester to take the course as a **STEM Running Start** option. Upon completion of the course students will receive a NCC transferable transcript indicating the grade received in the course.

**62650. SECURITIES, INSURANCE & FINANCIAL PLANNING Gr. 10-12 ½ Credit Half Year**

This course contains material from Financial Planning and Securities Operations/Wall Street Operations. Students will learn about comprehensive financial plans that include savings, investments, borrowing, risk management (insurance), retrieval, and estate planning.

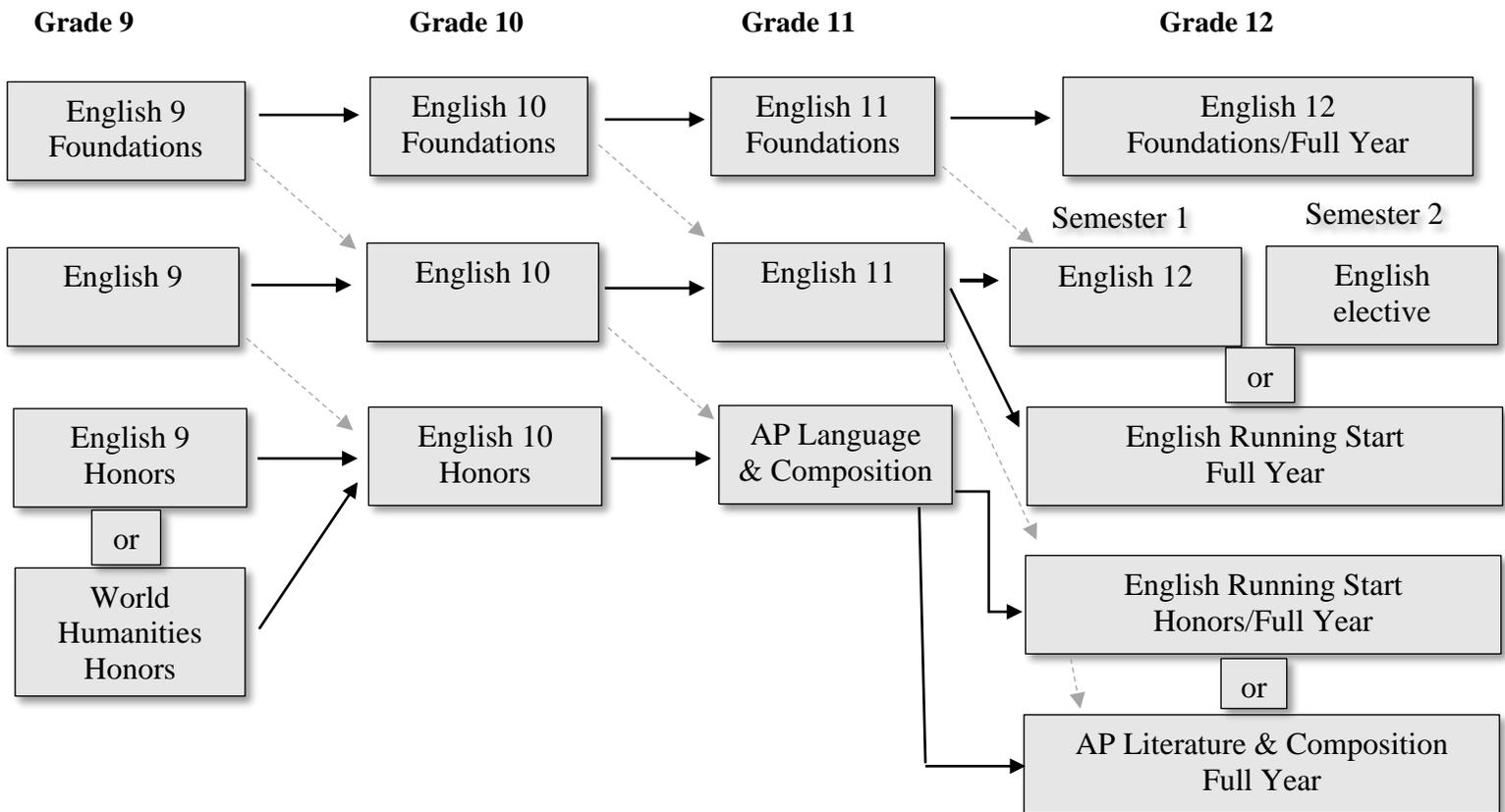
# ENGLISH

Every student must take and pass four years of English. Seniors must take English 12 semester one and an English elective semester two during their senior year to fulfill their English requirement unless they choose a full year English option. All English courses, including electives, develop skills in the areas of reading, writing, speaking, listening, and viewing through a variety of activities.

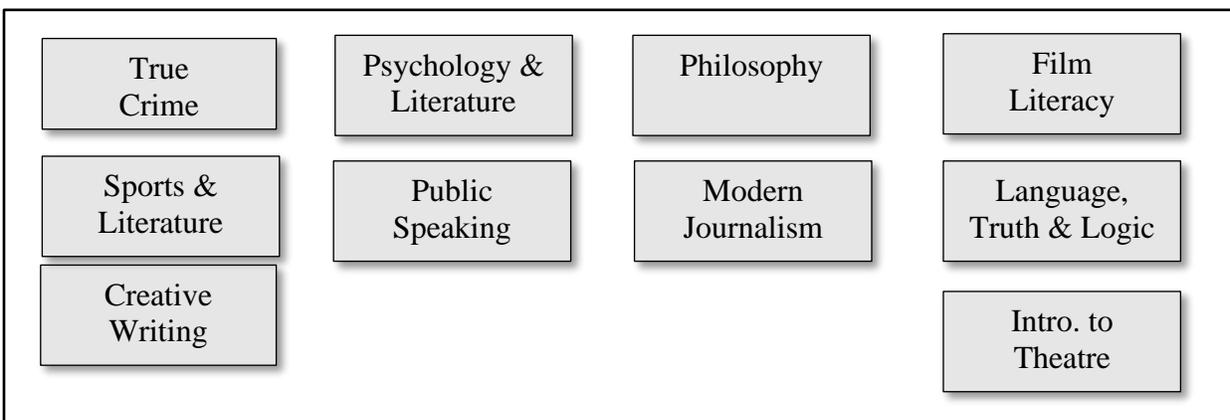
The charts below outline the various courses and sequences for each grade and level of the English program. The purpose is to serve as a visual for selecting courses over a period of four years. *It should be noted that these charts are not meant to imply that once students choose a particular level that they must continue with that level for the remainder of their high school careers. Students have guidelines and supports for level changing options.*

## Progression Chart for MHS English

The majority of students follow the black arrows



## English Electives



<b>12110.</b>	<b>ENGLISH 9 Foundations</b>	<b>Gr. 9</b>	<b>1 Credit</b>	<b>Full Year</b>
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This course has been designed for those students who have a need for individual attention in the area of Language Arts. Special emphasis will be placed on reading comprehension, vocabulary development, visual literacy, listening, and critical thinking skills. The writing program stresses the structure of the sentence and development of the paragraph. Students also practice verbal communication skills by participating in class discussion and sharing information in regular, brief oral reports. During second semester, students will be introduced to high school library skills and research techniques.

<b>12112.</b>	<b>ENGLISH 9</b>	<b>Gr. 9</b>	<b>1 Credit</b>	<b>Full Year</b>
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This course requires that students develop their listening, comprehension and critical thinking skills by being active listeners during class discussion. Students are also required to develop their speaking skills through informal class discussions. The literature component of the course emphasizes cultural diversity in readings from a variety of genres including mythology, the short story, the novel, drama and poetry. Through their study of literature, students will develop an understanding for and an appreciation of the literary devices and techniques that authors use to develop the themes in their works. In conjunction with their literary study, students will have opportunities to develop library, critical viewing and study skills. Students will refine their writing skills while practicing paragraph and essay structure. As part of the writing process, students will develop their own ideas and strengthen their editing techniques. Students will continue their study of grammar. Their vocabulary and etymology study will enhance their understanding of literature. All students will participate in a unit of study on plagiarism.

*In addition to English 9, freshmen who petition into honors English and Social Studies can choose to take an Interdisciplinary course entitled World Humanities which will satisfy their English 9 and World Studies requirements for graduation. See the Interdisciplinary section of the Program of Studies for additional information. Students who petition into honors also have the option of taking English 9 Honors. Please see description below.*

<b>10113.</b>	<b>ENGLISH 9 Honors</b>	<b>Gr. 9</b>	<b>1 Credit</b>	<b>Full Year</b>
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This course has been designed to challenge those students with above average writing skills, strong analytical skills, and high reading levels. Students will further develop those skills in part through a study of literature, where class discussion of a variety of genres, including mythology, the short story, the novel, drama, and poetry help students develop an understanding and appreciation of the techniques authors use to communicate themes. These class discussions constitute a major part of the course. Students will also refine their writing skills by practicing essay structure and applying their study of grammar and vocabulary to enhance their own writing. Students will develop study skills, library usage, participate in a unit of study on plagiarism, and study etymology. **This course requires a summer project.**

<b>12130.</b>	<b>ENGLISH 10 Foundations</b>	<b>Gr. 10</b>	<b>1 Credit</b>	<b>Full Year</b>
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This course has been designed for those students who have a need for individual attention in the area of language arts. The units of study include short stories, plays and novels at appropriate reading levels. Students will work on vocabulary specific to the reading material and will practice reading skills such as pre-reading, making inferences, predicting and summarizing. Students continue work on sentence structure and paragraph development leading to multi-paragraph writing. Special attention is given to visual literacy, speaking skills, and active listening.

**Prerequisite:** English 9

<b>12132.</b>	<b>ENGLISH 10</b>	<b>Gr. 10</b>	<b>1 Credit</b>	<b>Full Year</b>
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This course requires students to refine their listening, comprehension, and critical thinking skills by participating in class discussions, active viewing, and note taking. In addition to class discussion, speaking skills will be enhanced through other activities such as drama, oral readings, and presentations. The literature strand of the course emphasizes world cultures through the study of various genres, including drama, the short story, poetry, the essay, and narratives with a focus on the themes of power and prejudice. Textual analysis will develop the understanding of literary and poetic devices. Students will expand upon their writing techniques by studying argumentative and informational essays, the research process, and narrative writing. As part of this process, students will practice their research, organizational, and editing skills. Students will review grammar as necessary and study vocabulary and etymology regularly.

**Prerequisite:** English 9

**10133. ENGLISH 10 Honors Gr. 10 1 Credit Full Year**

Students in this course will examine literature (both fiction and nonfiction). The literature emphasizes world cultures through the study of poetry, drama, film, the short story, the novel, and the essay. The course will pay particular attention to discussion, critical thinking, and essay writing. Textual analysis will develop students' understanding of literature as well as their writing skills. Students will expand upon their writing techniques by studying the research process and writing a research paper. As part of this process, students will practice their library, organizational, and editing skills. Students will review grammar as necessary and study vocabulary. They also will continue a program of advanced reading skills. **This course requires a summer project.**

**Prerequisite:** Because of the rigorous nature of the honors-level requirements, students must have been enrolled in the interdisciplinary course World Humanities Honors or English 9 Honors. Students may also petition the English department head for approval to enroll in this honors level course. Approval will be limited to candidates with high reading comprehension, strong analytical skills, and above average writing skills.

**91810. INTRODUCTION TO THEATRE Gr. 10-12 ½ Credit Half Year**

This hands-on course is designed to introduce students to the basic skills of the theatre (no prior theatre experience is needed). Theatre history, pantomime, improvisation, acting, and theatre criticism are explored with the majority of the class focusing on student working together to present acting scenes and improvisations. Students will be encouraged to attend an MHS Theatre Production produced during the semester enrolled, as part of the unit on theatre criticism. Through this course, students will improve their ability to work with a variety of people, while learning to express themselves more effectively.

**12150. ENGLISH 11 Foundations Gr. 11 1 Credit Full Year**

This course consists of American literature at an appropriate level and includes the short story, poetry, film, drama and non-fiction. Students will engage with the readings through oral discussion, written responses, and visual projects. Students in this class write longer compositions with continued emphasis on sentence and paragraph structure. Speaking and vocabulary are also included. A formal research project will be written during second semester.

**Prerequisite:** English 10

**12152. ENGLISH 11 Gr. 11 1 Credit Full Year**

This course examines the themes and characteristics of American literature, studying major writers and their works through both a chronological and thematic approach. Students write a variety of essays requiring narrative skills, literary research and analysis, and the development of argumentative structure. They implement sophisticated reading techniques in class discussion and writing. Textual study of literature and a variety of media emphasizes students' critical thinking, research, and visual literacy skills. Students are also expected to complete oral presentations. The study of vocabulary and critical reading skills in this class helps to prepare students for the PSAT and SAT exams.

**Prerequisite:** English 10

**10160. ADVANCED PLACEMENT LANGUAGE  
AND COMPOSITION  
Honors**

**Gr. 11**

**1 Credit**

**Full Year**

In this course, students will study American fiction and nonfiction texts from several historical periods organized to raise questions such as: to what extent do American texts represent American values or what does it take to overcome adversity? In exploring these questions, students will develop an understanding of how language works by practicing three specific skills. Students will analyze argument, allowing them to examine how authors establish a claim for a particular audience and purpose. Students will engage in rhetorical analysis, allowing them to discover how authors use the conventions of language to convey meaning. Finally students will learn to synthesize a variety of texts by recognizing intertextual connections which are important in developing critical literacy. Frequent writing assignments of varied lengths and for a variety of purposes provide students the opportunity to further their thinking and engage in the discourse of the unit topic. While one of the goals of this course is to prepare students to take the AP Language and Composition exam in the spring, the overall aim of the course is threefold: to prepare students for success in the college classroom by fostering intellectual growth, to instill habits conducive to lifelong learning and to engage confidently and thoughtfully in public discourse as responsible citizens. The level of rigor in this course is commensurate to that of an introductory college course. **This course requires a summer project.**

**Prerequisite:** Because of the rigorous nature of the honors-level requirements, students must have been enrolled in English 10 Honors. Students may petition the English Department head for approval to enroll in this honors level course. Approval will be limited to candidates with high reading comprehension, strong analytical skills, and above average writing skills.

**12154. CREATIVE WRITING**

**Gr. 11-12**

**½ Credit**

**Half Year**

Unleash your creative potential and sharpen your writing skills in the Creative Writing elective. Through the study of published writers in the genres of fiction, poetry, memoir, and drama you will develop story lines, create believable characters, and produce images that linger in a reader's imagination. A focus on the use of the visual arts and free writing is used to inspire pieces as well. Additionally, you will learn how to view your work critically using supportive Writer's Workshop sessions and teacher conferences. Publication in the school's literary magazine and the development of a writing portfolio will serve as culminating events in the course. Those who sign up should be willing to experiment with a variety of writing styles.

**Prerequisite:** English 9 and 10

**12153. MODERN JOURNALISM**

**Gr. 11-12**

**½ Credit**

**Half Year**

Students will read and discuss current examples of journalism using them as examples for their own real-world writing. Students will generate story ideas of interest to them, research background information, interview sources, and write for publication, which includes contributing to the school magazine and creating and publishing podcasts. In addition to reading current examples of journalism, students will study important moments in the field through film. This is not a textbook course; the world is our resource.

**Prerequisite:** English 9 and 10

**12156. PUBLIC SPEAKING**

**Gr. 11-12**

**½ Credit**

**Half Year**

This course provides the student with a better understanding of the communication process. Students explore verbal and non-verbal communication, communication models, and the mechanics of speaking. Students have the opportunity to improve their individual speaking skills through presentation of oral readings and informal and formal speeches. Group speech activities also provide opportunities for the class to hone their speaking techniques while encouraging cooperation and collaboration. Students may also be given the opportunity to participate in speech competitions outside of school.

**Prerequisite:** English 9 and 10

**12157. PSYCHOLOGY AND LITERATURE Gr. 11-12 ½ Credit Half Year**

Can the characters we read about provide insight into human behavior or reflect who we really are? Students in this course will have the opportunity to study two diverse disciplines: psychology and literature. Students will read both classic and modern texts such as Hesser's *Kissing Doorknobs*, Styron's *Darkness Visible*, and Schreiber's *Sybil* as a way to interpret human behavior. They will explore authors' motivations for the creation of characters as a means of understanding and gaining insight into themselves. Special emphasis will be placed on the study of well-known psychologists, patient/character case studies, and psychological theories and illnesses. Film selections will allow students opportunity for in-depth analysis of characters' psyches.

**Prerequisite:** English 9 and 10

**12159. FILM LITERACY Gr. 11-12 ½ Credit Half Year**

Film literacy is a convergence of the interdisciplinary practices of literary and media studies, which both concentrate on the analysis of both visual and written texts. Exploring what film says about the human experience, the class will center discussion around how film constructs meaning and questions whose interests film serve. Over the course of the semester, students can expect to view a variety of films and engage in numerous writing exercises. The main focus of this class is allowing students to access multiple critical lenses while experiencing cinema, and essentially let the individual determine what qualifies as "good" or "bad" film.

**Prerequisite:** English 9 and 10

**12163. (CM) PHILOSOPHY Gr. 11-12 ½ Credit Half Year**  
**10163. (RS) Comprehensive/ Running Start**

Philosophy students critically analyze questions of perennial interest. Typically, philosophical questions include ones like the following: Given skeptical arguments and natural fallibility, how is knowledge possible? Can we really know that other minds exist? What is the nature of the external world? If mental states are physical states, how is free will possible? If mental states are not physical states, how is free will possible? Is it okay to harm one person in order to prevent two other people from being harmed? What do we value more, knowledge, morality, or pleasure? Are moral claims objective facts or are they merely subjective opinions?

Philosophers attempt to offer their best arguments to address these questions much like scientists offer their best hypotheses to develop theories of natural phenomena. Philosophy students will be assessed on their understanding of specific and often technical concepts and arguments, and they will write their own persuasive responses to questions and assertions in which they demonstrate their understanding of given material and ultimately attempt to build upon the philosophical debate. Additionally, students will examine philosophical aspects of various literary and film genres, and will contribute regularly to classroom discussions, seminars, and debates. This course aims to develop strong skills in reading, writing, presenting, and critical thinking.

This course will also be offered to students at the "**Running Start**" level. To earn 4 college credits from Nashua Community College, students are required to pay a small fee and will be subject to slightly higher expectations and requirements regarding student assessments.

**Prerequisite:** English 9 and 10

**12164. TRUE CRIME Gr. 11-12 ½ Credit Half Year**

In this semester-long course, students will study how an author tells a complete and true story about the nature of American crime. Students will explore a variety of nonfiction texts recounting not only physical violence, but also psychological crimes. Students will analyze how an author crafts the story through research, structure, and language, and how these elements contribute to the author's comment on the crime as representative of a larger issue in American society.

**Prerequisite:** English 9 and 10



<b>12175. (CM)</b>	<b>ENGLISH 12 RUNNING START</b>	<b>Gr. 12</b>	<b>1 Credit</b>	<b>Full Year</b>
<b>10175. (H)</b>	<b>Comprehensive/Honors</b>			

The literature component of the course focuses on British and world literature from Beowulf to the 21st century. Through their study of various literary genres, students will demonstrate a mature understanding of the devices and structure authors use to develop their themes. Textual study emphasizes critical thinking and visual literacy skills as well as research and reading strategies. Students in this course will continue to develop their listening, speaking and critical thinking skills through informal and formal presentations. Class contribution is an integral graded part of the course. The writing component of the course centers on the writing process during which students will learn strategies to develop, refine, revise and edit their ideas. To earn 4 college credits from Nashua Community College, students are required to complete the following assignments: a personal narrative, a comparison contrast essay, a process essay, and two research papers: a cause/effect paper and a persuasive analysis of a literary work. Students are also required to present an oral defense of their literary research paper. **This course requires that students have strong reading and time management skills as well as particular interest in the intensive process of developing their writing.**

**Prerequisite:** English 11 and a minimum grade of C for the junior year research paper and teacher recommendation.

**Honors Prerequisite:** Because of the rigorous nature of the honors-level requirements, students must have been enrolled in AP Language and Composition or Honors American Experience with an honors petition through the English Department. Students may petition the English Department head for approval to enroll in this honors level course. Approval will be limited to candidates with high reading comprehension, strong analytical skills, and above average writing skills. **Honors students will be required to complete a summer project.**

<b>10176. ADVANCED PLACEMENT LITERATURE AND COMPOSITION</b>	<b>Gr. 12</b>	<b>1 Credit</b>	<b>Full Year</b>
<b>Honors</b>			

Concentrating on British and other world literature, students in this course learn how to think critically, view perceptually, read analytically, and write and speak clearly. They develop the ability to evaluate texts by analyzing background, structure, technique, and theme. The class will serve as an introduction to some current college-level language arts theory. As well as honing their skills in the writing process, students will practice on-demand writing to assist them in test-taking. Close-reading practices will also focus many of the class activities; students will learn how rhetorical devices such as diction, syntax, point of view, imagery, and organization combine to create tone in a text. Students will incorporate these elements in their own writing, using them consciously in a variety of modes, including personal essays which may be used in college applications. Participants will also complete a scholarly senior thesis independently and are expected to take the AP Literature and Composition examination. Students must type or word process all final drafts. **This course requires a summer project.**

**Prerequisite:** Because of the rigorous nature of the honors-level requirements, students must have been enrolled in AP Language and Composition or Honors American Experience with an honors petition through the English department. Students may petition the English Department heads for approval to enroll in this honors level course. Approval will be limited to candidates with high reading comprehension, strong analytical skills, and above average writing skills limited to candidates with high reading comprehension, strong analytical skills, and above average writing skills.

# FAMILY AND CONSUMER SCIENCE

**81110. INTRODUCTION TO FOODS Gr. 9-12 ½ Credit Half Year**

This is an introductory course in food preparation, meal and menu planning, ethnic foods, and the use of various appliances to make cooking for oneself healthful and interesting. It is designed for the student who has had a very limited foods background.

**81112. CHILD DEVELOPMENT Gr. 9-12 ½ Credit Half Year**

This course covers the development of the child during pregnancy and from birth to age 6. It includes the physical, intellectual, emotional and social development of the child. Parenting, careers, birth defects and theorists will also be covered. Course requirements include projects, written assignments and tests. Students in this course will get a hands on experience with a simulated baby. This course will especially benefit those pursuing careers working with children.

**81131. CREATIVE COOKING Gr. 10-12 ½ Credit Half Year**

Students will study the art of baking which includes a variety of breads and cakes. International cuisine such as Mexican, Italian, Greek, Asian and American will also be covered. Recipes used in this class are more complex and require a higher level of skill. Event planning is also part of this course. Nutrition and safety are a key part of this course of study.

**Prerequisite:** Successful completion of Introduction to Foods with a grade of A or higher.

# HEALTH AND PHYSICAL EDUCATION

A total of one credit in Physical Education and a half credit (.5) in Health must be earned by all students before graduation.

**81810. PE 1: PHYSICAL EDUCATION/  
PERSONAL WELLNESS  
Foundations Gr. 9-12 ½ Credit Half Year**

This course is designed to work towards improving and maintaining fitness and developing lifetime activity skills. Students will be introduced to the various health components of fitness, and how they relate to personal wellness. In addition, students will also participate in lifetime sport activities. Skills and knowledge in each unit are expected student outcomes. The activity units will include individual as well as team sports. Each student will participate in activities modified to meet with his/her needs as identified by the IEP Team and an optimal learning environment will be created for students to excel. The ultimate goal of the course is to develop the knowledge and skills necessary to maintain lifetime fitness and wellness.

**Prerequisite:** Recommendation of Case Manager

**82810. PE 1: PHYSICAL EDUCATION/  
PERSONAL WELLNESS Gr. 9-10 ½ Credit Half Year**

In this course students will be introduced to the various health components of fitness, and how they relate to their personal wellness. In addition, students will also participate in traditional sports activities. Skills and knowledge in each unit are expected outcomes. The activity units will include individual as well as team sports. The ultimate goal of the course is to develop the knowledge and skills necessary to maintain lifetime fitness and wellness.

**80830. PE 2: TEAM SPORTS AND  
LIFETIME WELLNESS Gr. 10-12 ½ Credit Half Year**

This course is designed to teach a variety of team sports, such as flag football, softball, basketball, floor hockey, etc., with an emphasis on reinforcement of basic fundamental skills, strategies and officiating. Students will continue to build upon wellness activities and concepts introduced in PE One. In addition, students will focus on the wellness concepts of safety and first aid, non-communicable diseases, and the development of a lifetime fitness program.

**Prerequisite:** PE 1: Physical Education/Personal Wellness

**80831. PE 2: RECREATIONAL ACTIVITIES  
AND LIFETIME WELLNESS Gr. 10-12 ½ Credit Half Year**

This course is designed to teach a variety of recreational activities, such as badminton, table tennis, croquet, bocce, etc., with an emphasis on rules, strategies, and game modifications. Students will continue to build upon wellness activities and concepts introduced in PE One. In addition, students will focus on the wellness concepts of safety and first aid, non-communicable diseases, and the development of a lifetime fitness program.

**Prerequisite:** PE 1: Physical Education/Personal Wellness

**80832. PE 2: ADVENTURE ACTIVITIES  
AND LIFETIME WELLNESS Gr. 10-12 ½ Credit Half Year**

This course will include both group and individual challenge activities for the development of personal self-confidence and group cooperative skills. Activities will include problem solving challenges, cooperative games and utilization of the high and low ropes courses. In addition, students will also be exposed to a variety of outdoor recreational activities- archery, x-c skiing/snowshoeing, orienteering, etc. Students will also continue to build upon wellness activities and concepts introduced in PE One. Students will focus on the wellness concepts of safety and first aid, non-communicable diseases, and the development of a lifetime fitness program.

**Prerequisite:** PE 1: Physical Education/Personal Wellness

**80836. PE 2: WOMEN'S FITNESS AND LIFETIME WELLNESS Gr. 10-12 ½ Credit Half Year**

This course is designed to improve an individual's general level of fitness. Each component of fitness will be addressed through various activities that will include strength training, aerobic exercise, walking, yoga and Pilates. Included in this course will be recreational sports that will support the students' work towards personal fitness and wellness lifestyle. Such activities will include, but are not limited to, individual and dual sports (tennis, badminton, table tennis, bocce and croquet). Some team games will be included. Students will also focus on the wellness concepts of safety and first aid, non-communicable diseases, and the development of a lifetime fitness program.

**Prerequisite:** PE 1: Physical Education/Personal Wellness

**80837. PE 2: PERSONAL TRAINING AND LIFETIME WELLNESS Gr. 11-12 ½ Credit Half Year**

This course is designed for individuals with a desire to move forward in the field of physical enhancement or general fitness. It is aimed at individuals who are willing to gain a body of knowledge and practical expertise to enable them to not only become more physically fit but also develop cognitive knowledge of a variety of training protocols. Areas to be covered include general fitness, strength training, interval training, flexibility, and cardiovascular endurance in a personalized fitness program. This course will result in a higher level of overall fitness for individual students. Students will also focus on the wellness concepts of safety and first aid, non-communicable diseases, and the development of a lifetime fitness program.

**Prerequisite:** PE1: Physical Education/Personal Wellness

**80870. PE 3: SENIOR LEADERSHIP Gr. 12 ½ Credit Half Year**

This course is for seniors who have an interest serving as a teacher assistant. Only seniors who have successfully completed their physical education requirements are eligible. Students interested must complete an application and interview with the department head prior to enrollment. Students who have demonstrated exemplary, responsible behavior throughout the school, as well as in the physical education setting, will be considered. Applicants should have a strong desire to work with their younger peers. The application may be picked up from the department head. **This course is Pass/Fail and does not calculate into GPA.**

**Prerequisite:** PE1: Physical Education/Personal Wellness and PE 2 Elective

**80890. PE 3: INTERSCHOLASTIC ATHLETIC PARTICIPATION Gr. 10-12 ½ Credit N/A**

Beginning with the class of 2020, students who successfully complete two seasons of Junior Varsity and/or Varsity sports may be eligible to receive ½ credit. This will be designated as PE-3 Pass/Fail on the MHS transcript. Transcripts will be updated at the end of each semester. Students wishing to apply for the credit must complete the PE Credit for Participation in Interscholastic Sports Form which can be found on the athletics page of the MHS website or a copy can be retrieved in the Athletic Director's office. **This course is Pass/Fail and does not calculate into GPA.**

**Prerequisite:** PE1: Physical Education/Personal Wellness and PE 2 Elective

## HEALTH EDUCATION

<b>82840.</b>	<b>HEALTH Foundations</b>	<b>Gr. 10</b>	<b>½ Credit</b>	<b>Half Year</b>
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The basic health program will discuss ways to cope with stress in everyday life. Activity units will show how alcohol, drugs and smoking affect people. Causes and prevention of diseases and accidents will be discussed. This course also includes units on basic nutrition and sexually transmitted diseases.

<b>82841.</b>	<b>HEALTH</b>	<b>Gr. 10</b>	<b>½ Credit</b>	<b>Half Year</b>
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This course is an in-depth health program that will increase knowledge of a variety of topics related to physical, mental, emotional and social wellness. Factual, medical information about each unit is taught. Activities to enhance student understanding may include role playing, community speakers and individual research. This course will aid in promoting positive decision making as it relates to personal health and social responsibility. Health units covered include mental health, substance abuse, nutrition, and communicable diseases/reproductive health.

<b>82850.</b>	<b>ADVANCED HEALTH EDUCATION</b>	<b>Gr. 11-12</b>	<b>½ Credit</b>	<b>Half Year</b>
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This is an elective course geared towards students who have an interest in pursuing a health related career. Students will study health related topics not reviewed in the mandatory health course. Topics to be covered will include health related careers, peer-to-peer education, non-communicable diseases, and environmental health. Students will evaluate their plans for the future and investigate possible health related careers. They will evaluate how their daily choices affect the environment, and in turn, how the health of the environment affects their health. Students will also investigate prevention strategies for non-communicable diseases.

**Prerequisite:** Health

# INTERDISCIPLINARY STUDIES

To succeed in today's global environment, students must develop skills which reflect insight and innovation toward learning. The interdisciplinary courses offered at Merrimack High School are based on collaboration and study across disciplines. The intent is to focus student learning around developing skills in research process, experimental design, collaboration, critical and creative thinking, and applications in technology. In addition, these courses connect diverse disciplines for student learning through various skills and concepts, including the ability to analyze and evaluate complex information across traditionally separate subjects. The goal for these courses is to enable students to understand and see the interconnectedness of the world and gaining a deeper understanding of existing and potential personal and professional endeavors available to them.

<b>71131.</b>	<b>WORLD HUMANITIES Honors</b>	<b>Gr. 9</b>	<b>1 Credit English 9 1 Credit World Studies</b>	<b>Full Year</b>
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This team-taught interdisciplinary course challenges students to understand the development of World Civilizations and to appreciate the various influences on modern culture. Students will be introduced to several regions of the world. Their journey will begin with Ancient Greece and Rome and then move to the study of world religions and modern Afghanistan, Medieval Europe, the Renaissance and Reformation, the Enlightenment and the French Revolution, Nationalism, Industrialism, Imperialism, and World War I and II. In order to deepen students' understanding of each period in history, units will be enhanced with art, music, architecture, literature, drama, poetry and film. Students will be required to work collaboratively on group projects and presentations. In addition, students will be expected to write narrative, informative, argumentative and literary essays as well as a thesis-based research paper utilizing their research and analysis skills. **This course requires a summer project.**

**Prerequisite:** Because of the rigorous nature and accelerated pace of the course, students must petition the English and social studies department head for approval. Forms may be obtained from 8th grade school counselors or on the MHS website located in the guidance tab. Candidates will be required to complete a reading and writing assessment. Approval will be limited to candidates with high reading comprehension and above average writing skills.

<b>73161.</b>	<b>ART OF SCIENCE</b>	<b>Gr. 11-12</b>	<b>½ Credit Art ½ Credit Science</b>	<b>Full Year</b>
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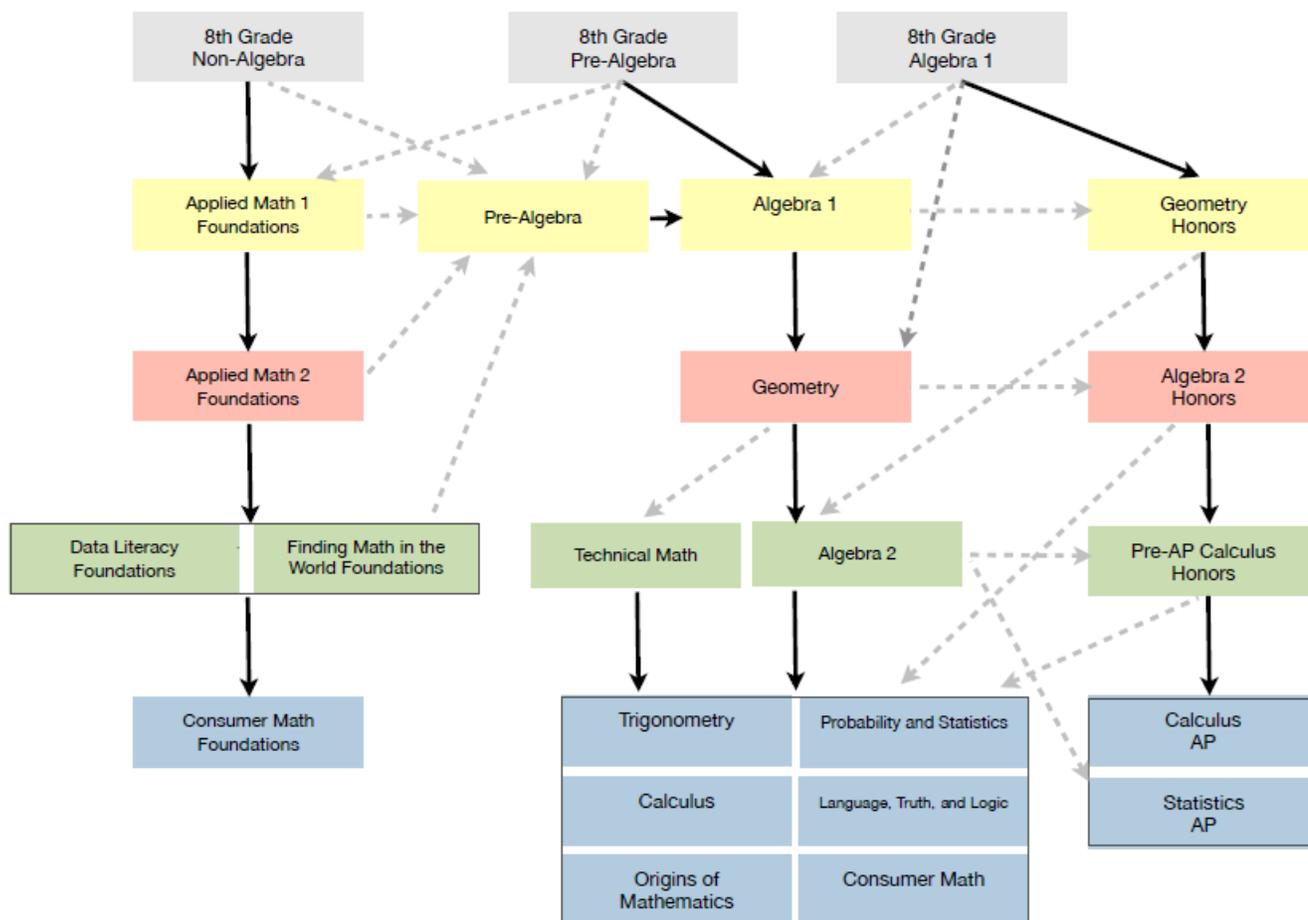
Will run in 2023/2024

# MATHEMATICS

The charts below outline the various sequences of courses for each level in the mathematics program. Their purpose is to serve as a guide for selecting courses over a period of four years. It should be noted that these charts are not meant to imply that once students choose a particular level that they must continue with that level for the remainder of their high school careers. Students will be required to complete three credits of math to meet graduation requirements. However, every student is required to take a math course for each year of enrollment. To promote the effective use of technology in education, the Mathematics Department recommends the use of calculators when appropriate in all courses. The department therefore strongly encourages each student to have his or her own calculator for use in mathematics classes as a cell phone is not an acceptable stand-in for a calculator. A graphing calculator is recommended for courses after geometry.

## Progression Chart for MHS Math

The majority of students follow the black arrows.



<b>42410.</b>	<b>APPLIED MATH 1 Foundations</b>	<b>Gr. 9</b>	<b>1 Credit</b>	<b>Full Year</b>
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This course provides the students with applications of mathematics in topics such as perimeter, area and volume, ratio and proportion, probability and statistics, and basic algebra. Considerable emphasis is given to the use of a calculator to compute answers using the four basic operations and percent key. Course content is presented at a pace commensurate with the abilities of the students in the class.

<b>42407.</b>	<b>PRE-ALGEBRA</b>	<b>Gr. 9-12</b>	<b>1 Credit</b>	<b>Full Year</b>
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The focus of this course is on getting students comfortable with variables and manipulating algebraic expressions so that they will be ready to succeed in Algebra 1. This course is ideal for students who have not yet been successful in Pre-Algebra, and for those who would like to transition from Foundations level courses into Algebra 1. There is a strong focus on arithmetic and algebraic manipulations, solving equations, and graphing throughout this year-long course.

<b>42412.</b>	<b>ALGEBRA 1</b>	<b>Gr. 9-12</b>	<b>1 Credit</b>	<b>Full Year</b>
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In Algebra 1 students will study the language and properties of algebra as applied to the real number system. Students will represent a variety of functions as tables, graphs and equations. Students will also solve linear, exponential, quadratic, and systems of equations by various methods and apply them to practical applications. Students will also be expected to represent and analyze univariate and bivariate data as well as to understand and apply the basic principles of probability.

**Prerequisite:** The student must have taken and received a passing grade in Pre-Algebra.

<b>42413.</b>	<b>GEOMETRY</b>	<b>Gr. 9-12</b>	<b>1 Credit</b>	<b>Full Year</b>
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This course is designed to provide students with a formal study Euclidean geometry. Emphasis is given to understanding geometry as an axiomatic system of postulates and theorems together with their applications to a variety of problems. Students are expected to use postulates and theorems for geometric proofs in conjunction with the topics being studied. Those topics include congruency, similarity, coordinate geometry, constructions and transformations. Students will also analyze characteristics and properties of two and three dimensional shapes and figures as well as determine surface area and volume.

**Prerequisite:** Algebra 1

<b>40414.</b>	<b>GEOMETRY Honors</b>	<b>Gr. 9-12</b>	<b>1 Credit</b>	<b>Full Year</b>
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Although the content of this course is the same as that of the Comprehensive course, it is intended for students who have consistently exhibited a strong mathematical aptitude. Expectations relative to quality of work, depth of understanding, and independent learning are higher in this course than the Comprehensive course, and a strong grasp of algebra 1 skills is required.

**Prerequisite:** Algebra 1. Due to the rigorous nature and accelerated pace of this course, incoming freshman students must be recommended by the middle school.

<b>42430.</b>	<b>APPLIED MATH 2 Foundations</b>	<b>Gr. 10-11</b>	<b>1 Credit</b>	<b>Full Year</b>
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This course is a continuation of Applied Math 1. Students will explore basic operations, graphs, working with formulas, basic statistics and geometry. Emphasis will be given to using the calculator and all appropriate functions. Course content is presented at a pace commensurate with the abilities of the students in the class.

<b>42432.</b>	<b>ALGEBRA 2</b>	<b>Gr. 10-12</b>	<b>1 Credit</b>	<b>Full Year</b>
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Algebra 2 provides students with an opportunity for further study of topics from Algebra 1 as well as an introduction to the complex number system, matrices and their applications, and arithmetic and geometric series. Emphasis is given to the representation of a variety of functions as an equation, a table of values, and a graph. Functions to be studied include linear, quadratic, exponential, logarithmic, radical, rational, polynomial, and absolute value. Additionally, students will learn how to solve equations related to the functions noted above. Students will also learn how to collect, organize and represent both univariate and bivariate data.

**Prerequisite:** Geometry

**40433. ALGEBRA 2 Gr. 10-12 1 Credit Full Year**  
**Honors**

Although the content of this course is the same as that of the Comprehensive course, this course is intended for students who have consistently exhibited a strong mathematical aptitude. Expectations relative to quality of work, depth of understanding, and independent learning are higher in this course than the Comprehensive course. **This course requires a summer project.**

**Prerequisite:** Geometry with at least an “A” average or Honors with at least a “B-” average.

**40450. PRE-AP CALCULUS Gr. 11 1 Credit Full Year**  
**Honors**

Pre-AP Calculus is a course open to students who have demonstrated high academic achievement in previous Honors mathematics courses and who intend to enroll in Advanced Placement Calculus the following year. The content of the course emphasizes operations, graphic representations, and modeling aspects of a variety of functions encountered in calculus class. Students will be introduced to several calculus concepts, including limits and derivatives. Through graphing and modeling, they will learn about the amplitude, period, phase shift, and vertical displacement of trigonometric functions. Additionally, they will use trigonometric ratios, Law of Sines, and Law of Cosines as they relate to oblique and right triangle trigonometry. Students in the course will also study the unit circle and apply it to solving trigonometric equations and proving identities. It is strongly suggested that each student have his/her own personal graphing calculator, preferably a TI-83+™ or a more advanced model.

**Prerequisite:** Due to the rigorous nature and accelerated pace of this course, students must achieve a grade of B- or better in Algebra 2 Honors to qualify for enrollment.

**42434. TECHNICAL MATHEMATICS Gr. 11-12 1 Credit Full Year**

This course is intended to expose students to practical vocational and technical applications of mathematical concepts learned in Algebra and Geometry. The main focus of the course will be teaching students when, why, and how they are likely to need to apply their mathematical skills. This course is ideal for students interested in technical fields such as electrical, welding, automotive, plumbing or HVAC. It is recommended for Juniors and Seniors.

**Prerequisite:** Algebra 1 and Geometry, at least two full math credits.

**42455. TRIGONOMETRY Gr. 11-12 ½ Credit Half Year**

A study of the periodic nature of circular functions is combined with the trigonometry of the right triangle. A key component of the course is the graphing of circular functions using amplitude, period, phase shift and vertical displacement. Graphs are also constructed to model real world phenomena. Solving for unknown parts as well as using the Law of Sines and the Law of Cosines are discussed in terms of oblique and right triangles. Students will also learn how to solve trigonometric equations and how to prove basic trigonometric identities.

**Prerequisite:** Algebra 2

**42456. PROBABILITY & STATISTICS Gr. 11-12 ½ Credit Half Year**

This course introduces the student to the formulas and concepts used to develop measures of probability and statistics. Completion of the course will enable a student to understand and interpret statistical results and data more accurately. The student will also be able to develop his/her own set of statistics from given data, as well as being able to form appropriate conjectures and conclusions from the results. Topics include the use and misuse of statistics, measures of central tendencies, measures of dispersion, measures of position, frequency distributions, standard deviation, bivariate data, probability, probability distributions and the normal probability distribution.

**Prerequisite:** Algebra 2

**42458. ORIGINS OF MATHEMATICS Gr. 11-12 ½ Credit Half Year**

Mathematics, as it exists today, is part of an ongoing process of evolving human reasoning beginning before recorded history. This course explores the origins of mathematical systems, and how disparate systems came together. Students will apply their math skills to problems using methods developed in earlier cultures including Ancient Egypt, Mesopotamia, Ancient Greece, the Roman Empire, India, China, and the Arab world. Numbers systems, multiple bases, reckoning systems, and application of math will be emphasized.

**Prerequisite:** 2 credits in math.

**42460. DATA LITERACY Foundations Gr. 11 ½ Credit Half Year**

This course is designed to provide an opportunity for students to explore math in the world around them outside of the traditional Algebra and Geometry track. Students will gain a basic understanding of how statistics are used in the world around them. Students will develop the tools necessary to make informed decisions. Focus areas for this course include data analysis, graph analysis, tools for statistics, and politics and polling.

**Prerequisite:** Applied Math 2

**42462. FINDING MATH IN THE WORLD Foundations Gr. 11 ½ Credit Half Year**

This course will deepen students' understanding of where math is at work in the world around them. We will focus on areas of study based on student interest and will explore how math is used in those areas. Students will develop an appreciation for the many uses of math in their lives.

**Prerequisite:** Applied Math 2

**40457. ADVANCED PLACEMENT STATISTICS Honors Gr. 11-12 1 Credit Full Year**

Advanced Placement Statistics is a course designed to prepare students for the AP Statistics Exam. The course emphasizes the exploration and interpretation of univariate and bivariate data through graphical and numerical displays and summaries. This includes dotplots, stemplots, histograms and cumulative frequency plots. Data is analyzed using measures of central tendency, measuring spread and measuring position. Students will also learn how to plan a study by gathering appropriate information forming conjectures and interpretations of that information. Understanding basic probability theory and producing models using that theory are integral components of the course as well. Finally, students will confirm the validity of models through statistical inference by using confidence intervals and various tests of significance. **This course requires a summer project.**

**Prerequisite:** A final grade of "C+" or better in Algebra 2 Honors, or "B" or better in Algebra 2.

**42451. CONSUMER MATH Foundations Gr. 12 1 Credit Full Year**

This course attempts to stress those essential math skills needed to make responsible and effective everyday financial decisions. A strong emphasis is placed on using a calculator as a problem-solving tool. Some of the topics to be studied include money management, banking services, long and short term financing, consumer awareness in purchasing goods and services, living expenses, recreational expenses, home improvements and investing.

**Prerequisite:** Data Literacy and Finding Math in the World

**42452. CONSUMER MATH Gr. 12 1 Credit Full Year**

Using textbook examples and short-term projects, this course stresses those essential math skills needed to make responsible and effective everyday financial decisions. A strong emphasis is placed on using a calculator as a problem-solving tool. Topics to be studied include money management, banking services, long and short-term financing, consumer awareness in purchasing goods and services, living expenses, recreational expenses, home improvements and investing.

**42454. MATHEMATICS FOR COLLEGE PLACEMENT                      Gr.12                      1 Credit                      Full Year**

This course is designed for students who plan to go to college, but do not plan to major in mathematics or science-based fields of study. Students will study topics in mathematics necessary for their future in universities and colleges. This course is designed to help students prepare for mathematics placement exams at college. By studying topics such as functions, coordinate geometry, trigonometry, statistics, and application problems, students will gain the skills needed to prepare for their future in college.

**Prerequisite:** Algebra 1, Geometry, and currently or previously enrolled in Algebra 2

**42470.                      CALCULUS                      Gr. 12                      1 Credit                      Full Year**

This course is designed to introduce students to the basic foundations of differential and integral calculus. Students will learn how to apply various derivative and integration formulas to a variety of functions. The derivative and integral will also be used to solve appropriate real-world problems. Theoretical aspects and abstract concepts of calculus will be a minimal part of this course. This course will not be sufficient to prepare a student for the Advanced Placement Calculus AB Exam.

**Prerequisite:** Trigonometry Junior Year or Semester One Senior Year or AP Pre-Calculus.

**40471. ADVANCED PLACEMENT CALCULUS                      Gr. 12                      1 Credit                      Full Year**  
**Honors**

AP Calculus A is a course in differential calculus with emphasis on the techniques of differentiation and applications of the derivative. Topics include limits, derivatives of algebraic functions, graphing, maximum and minimum and related rates. Some integration is discussed as the last part of the course. AP Calculus B is a course concentrating on integral calculus. Topics included are the integration of algebraic functions, the differentiation and integration of trigonometric, exponential and logarithmic functions and applications of the definite integral. These applications relate to finding areas and volumes and to motion problems. Additional integration techniques are discussed as time permits. This course is designed to provide the content necessary to take the Advanced Placement Calculus AB Exam, which students are expected to take. It is strongly suggested that each student have his/her own personal graphing calculator, preferably a TI-83+™ or a more advanced model.

**Prerequisite:** Advanced Placement Pre-AP Calculus with a grade of 80% or better. Students who have not taken Pre-AP Calculus would be substantially behind their peers in this class, therefore ineligible to take this course.

# MUSIC

Students are encouraged to be well-rounded and to participate in as many different activities and subject areas as possible. **All music courses apply toward the ½ Fine Arts Education requirement for graduation.** The following courses are available in the Music Department:

**93010                    ELEMENTS OF MUSIC                    Gr. 9-12                    ½ Credit                    Half Year**

This course is intended to give the student basic skills for reading and writing music. The class will familiarize the student with notes, rhythms, scales, chords and other musical fundamentals. Prior musical knowledge or experience is not necessary. **Students will choose the course level at the beginning of the course.**

**93011.                    MUSIC APPRECIATION                    Gr. 9-12                    ½ Credit                    Half Year**

This course will be a study of the history of music. Students will become acquainted with a wide variety of musical styles. A large component of this class will be listening to music.

**91012.                    ADVANCED MUSIC THEORY                    Gr. 9-12                    ½ Credit                    Half Year**  
**Honors**

This course is a continuation of Elements of Music. More advanced musical techniques will be explored through drill, analysis and composition.

**Prerequisite:** Elements of Music, Music Fundamentals or permission of the instructor.

**91013.                    INTRODUCTION TO PIANO                    Gr. 9-12                    ½ Credit                    Half Year**

The student will acquire basic piano/keyboard technique. The student should own a piano or a keyboard, as daily outside practice is recommended. Prior musical knowledge or experience is not necessary.

**91014.                    INTRODUCTION TO GUITAR                    Gr. 9-12                    ½ Credit                    Half Year**

The student will acquire basic guitar technique. The student must own an acoustic (non-electric) guitar. Outside practice is recommended. Prior musical knowledge or experience is not necessary.

**91015.                    INTERMEDIATE GUITAR                    Gr. 9-12                    ½ Credit                    Half Year**

The student will be exposed to barre chords, classical technique, scales, blues, and a variety of strumming and picking patterns. The student must own an acoustic (non-electric) guitar. Outside practice is required.

**Prerequisite:** Introduction to Guitar

**91023.                    INTERMEDIATE PIANO                    Gr. 9-12                    ½ Credit                    Half Year**

This course is a continuation of Introduction to Piano. Pedaling technique will be introduced and more advanced piano literature will be presented. The student should own a piano or a keyboard, as daily outside practice is required.

**Prerequisite:** Introduction to Piano or permission of instructor.

**91016.                    CHORUS                    Gr. 9-12                    1 Credit                    Full Year**

Chorus will expose the student to a variety of traditional and contemporary styles of vocal music. Prior musical knowledge or experience is not necessary, but students must be able to match pitch.

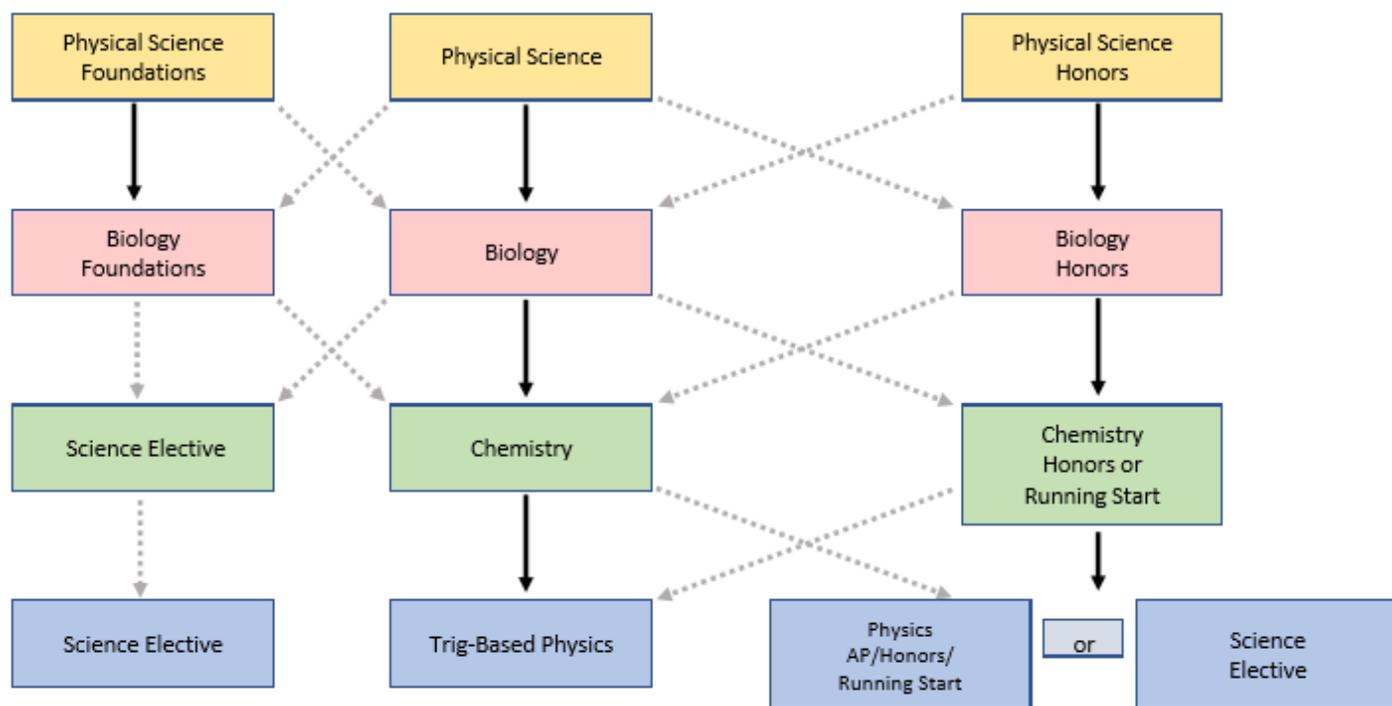


# SCIENCE

The charts below outline the various sequences of courses for each level in the science program. Their purpose is to serve as a guide for selecting courses over a period of four years. *It should be noted that these charts are not meant to imply that once students choose a particular level that they must continue with that level for the remainder of their high school careers.*

## Progression Chart for MHS Science

The majority of students follow the black arrows.



### Science Electives

Earth and Space Science	Food Chemistry	Oceanology	Environmental Biology
Anatomy and Physiology	Survey of Industrial Chemistry	AP Biology	AP Chemistry
Topics in Physical Science (remediation)	Topics in Life Science (remediation)	Science Olympiad Honors	Project Earth
	Experimental Photography	Art of Science	

52510. **PHYSICAL SCIENCE Foundations**

Gr. 9

1 Credit

Full Year

This course includes the main content areas of matter and energy. Students will become acquainted with these content areas through a process-oriented approach. This will be accomplished with a large number of laboratory investigations. Topics will include metric measurements, properties of matter, structure of matter, classification of elements and compounds, changes of matter, force and motion, work, heat, sound, light and magnetism. **This course meets the Physical Science requirement for graduation.**

**52512. PHYSICAL SCIENCE Gr. 9 1 Credit Full Year**

This is a skills-based course that focuses on the main content areas of matter and energy. Topics studied will include forms of matter and energy, Newton's Laws of Motion, atomic structure, chemical and physical measurements, as well as properties/principles of matter and energy. Students will also become more familiar with the physical and chemical aspects of their environment as they relate to societal and technological issues. **This course meets the Physical Science requirement for graduation.**

**Prerequisite:** Algebra 1 (may be taken concurrently)

**50513. PHYSICAL SCIENCE Gr. 9 1 Credit Full Year**  
**Honors**

This course is a rapid-paced introduction to Physics and Chemistry. A semester of each will include a laboratory emphasis. Mathematical development of theories and laws will be stressed. Chemistry will include such topics as classification of matter, atomic theory, period tables, atomic structure, and problem-solving skills. Physics will include such topics as Newton's Laws of Motion, work, energy, power, inertia, and heat. Vector analysis of problems will be developed. **This course meets the Physical Science requirement for graduation.**

**Prerequisite:** Due to the rigorous nature and accelerated pace of this course, middle school students must achieve a grade of at least 80% on a placement test. This course provides the requisite skills and content needed to succeed in Honors Biology.

**52530. BIOLOGY Gr. 10 1 Credit Full Year**  
**Foundations**

This course studies the structure and function of plant and animal life and the human body through observations and discussions. Topics studied include the metric system, applications of the scientific method, health problems, cellular and multi-cellular animals, various environments and how they are affected by humans, and plant life. **This course meets the Life Science requirement for graduation.**

**52532. BIOLOGY Gr. 10 1 Credit Full Year**

This course is a laboratory-oriented study in cell structure, ecosystems, heredity and evolution. Throughout the year students will learn how to use the tools of biology and how to apply the scientific process to the biological sciences. **This course meets the Life Science requirement for graduation.**

**50533. BIOLOGY Gr. 10 1 Credit Full Year**  
**Honors**

This course is an intensive and challenging introduction to Biology. A discovery approach using many self-directed labs will be employed. A strong chemistry emphasis will be developed, stressing cell structure, function, and replication, DNA, genetics, and cell energies. Topics to be studied are the cell, genetics, human anatomy and physiology, botany, microbiology, the tools of biology, and evolution. **This course meets the Life Science requirement for graduation. This course requires a summer project.**

**Prerequisite:** Honors Physical Science or a recommendation from the ninth grade Physical Science teacher.

**52550. TOPICS IN PHYSICAL SCIENCE Gr. 11-12 1 Credit Full Year**  
**½ Credit Half Year**

This one semester course contains the main content areas of matter and energy. Students will become acquainted with these areas through a process-oriented approach. This will be accomplished through a large number of laboratory investigations. Included in this approach will be the roles of matter and energy in the physical sciences as well as the life and earth sciences. Students will also become familiar with the role of science and its relationship to technological and societal issues. **This course meets the Physical Science requirement for graduation.**

**Restriction:** Not open to students who passed Physical Science.

<b>52551.</b>	<b>TOPICS IN LIFE SCIENCE</b>	<b>Gr. 11-12</b>	<b>1 Credit</b> <b>½ Credit</b>	<b>Full Year</b> <b>Half Year</b>
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This one semester course contains the main content areas of the life sciences. Students will become acquainted with life sciences through a process-oriented approach. This will be accomplished through a large number of activities and laboratory investigations. Included in the approach will be living organisms' interaction with their environment. **This course meets the Life Science requirement for graduation.**

**Restriction:** Not open to students who passed Biology.

<b>52552.</b>	<b>INDUSTRIAL CHEMISTRY</b>	<b>Gr. 11-12</b>	<b>1 Credit</b>	<b>Full Year</b>
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This is an applied chemistry course for the first semester, which is an introduction to a conventional basic chemistry curriculum focusing on atomic structure, the properties of matter, and the periodic table, which is the source of the raw materials used in industrial chemistry after which the course will delve into industrial chemistry topics. The topics covered will be very laboratory-based and will introduce basic laboratory techniques that a student may encounter in a post-graduate career as a chemical operator or laboratory technician. As such, each student will keep an ongoing record of their lab work in a laboratory notebook that will be maintained for the whole year by the student in a fashion that is often used in the industrial lab setting. In addition to the laboratory-based work, articles that highlight the popular and often controversial aspects related to industrial chemistry will be given and discussed on a regular basis. The students will also keep a journal to record their reflections on these topics. There is no algebraic math requirement although basic arithmetic skills are required. Semester two topics (but are not limited to) organic chemistry, acids & bases, polymers, nanotechnology, and forensics. **This course meets the Physical Science requirement for graduation.**

<b>52553.</b>	<b>CHEMISTRY</b>	<b>Gr. 11-12</b>	<b>1 Credit</b>	<b>Full Year</b>
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This course is a laboratory approach to the study of atomic structure, mole concepts, stoichiometry, gases, solutions, thermochemistry and bonding. **This course meets the Physical Science requirement for graduation.**

**Prerequisite:** Algebra 2 (may be taken concurrently)

<b>50554.</b>	<b>CHEMISTRY</b> <b>Honors</b>	<b>Gr. 11-12</b>	<b>1 Credit</b>	<b>Full Year</b>
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This course is a rapid paced, topic-oriented approach to extend the students' learning skills and critical thinking ability. It covers such chemistry content as Atomic structure, mole concepts, stoichiometry, gases, solutions, thermochemistry, and bonding. Laboratory skills will also be stressed. Students will be assigned a summer project in preparation for this class. The project is intensive in nature, and students will be penalized if they choose not to complete the project. **This course meets the Physical Science requirement for graduation. This course requires a summer project.**

**Prerequisite:** Algebra 2 (may be taken concurrently)

<b>51554.</b>	<b>CHEMISTRY RUNNING START</b> <b>Honors</b>	<b>Gr. 11-12</b>	<b>1 Credit</b>	<b>Full Year</b>
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This course is a rapid paced, topic-oriented approach to extend the students' learning skills and critical thinking ability. It covers such chemistry content as Atomic structure, mole concepts, stoichiometry, gases, solutions, thermochemistry, and bonding. Laboratory skills will also be stressed. Students will be assigned a summer project in preparation for this class. The project is intensive in nature, and students will be penalized if they choose not to complete the project. **This course meets the Physical Science requirement for graduation. This course requires a summer project.**

**Prerequisite:** Algebra 2 (may be taken concurrently)

<b>52556</b>	<b>TRIGONOMETRY-BASED PHYSICS</b>	<b>Gr. 11-12</b>	<b>1 Credit</b>	<b>Full Year</b>
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This is a first-year physics course which provides an extensive background in the basic concepts of physics, including motion, forces energy, waves, and electricity. Laboratory work will be emphasized. Students will use algebra and trigonometry to analyze word problems. **This course meets the Physical Science requirement for graduation.**

**Prerequisite:** Trigonometry (may be taken concurrently during first semester).



**52570. ENVIRONMENTAL BIOLOGY Gr. 11-12 ½ Credit Half Year**

This course will provide an overview of ecological principles (ecosystems, populations, natural selection, and succession) and a detailed discussion and research of student-selected topics such as natural resources, land use, waste disposal, pollution, societal and technological issues.

**Prerequisite:** 1 year of chemistry (may be taken concurrently)

**50571. ANATOMY & PHYSIOLOGY Gr. 12 1 Credit Full Year**  
**Honors**

Students will study the structure and functions of the human body with its complex systems. They will learn about skeletal and muscular systems, the nervous system, sense organs, and the endocrine system.

**Prerequisite:** 1 year of Chemistry, CM or Honors and 1 year of Biology, CM or Honors

**50572. ADVANCED PLACEMENT CHEMISTRY Gr. 12 1 Credit Full Year**  
**Honors**

Following the AP curriculum this laboratory-centered course serves as a second year of high school chemistry that covers topics typically covered in a college-level general chemistry course. Topics include Thermochemistry, Gas Laws, Electronic Structure of the Atom, Chemical Bonding, Solids Liquids and Solutions, Kinetics, Equilibrium, Acid Base Theory, Free Energy, Oxidation Reduction, Electrochemistry and VSEPR theory & Intermolecular Forces. Students will be expected to take the Advanced Placement Test in chemistry. **This course requires a summer project.**

**Prerequisite:** CM or Honors Chemistry, plus recommendation of the Chemistry teacher or the Science Department Head.

**50573. ADVANCED PLACEMENT BIOLOGY Gr. 12 1 Credit Full Year**  
**Honors**

Students will study the means by which biological information is collected and interpreted, how to formulate a hypothesis from available data and how to make further predictions. Emphasis is placed on laboratory experiments and individual research. Students are expected to take the Advanced Placement Examination in Biology. College credit and/or advanced standing in college may be awarded upon successful completion of the exam. **This course requires a summer project.**

**Prerequisite:** 1 year of Chemistry, CM or Honors and 1 year of Biology, CM or Honors

**50557. ADVANCED PLACEMENT PHYSICS 1: ALGEBRA-BASED Gr. 11-12 1 Credit Full Year**  
**Honors**

This full year course introduces key Physics concepts including Newton's laws of motion; work and power; conservation laws for linear and angular momentum; oscillations and mechanical waves; electricity and magnetism. The course employs an instructional approach that requires significant student independence and superior critical thinking skills. It is designed for students planning to major in science or engineering and it aims to develop and expand students' knowledge of physics. This course, in conjunction with the AP Physics 2 course, covers a full year of introductory college Physics and is designed to offer students the option of attempting successfully the AP 1 Physics examination. **This course requires a summer project.**

**Prerequisite:** Honors Chemistry or approval from the Science Department Head

**50575. ADVANCED PLACEMENT PHYSICS 2: ALGEBRA-BASED Gr. 12 1 Credit Full Year**  
**Honors**

This course introduces key Physics concepts including fluid mechanics; thermodynamics; electricity and magnetism; geometric optics; special relativity, quantum mechanics, and nuclear physics. The course employs an instructional approach that requires significant student independence and superior critical thinking skills. It is designed for students planning to major in science or engineering and it aims to develop and expand students' knowledge of physics. This course, in conjunction with the AP Physics 1 course, covers a full year of introductory college Physics and is designed to offer students the option of attempting successfully the AP 2 Physics examination. **This course requires a summer project.**

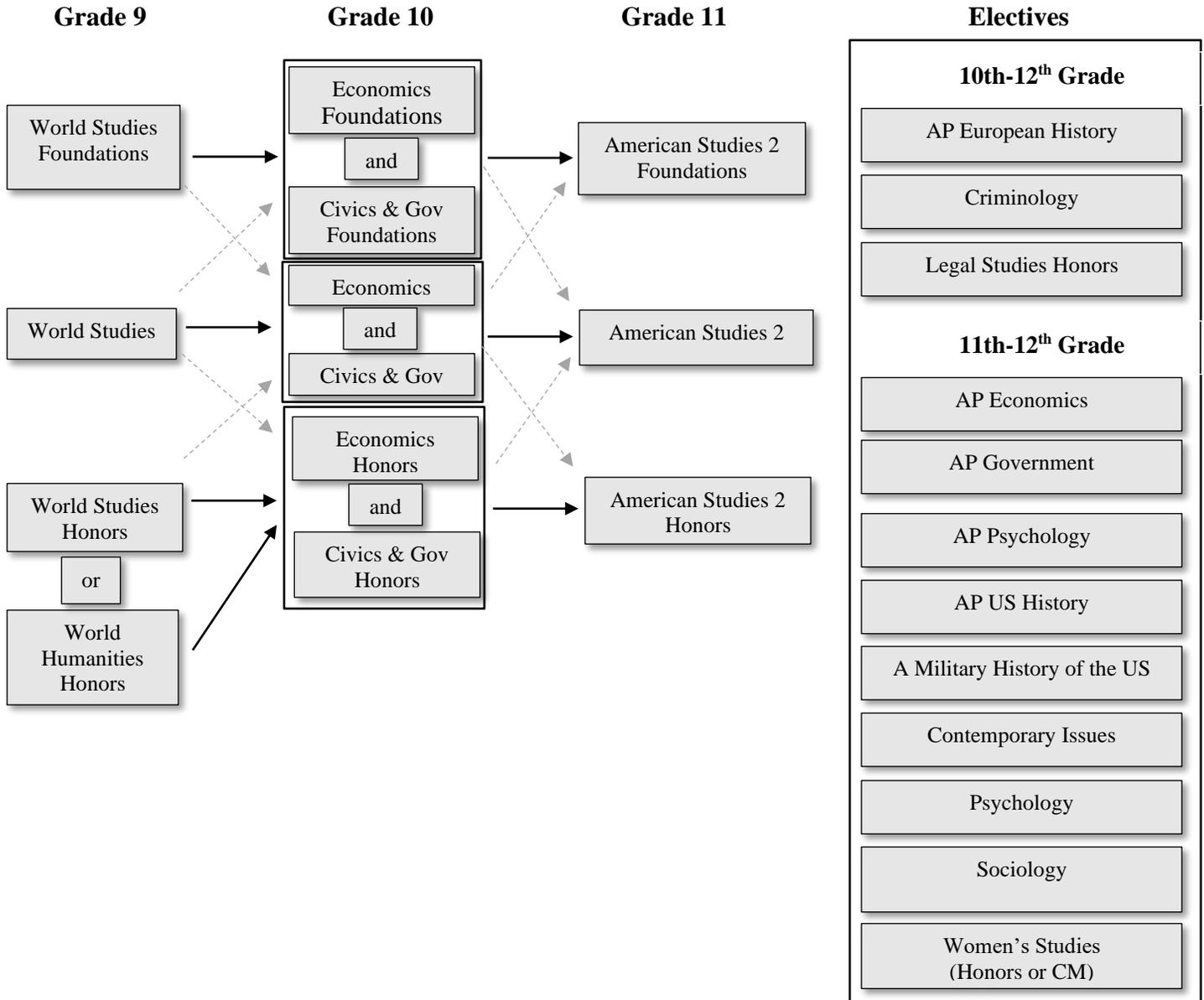
**Prerequisite:** Advanced Placement Physics 1 (may be taken concurrently)

# SOCIAL STUDIES

The charts below outline the various sequences of courses for each level in the science program. Their purpose is to serve as a guide for selecting courses over a period of four years. *It should be noted that these charts are not meant to imply that once students choose a particular level that they must continue with that level for the remainder of their high school careers.*

## Progression Chart for MHS Social Studies 2022-2023

The majority of students follow the black arrows.



The **American Studies** program is being phased out over the next two years. The class of 2025 is now expected to take the Civics and Economics semester courses during their sophomore year instead of American Studies 1, and a year-long US History course during their junior year instead of American Studies 2. The class of 2024 will be expected to complete the program by taking American Studies 2 during their junior year, which will also be available for students who need to remediate that course. For students who need to remediate American Studies 1, we plan to run sections for remediation depending upon need.

**22206. WORLD STUDIES Gr. 9 1 Credit Full Year**  
**Foundations**

World Studies is designed to introduce 9th grade students to various regions of the world through the study of geography, religion, philosophy, social structure, political structure and history. By studying these components in connection to these regions students will gain a greater understanding of how the modern world was shaped and a greater appreciation of the contemporary issues and challenges facing these nations. This course will spend considerable time covering major world history concepts with special attention to the five themes of geography as well as current world affairs. The Middle East, Africa, Asia, South America, Latin America, North America and Europe will be emphasized throughout the course. In this course, students will develop their skills in the four competency areas of comprehension, analysis, research and evaluation.

**22208. WORLD STUDIES Gr. 9 1 Credit Full Year**

World Studies is designed to introduce 9th grade students to various regions of the world through the study of geography, religion, philosophy, social structure, political structure and history. By studying these components in connection to these regions students will gain a greater understanding of how the modern world was shaped and a greater appreciation of the contemporary issues and challenges facing these nations. This course will spend considerable time covering major world history concepts with special attention to the five themes of geography as well as current world affairs. The Middle East, Africa, Asia, South America, Latin America, North America and Europe will be emphasized throughout the course. Through a wide range of activities and assessments, students will develop their skills in the four competency areas of comprehension, analysis, research and evaluation. Students will concentrate on the necessary skills for academic success including writing, listening, analyzing concepts and ideas individually and cooperatively in small groups, and developing oral presentations and research projects. The course goals are to develop higher level reading, verbal, writing, and study skills and content knowledge; to develop abstract, complex language and concepts through application to problem solving.

**20209. WORLD STUDIES Gr. 9 1 Credit Full Year**  
**Honors**

World Studies is designed to introduce 9th grade students to various regions of the world through the study of geography, religion, philosophy, social structure, political structure and history. By studying these components in connection to these regions students will gain a greater understanding of how the modern world was shaped and a greater appreciation of the contemporary issues and challenges facing these nations. This course will spend considerable time covering major world history concepts with special attention to the five themes of geography as well as current world affairs. The Middle East, Africa, Asia, South America, Latin America, North America and Europe will be emphasized throughout the course. Through a wide range of activities and assessments, students will develop their skills in the four competency areas of comprehension, analysis, research and evaluation. Students will concentrate on the necessary skills for academic success including writing, listening, analyzing concepts and ideas individually and cooperatively in small groups, and developing oral presentations and research projects, to prepare students for a four-year college. The course goals are to develop higher level reading, verbal, writing, and study skills and content knowledge; to develop abstract, complex language and concepts through application to problem solving. Students who would like to take an Honors social studies course must go through the Honors petition process. **This course will require a summer project.**

*Alternatively, freshmen that test into honors English and Social Studies can choose to take an Interdisciplinary course entitled Foundations in World Humanities that will satisfy their World Studies and English 9 requirement for graduation. See the Interdisciplinary section of the Program of Studies for additional information.*

**22210. CIVICS & GOVERNMENT Gr. 10-12 ½ Credit Half Year**  
**Foundations**

The Civics and Government course will focus on the responsibilities of American citizenship. Students will investigate the purpose, structure, and functions of government at the federal, state and local levels by examining the United States and New Hampshire Constitutions. The political process, the role of law and the importance of civic participation will be discussed. This course will include a study of international relationships and the role of the United States in world affairs. In this course, students will develop their skills in the four competency areas of comprehension, analysis, research and evaluation.

**22212. CIVICS & GOVERNMENT Gr. 10-12 ½ Credit Half Year**

The Civics and Government course will focus on the responsibilities of American citizenship. Students will investigate the purpose, structure, and functions of government at the federal, state and local levels by examining the United States and New Hampshire Constitutions. The political process, the role of law and the importance of civic participation will be discussed. This course will include a study of international relationships and the role of the United States in world affairs. Through a wide range of activities and assessments, students will develop their skills in the four competency areas of comprehension, analysis, research and evaluation. Students will concentrate on the necessary skills for academic success including writing, listening, analyzing concepts and ideas individually and cooperatively in small groups, and developing oral presentations and research projects. The comprehensive level goals are to develop higher level reading, verbal, writing, and study skills and content knowledge; to develop abstract, complex language and concepts through application to problem solving; to prepare students who plan on post-secondary education, including four year colleges.

**20216. CIVICS & GOVERNMENT Gr. 10-12 ½ Credit Half Year  
Honors**

The Civics and Government course will focus on the responsibilities of American citizenship. Students will investigate the purpose, structure, and functions of government at the federal, state and local levels by examining the United States and New Hampshire Constitutions. The political process, the role of law and the importance of civic participation will be discussed. This course will include a study of international relationships and the role of the United States in world affairs. Through a wide range of activities and assessments, students will develop their skills in the four competency areas of comprehension, analysis, research and evaluation. The honors level goals are to develop advanced thinking, reading, verbal and writing skills; to develop understanding of complex concepts and themes through extensive investigation and sophisticated language and subject matter; to prepare students who plan to attend a four-year college. Students must be able to conduct complex research projects and apply skills and concepts independently. **This course requires a summer project.**

**22213. ECONOMICS Gr. 10-12 ½ Credit Half Year  
Foundations**

This Economics course covers basic macro and micro-economic concepts as well as matters of personal finance. Areas of study include scarcity, economic systems, demand, supply, price, business structures, market types, economic stability, international trade, banking and the Federal Reserve System, as well as monetary and fiscal policy. In this course, students will develop their skills in the four competency areas of comprehension, analysis, research and evaluation.

**22215. ECONOMICS Gr. 10-12 ½ Credit Half Year**

This Economics course covers basic macro and micro-economic concepts as well as matters of personal finance. Areas of study include scarcity, economic systems, demand, supply, price, business structures, market types, economic stability, international trade, banking and the Federal Reserve System, as well as monetary and fiscal policy. Along with traditional classroom work there will be many projects and simulations done in small groups and individually. Students will concentrate on the necessary skills for academic success including writing, listening, analyzing concepts and ideas individually and collaboratively in small groups, and developing oral presentations and research projects. The comprehensive level goals are to develop higher level reading, verbal, writing, and study skills and content knowledge; to develop abstract, complex language and concepts through application to problem solving; to prepare students who plan on post-secondary education, including four year colleges.

**20217. ECONOMICS Gr. 10-12 ½ Credit Half Year  
Honors**

This Economics course covers basic macro and micro-economic concepts as well as matters of personal finance. Areas of study include scarcity, economic systems, demand, supply, price, business structures, market types, economic stability, international trade, banking and the Federal Reserve System, as well as monetary and fiscal policy. Along with traditional classroom work there will be many projects and simulations done collaboratively and individually. The honors level goals are to develop advanced thinking, reading, verbal and writing skills; to develop understanding of complex concepts and themes through extensive investigation and sophisticated language and subject matter; to prepare students who plan to attend a four-year college. Students must be able to conduct complex research projects and apply skills and concepts independently. **This course requires a summer project.**

**22273. AMERICAN STUDIES 2 Gr. 11 ½ Credit US History Full Year**  
**Foundations ½ Credit Economics**

This year long course examines the major people, events and trends in United States history from the end of the First World War through the first two decades of the 21st Century. Course objectives will include the impact of industrialization and globalization on the American political and economic system, while exploring the development of modern American culture and the persistent fight for equal rights. This course embeds the main concepts and objectives of economics, including scarcity, economic systems, supply, demand, price, business structures, market types, economic stability, international trade, banking and the Federal Reserve System, as well as monetary and fiscal policy. Students will engage and participate in a wide range of formative, summative and performance-based assessments and activities designed to provide opportunities to demonstrate departmental essential learning components through the application of research, writing, technology, use of primary documents, class discussion and student presentations.

**Prerequisite:** Successful completion of American Studies 1

**22274. AMERICAN STUDIES 2 Gr. 11 ½ Credit US History Full Year**  
**½ Credit Economics**

This year long course examines the major people, events and trends in United States history from the end of the First World War through the first two decades of the 21st Century. Course objectives will include the impact of industrialization and globalization on the American political and economic system, while exploring the development of modern American culture and the persistent fight for equal rights throughout. This course embeds the main concepts and objectives of economics, including scarcity, economic systems, supply, demand, price, business structures, market types, economic stability, international trade, banking and the Federal Reserve System, as well as monetary and fiscal policy. Students will engage and participate in a wide range of formative, summative and performance-based assessments and activities designed to provide opportunities to demonstrate departmental essential learning components through the application of research, writing, technology, use of primary documents, class discussion and student presentations.

**Prerequisite:** Successful completion of American Studies 1

**22275. AMERICAN STUDIES 2 Gr. 11 ½ Credit US History Full Year**  
**Honors ½ Credit Economics**

This year long course examines the major people, events and trends in United States history from the end of the First World War through the first two decades of the 21st Century. Course objectives will include the impact of industrialization and globalization on the American political and economic system, while exploring the development of modern American culture and the persistent fight for equal rights throughout. This course embeds the main concepts and objectives of economics, including scarcity, economic systems, supply, demand, price, business structures, market types, economic stability, international trade, banking and the Federal Reserve System, as well as monetary and fiscal policy. Students will engage and participate in a wide range of formative, summative and performance-based assessments and activities designed to provide opportunities to demonstrate departmental essential learning components through the application of research, writing, technology, use of primary documents, class discussion and student presentations. The goal of this Honors course is to develop students' advanced thinking, reading, speaking and written expression. Students will be expected to engage in activities designed to develop an understanding of complex issues, concepts through both written and visual components of reinforcement. **This course requires a summer project.**

**Prerequisite:** Successful completion of American Studies 1

**22246. CRIMINOLOGY Gr. 11-12 ½ Credit Half Year**

This course is designed for study of the American legal system, including the creation, enforcing and interpreting of laws. Criminal behavior and juvenile law are major units of the course. The instruction in this course will engage the class using a variety of hands-on applications, including mock trial, analysis of case studies, and class discussion as well as more intensive research and writing assignments and assessments throughout the semester.

**22255. PSYCHOLOGY Gr. 11-12 ½ Credit Half Year**

This course is designed to introduce the basic vocabulary, concepts, methods, and theories in the broad field of psychology. Primary emphasis is on the five domains of psychology – methods, bio-psychological, developmental, cognitive, and abnormal psychology. The comprehensive level goals are to develop higher level reading, verbal, writing, and study skills and content knowledge; to develop abstract, complex language and concepts through application to problem solving; to prepare students who plan on post-secondary education, including four year colleges. Instruction assumes students are able to master content and concepts with little supervised practice and/or re-teaching. Students are expected to independently apply skills and concepts for the duration of this course.

**22264. SOCIOLOGY Gr. 11-12 ½ Credit Half Year**

Sociology is an elective course that studies human society and social behavior, including how each acts as an essential part of a civilized society. Emphasis will be given on the role of culture, violence, deviance, social control, socialization, personality, group behavior, social class, and social institutions. The course will also feature extensive study of the values, beliefs, lifestyles and historic events which help shape society. Topics of interest include the family, education, religion, and sport. Ultimately, students will gain insight and understanding of both themselves and the larger society around them through a wide range of activities involving research, writing and classroom discussion.

**22244. CONTEMPORARY ISSUES Gr. 11-12 ½ Credit Half Year**

The purpose of this course is to use current events and connected issues to instill in students an awareness of self of how they fit in today's global community. Students will study the world around them by examining news trends, various cultural perspectives and major subjects of the time period. Instructional methods may include lectures, readings, research, discussion, debate, interviews and guest speakers, with a particular emphasis on class discussion, writing, as well as independent and collaborative research.

**20241. LEGAL STUDIES Gr. 11-12 ½ Credit Half Year**  
**Honors**

This course is designed to provide students with an in-depth understanding of their legal rights and responsibilities, knowledge of everyday legal problems, and the ability to analyze, evaluate, and in some situations, resolve legal disputes. Topics will include torts, consumer law, family law, individual rights law, forensic investigation and Constitutional Law. Students will be given practical legal information and opportunities to apply their knowledge to real life situations. The honors level goals are to develop advanced thinking, reading, verbal and writing skills; to develop understanding of complex concepts and themes through extensive investigation and sophisticated language and subject matter; to prepare students who plan to attend a four year college. Students must be able to conduct complex research projects and apply skills and concepts independently.

**Prerequisite:** Criminology

**22248. A MILITARY HISTORY OF Gr. 11-12 ½ Credit Half Year**  
**THE UNITED STATES**

This half-credit elective course examines America's military history beginning with the American Revolution to the current military interventions and operations of the early 21st century, including the Mexican War, Civil War, Spanish-American War, World Wars I & II, Cold War, Korean War, Vietnam War and Persian Gulf Wars. Students will analyze the evolution and development of American military strategy, operations, and tactics, as well as the significant changes and improvements in military organization of the U.S. armed forces. Students will learn the major technological advances in America's weaponry, communications, and intelligence gathering capabilities, including technology's impact on the American military and its history.

**20266. ADVANCED PLACEMENT EUROPEAN HISTORY**  
**Honors**

**Gr. 11-12**

**1 Credit**

**Full Year**

This year-long AP course examines the significant events, individuals, developments, and processes from approximately 1450 to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical connections; and utilizing reasoning about comparison, causation, and continuity and change over time. The course also provides seven themes that students explore throughout the course in order to make connections among historical developments in different times and places: interaction of Europe and the world, economic and commercial development, cultural and intellectual developments, states and other institutions of power, social organization and development, national and European identity, and technological and scientific innovations. **This course requires a summer project.**

Student are encouraged to take the AP European History exam in May. A strong exam score can be used for college credit at numerous colleges and universities. This varies from School to school and students are advised to research individual colleges or universities for these specific requirements.

*Note:* AP European History is designed to be the equivalent of an introductory college or university survey of modern European history and is considered College Course Equivalent.

**Prerequisites:** Approval of the Social Studies Department Chair. In addition to successful completion of World Studies, students need the ability to read a college-level textbook and write grammatically correct, complete sentences.

**20265. ADVANCED PLACEMENT ECONOMICS**  
**Honors**

**Gr. 11-12**

**1 Credit**

**Full Year**

This intensive college-level course provides students with an understanding of the principles of both micro and macroeconomics throughout the year, including the theory of consumer behavior, the theory of the firm, and the behavior of profit-maximizing firms under various market structures. Students evaluate the efficiency of the outcomes with respect to price, output, consumer surplus, and producer surplus. They examine the behaviors of households and businesses in factor markets, and learn how the determination of factor prices, wages, interest, and rent influence the distribution of income in a market economy. The course also places particular emphasis on the study of national income and price-level determination; it also develops students' familiarity with economic performance measures, the financial sector, stabilization policies, economic growth, and international economics. Students learn to use graphs, charts, and data to analyze, describe, and explain economic concepts. Various economic schools of thought are introduced as students consider solutions to economic problems. **This course requires a summer project.**

This course prepares students to take the AP Macroeconomics or AP Microeconomics exam in May. A strong exam score can be used for college credit at numerous colleges and universities. This varies from school to school, and students are advised to research requirements for individual colleges and universities.

**Prerequisite:** Approval of the Social Studies Department Head

**22269. (CM)**  
**20269. (H)**

**WOMEN'S STUDIES**  
**Comprehensive/Honors**

**Gr. 11-12**

**½ Credit**

**Half Year**

The Women's Studies course will examine women in American history and their specific influence events, society and culture. Students will discuss political movements, involvement with social issues, designated responsibilities within the family, public roles and private expectations. They will also explore limitations or actions resulting from women's place within a stratified society and perceptions of specific time, and cultures. Although the course is inclusive of the role of both genders within the context of history, the majority of discussion and debate will revolve around women's roles and contributions.



# STUDY SKILLS AND LITERACY

**11210. SUCCESS IN SCHOOL Gr. 9 1 Credit Full Year**

Success in School is a survey course of study skills necessary to achieve success in a high school environment. Students will explore strategies in the areas of learning styles, test taking skills and techniques, reading in the content area, memory, organizational skills, communication skills and writing skills. Techniques will be linked directly to each student's individual course of study. Semester 2 participation decision will be made by the SIS teacher, school counselor, parent and student. The options are to continue to address the above skills for .5 credit, use as a guided study without credit or move to a general study hall.

**Prerequisite:** Recommendation of the School Counselor

**11211. BASIC READING Gr. 9-12 1 Credit Full Year**

Basic Reading is a service that provides direct instruction in the area of Reading. Various assessments, curricula and instructional strategies are implemented at the acquisition stage of learning to read. Basic Reading uses continuous progress monitoring to assure that students are able to fill the current gaps they are currently experiencing in Reading

**Prerequisite:** Recommendation of the Reading teacher.

**11212. INTERMEDIATE READING Gr. 9-12 1 Credit Full Year**

Intermediate Reading is a service that addresses the needs of students who require specific instruction to increase reading fluency. Intermediate Reading builds on Basic Reading but may also address the needs of students who did not need Basic Reading yet require formal specialized instruction at the next level. Intermediate Reading builds on the student's basic abilities in Reading, Vocabulary, Spelling, and Writing Paragraphs. Intermediate Reading further develops skills and motivation allowing students to improve speed, accuracy, and expression when reading.

**Prerequisite:** Recommendation of the Reading teacher.

**11232. COMPREHENSIVE 10 ACADEMIC STUDY Gr. 10 1 Credit Full Year**

The Comprehensive 10 Academic Study provides direct skills instruction in the areas of transition, technology, and study skills. Students will gain an understanding of how time management, planning and study skills impact academic performance. Workplace readiness skills are discussed as well as education requirements for post-graduate planning.

**Prerequisite:** Recommendation of the Comprehensive 10 Team

**11234. LEARNING CENTER Gr. 11-12 1 Credit Full Year**

This for credit class is designed for eleventh and twelfth graders who benefit from explicit organizational and planning instruction to balance their academic workloads and to prioritize work tasks. The learning center staff provide the explicit executive function teaching strategies that enable juniors and seniors to become strategic and independent as learners for their final two years of high school. Students set their own self-monitoring goals in order to target executive function skills that will enable them to transition more successfully to post-secondary learning environments. **This course is Pass/Fail and does not calculate into GPA.**

**Prerequisite:** Students must have successfully completed Success in School at the 9<sup>th</sup> grade level and Comprehensive 10 Assisted Academic Study at the 10<sup>th</sup> grade level.

**11270. POST-SECONDARY PLANNING Gr. 12 1 Credit Full Year**

Transition to post-secondary life involves social awareness, career exploration and employment skills. Students will participate in activities to enhance self-awareness, work readiness skills and interpersonal skills. Each student will explore post-secondary options in depth.

11271.

**POST-SECONDARY  
WORK EXPERIENCE**

**Gr. 12**

**1 Credit**

**Full Year**

Work experience credit may be earned by students who successfully complete and document at least 80 hours of work (per quarter) in employment approved by the teacher. Approved work experience may not include self-employment. In cases where the student is employed in a family business, a non-relative must be the immediate supervisor and an actual pay stub must be presented for documentation of hours worked. Work experience is used extensively as the basis for topics addressed in this course. **This course is Pass/Fail and does not calculate into GPA.**

**Prerequisite:** Must be enrolled concurrently in Post-Secondary Planning

# TECHNOLOGY EDUCATION

Listed below are the course offerings in the Technology Education Department. Please consult the descriptions on the following pages for course length and credit information. The Technology Education Department encourages all students regardless of their post-secondary plans to consider all of the electives for possible areas of interest and enrichment.

**72760. TECHNOLOGY EDUCATION SENIOR LEADERSHIP Gr. 12 ½ Credit Half Year**

This class is open to motivated seniors that have an enhanced interest serving as a teacher assistant in a specific Tech Ed discipline. Through this course students will have opportunities to intern with the instructor and develop their leadership skills. In addition to the teacher assistant position, this class affords a student the opportunity to explore the field with industry applicability utilizing supervising teacher expertise and networks. **This course is Pass/Fail and does not calculate into GPA.**

**Prerequisite:** Students interested must be recommended by their teacher, complete an application and interview with the department head and supervising teacher prior to enrollment. Students who have demonstrated exemplary, responsible behavior throughout the school, as well as in the Technology Education setting, will be considered. Applicants should have a strong desire to work with their younger peers. The application may be picked up from the department head.

## VISUAL ART TECHNOLOGY

**72708. 3D MODELING AND ANIMATION Gr. 9-12 ½ Credit Half Year**

This course will introduce students to the concepts and practices of 3D modeling and animation using, but not limited to Maya, 3DS Max, Adobe Premiere Pro and other related software titles while emphasizing its connection to the creative thought process. Students will have the opportunity to create objects that appear in a three-dimensional space. They can be rotated and moved like real objects. Students will learn an overview of the workflow as it relates to modeling, texturing, animation, lighting, cameras, special effects, rigging and rendering. 3D modeling and animation is at the heart of movies, games and virtual reality. This course provides rigorous educational experiences that will prepare you for careers in the fields of Science, Technology, Engineering, Art and Mathematics (STEAM). **This course fulfills the Information Computer Technology (ICT) or the Fine Arts requirement for graduation.**

**72756.. ADVANCED 3D MODELING AND ANIMATION Gr. 10-12 ½ Credit Half Year Spring Semester**

This project-based course will extend the techniques and build upon the knowledge introduced in the 3D and 2D Animation course and cover topics that are directly related to the state-of-the-art techniques currently being used in the industry. In this course you will learn many advanced techniques of how to bring your characters and scenery more fully to life. After the first quarter you will have the opportunity to go even deeper into the area of 3D and 2D modeling and animation that you enjoy most by working with small teams to create a final product. This team approach will create a learning environment without limitations! This course provides rigorous educational experiences that will prepare you for careers in the fields of Science, Technology, Engineering, Art and Mathematics (STEAM). **This course fulfills the Information Computer Technology (ICT) or the Fine Arts requirement for graduation.**

**Prerequisite:** 3D Modeling and Animation

**72735. PHOTOGRAPHY Foundations Gr. 10-12 ½ Credit Half Year**

This course teaches the basics of black and white photography through the use of a SLR 35mm film camera. Students will learn how to capture an image, to develop film, and how to make enlargements from negatives. Students will explore the basics of photography and exposure with a concentration on composition and traditional darkroom techniques. **This course fulfills the Information Computer Technology (ICT) or the Fine Arts requirement for graduation.**

**Prerequisite:** Upon case manager approval

**70733. PHOTOGRAPHY Gr. 10-12 ½ Credit Half Year**

Students will learn the basics of black and white photography through the use of a manual SLR 35mm camera with interchangeable lenses. Students will learn how to properly expose an image, develop film, and how to make enlargements from negatives. Other topics include; composition, depth of field, stop action, and traditional darkroom techniques. Students will explore the basics of digital photography and exposure with Adobe Light room. **This course fulfills the Information Computer Technology (ICT) or the Fine Arts requirement for graduation. Students who take this course are not eligible to take Experimental Photography.**

**72750. ADVANCED PHOTOGRAPHY Gr. 11-12 ½ Credit Half Year Fall Semester**

Advanced Photography aims to increase students' photographic understanding, composition and appreciation of visual images. Students will learn to use digital technology to enhance photographic skills and utilize in combination with traditional darkroom techniques. Using digital SLR cameras, studio lighting and Adobe Light room software, students will advance their understanding of digital image manipulation, creating a finished portfolio that can be used for acceptance into college, photography career or internship. **This course fulfills the Information Computer Technology (ICT) or the Fine Arts requirement for graduation. Students who take this course are not eligible to take Experimental Photography.**

**Prerequisite:** Successful completion of Photography

**70734. VIDEOGRAPHY Gr. 9-12 ½ Credit Half Year**

Film Arts 1 will introduce students to Filmmaking, focusing on entry level elements of preproduction, production and postproduction. Instruction will focus on using digital cameras, phone cameras, iMac computers, and Apple editing software titles such as iMovie other editing software. Units of study will include camera operation, shot composition, storyboarding, and editing. Students will collaborate in small groups to create projects and learn techniques for working in front of and behind the camera. Students are required to produce films that will be shown to other students, and if selected, the annual film festival. Projects will include but are not limited to, interviews, commercials, animations, and music videos. **This course fulfills the Information Computer Technology (ICT) or the Fine Arts requirement for graduation.**

**72751. ADVANCED VIDEOGRAPHY Gr. 10-12 ½ Credit Half Year**

Film Arts 2 will expand upon the skills learned in Film Arts 1. Instruction will focus on using the advanced features of Apple's Final Cut Pro X Software including multi-track editing and visual effects production. Units of study will include, but are not limited to, chroma key green screening, object matte cloning, three-point lighting, and key-frame animation. Also, some color correcting will be explored in Davinci Resolve. Emphasis will be placed on planning, technique, and creativity. **This course fulfills the Information Computer Technology (ICT) or the Fine Arts requirement for graduation.**

**Prerequisite:** Successful completion of Videography

**72741. GAME DESIGN AND DEVELOPMENT Gr. 10-12 ½ Credit Half Year**

This course will introduce you to the concepts and practices of Game Design and Development. You will have the opportunity to program with C#, design and develop your own video games using Unity and Maya software among other software. This course provides rigorous educational experiences that will prepare you for careers in the fields of Science, Technology, Engineering, Art and Mathematics (STEAM). **This course fulfills the Information Computer Technology (ICT) requirement for graduation.**

**Prerequisite:** 3D Modeling and Animation and/or Programming

### **POWER, PRODUCTION, AND CONTROL TECHNOLOGY**

**70712. POWER, ENERGY AND TRANSPORTATION Gr. 9-12 ½ Credit Half Year**

The history and theory of conventional power systems are analyzed through classroom instruction and hands-on experiences. Units of instruction include the construction, principles of operation and servicing of two and four cycle small gas engines, diesels, the study of hydraulics and pneumatics, and the extensive use of automotive tools and test equipment.

**70735. WELDING TECHNOLOGY Gr. 10-12 ½ Credit Half Year**

This course will provide students with the fundamentals of welding and fabrication. The properties, characteristics and safe handling of metals and gasses are covered in detail. The theories of operation and procedures in Mig, Tig, Arc, spot and gas welding are combined with lab activities that develop fabrication skills and techniques. Units of study will parallel the theory and skill competencies of the American Welding Society Level 1 Certification.

**70753. MULTI-CYLINDER ENGINES Gr. 11-12 ½ Credit Half Year**

Theories and skills acquired in Power, Energy and Transportation will be applied to the unique mechanical features and systems of multi-cylinder engines. Preventive maintenance, servicing and repair techniques will be the lab activities that are centered on engine design and operation theory. Students will explore various troubleshooting methods including the use of the same computer diagnostic equipment found in the automotive industry. Components of the ASE (Automotive Service Excellence) Readiness exam designed to prepare students will be incorporated into the curriculum.

**Prerequisite:** Power, Energy & Transportation

**70754. AUTOMOTIVE ELECTRICAL SYSTEMS Gr. 11-12 ½ Credit Half Year**

This course will focus on automobile electrical and ignition systems. Upon completion of this course, students will be familiar with the theory and operation of the starting and charging system and accessory circuits found in most cars. Lab experiences include the application of troubleshooting and diagnostic testing techniques.

**Prerequisite:** Power, Energy and Transportation

### **ROBOTICS AND COMPUTER TECHNOLOGY**

**70713. COMPUTER TECHNOLOGY Gr. 9-12 ½ Credit Half Year**

This project-based course features a variety of software applications that we currently have as course offerings here at MHS. We begin with the task of a simple programming language to create web pages, work with a programmable robot and write Arduino code in the IDE, then upload it to the microcontroller which executes the code, interacting with inputs and outputs such as sensors, motors, and lights. Then we move to graphic design software to make posters and comics. Following graphic design, we learn to create a video production to create a group music video. Our final learning is of 3D&2D Modeling and Animation software. It is here that we create a full story using modeling, animation and sounds. Other 21st century computer and web-based technology will be explored, such as document production, storage and sharing. Students will also learn about the importance of digital citizenship, Internet safety and the awareness and repercussions of cyber bullying. **This course fulfills the Information Computer Technology (ICT) requirement for graduation.**

**72742. COMPUTER PROGRAMMING I Gr. 10-12 1 Credit Full Year**

This is a two-semester course that covers the creation process of computer software using a modern software language. The course level is designed for students that have no prior knowledge of software programming. Students will learn to write software code, debug code, and execute programs. Topics emphasized are variable types, data manipulation, loop structures, arrays, and functions. **This course fulfills the Information Computer Technology (ICT) requirement for graduation.**

**Prerequisite:** Passed Algebra I or Enrolled in Algebra I with recommendation from Math Teacher.

**72757. COMPUTER PROGRAMMING II Gr. 11-12 1 Credit Full Year**

This is a two-semester course that covers the creation process of computer software using a modern software language. The course level is designed for students that have some prior knowledge of software programming. Students will learn to write software code and programming strategies. Topics emphasized are classes, pointers, sorting, file accessing, and recursion. **This course fulfills the Information Computer Technology (ICT) requirement for graduation.**

**Prerequisite:** Programming I or MHS Computer Specialist Recommendation

**72758.                    COMPUTER PROGRAMMING III                    Gr. 11-12                    1 Credit                    Full Year**

This is a two-semester course that covers the creation process of computer software using a modern software language. The course level is designed for students that have a broad knowledge of software programming. Students will learn to write software code and advanced programming strategies. Topics emphasized input/output hardware programming, containers, static structures, and dynamic structures. **This course fulfills the Information Computer Technology (ICT) requirement for graduation.**

**Prerequisite:** Programming II

### **WOODS TECHNOLOGY**

**70715.                    WOODWORKING                    Gr. 9-12                    ½ Credit                    Half Year**

This course is designed to give all students a wide variety of woodworking experiences through the making of several individual projects. Each student, by using woodworking tools, equipment, understanding materials, expressing creative design, and working in a welcoming classroom environment, will make meaningful projects of their own. Projects may include elements of pyrography (wood burning), painting, etching, carving, laser burning, inlays/accents and other forms of embellishments. Further opportunities for students will be introduced in the area of lathe turning to include spindle turning techniques and, for the motivated student, bowl turning. Introduction to Woodworking foremost instructs students in safe working techniques and habits resulting in meaningful projects that will be enjoyed for decades. **This course fulfills the Fine Arts requirement for graduation.**

**70716.                    ADVANCED WOODWORKING                    Gr. 9-12                    ½ Credit                    Half Year**

Advanced Woodworking is an exciting progression from Intro to Woods into furniture design and construction. Each student will make a functional and practical furniture project that can be admired long into the future. Past projects have consisted of fancy jewelry boxes, round end tables, rectangular end tables with lathe turned tapered legs and Shaker side stand tables with lathe turned column. Advanced joinery techniques will be used such as mitered corners with splines, hand cut mortise and tenon joints or sliding dovetails. All projects will have a lathe turning element along with personal design interests. **This course fulfills the Fine Arts requirement for graduation.**

**Prerequisite:** Woodworking

**70739.                    WOODS 3 CREATIVE ENTERPRISE                    Gr. 10-12                    ½ Credit                    Half Year**

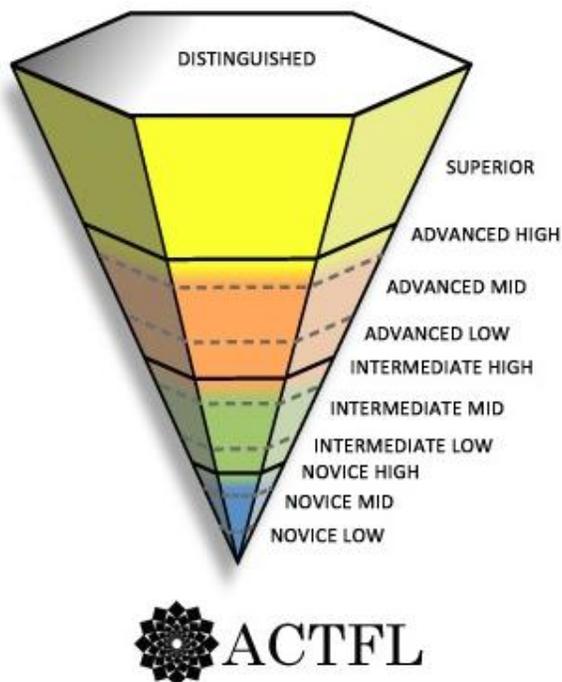
If your passion for lathe turning has just been found, then Creative Enterprise is for you! Students will have an entire semester to further develop advanced lathe turning skills and techniques in spindle turning, bowl turning and the coveted hollow form turning. With one of the most advanced high school lathe turning facilities in New England, students will have the opportunity to make numerous projects that are personally inspiring and meaningful. Further opportunities to learn from, and interact with, local and regional artisans will exist to acquire knowledge of the unique skills developed. Each student throughout the semester will build a portfolio for future reference detailing in a professional manner projects made. **This course fulfills the Fine Arts requirement for graduation.**

**Prerequisite:** Woodworking

# WORLD LANGUAGE

While Merrimack High School does not require students to study a World Language in order to graduate, most colleges and universities expect students to have successfully completed a minimum of two years of study of the language at the high school. Many universities strongly recommend three or more years of study of the same language and often have a World Language requirement for students at the University.

Language learning is built upon sequential acquisition of knowledge. A strong foundation and constant upkeep are essential for success. Students should achieve and maintain an average of C or better in a course before moving to the next year of language study. The Proficiency Guidelines of the American Council on the Teaching of Foreign Languages describe language proficiency in terms of five levels: Novice, Intermediate, Advanced, Superior and Distinguished. At the Novice, Intermediate, and Advanced levels, proficiency is divided into low, mid, or high. Research suggests that students of Spanish, French, and Latin who have daily and continuous opportunities to study a world language over four years of high school may reach the Intermediate Mid to Intermediate High levels of proficiency. Students who study Arabic and Chinese begin with learning different systems of writing and therefore may reach Novice High to Intermediate Low levels of proficiency. The normal sequence of study is listed to the left.



## ARABIC

**32310. ARABIC 1 Gr. 9-12 1 Credit Full Year**

This introductory Novice Low level course is designed for students with no previous knowledge of Arabic. It introduces the Arabic alphabet, basic grammar patterns, and functional everyday expressions within the context of Arabic culture. Students use the language within a limited context of vocabulary and basic structures to build skills in listening, speaking, reading and writing.

**32330. ARABIC 2 Gr. 10-12 1 Credit Full Year**

This Novice Mid level Arabic course is designed to introduce additional simple grammatical structures and thematic vocabulary to further develop the four language skills of speaking, listening, reading and writing. Students will develop pronunciation for fluency and the study of the culture, literature and customs of the Arabic civilization will be continued.

**Prerequisite:** A final grade of "C" or better in Arabic 1 or an appropriate placement test.

**32335. ARABIC 3 Gr. 11-12 1 Credit Full Year**

This Novice High level Arabic course is designed to introduce more complex grammatical structures and thematic vocabulary to further develop the four language skills of speaking, listening, reading and writing. This level is characterized by readings of authentic materials of considerable length and content and discussions on a variety of political, social, cultural, and literary topics. The study of the culture, literature and customs of the Arabic World will be expanded upon.

**Prerequisite:** A final grade of "C" or better in Arabic 2 or an appropriate placement test.

**32338. ARABIC 4 Gr. 11-12 1 Credit Full Year**

This Novice High to Intermediate Low level Arabic course is an advanced language and culture course designed for students who have fulfilled the requirements for Arabic 3 and/or those who demonstrate an equivalent competence in Modern Standard Arabic. This course will be conducted approximately 80 to 90% of the time in Arabic. It is designed to improve all language competencies in Arabic. Students will be exposed to cultural, historical, and contemporary aspects of the Arabic-speaking world through literary, journalistic, and textbook reading passages, music, videos, advertising, etc. They will practice summarization, description, narration, restatement, and express personal feelings and opinions through a variety of writing and speaking tasks.

**Prerequisite:** A final grade of "C" or better in Arabic 3 or an appropriate placement test.

### **FRENCH**

**32311. FRENCH 1 Gr. 9-12 1 Credit Full Year**

This Novice Low to Novice Mid level French course is designed for students who are beginning their study of the language. Students develop basic communicative skills related to everyday topics. Students identify and compare cultural aspects of French-speaking countries. The emphasis is on vocabulary development and grammatical structures to develop the students' skills in listening, speaking, reading and writing. Upon successful completion of the course, students will meet the novice low-novice mid proficiency level.

**32312. FRENCH 2 Gr. 9-12 1 Credit Full Year**

This Novice Mid to Novice High level French course is designed for students who successfully completed French 1 at the middle school or the high school. Students will further develop communicative skills related to everyday and familiar topics. Students continue to expand their understandings of French-speaking countries by identifying and comparing cultural aspects. The emphasis is on vocabulary development and grammatical structures to develop the students' skills in listening, speaking, reading and writing. Upon successful completion of the course, students will meet the novice mid-novice high proficiency level.

**Prerequisite:** A final grade of "C" or better in French 1 or an appropriate placement test.

**32331. FRENCH 3 Gr. 10-12 1 Credit Full Year**

This Novice High to Intermediate Low level French course is designed to introduce more complex grammatical structures and thematic vocabulary to further develop the four language skills of speaking, listening, reading and writing. Students will deepen their knowledge of French-speaking cultures and their own by comparing and contrasting products, practices, and perspectives with the goal of fostering effective and appropriate interactions with people from other cultural backgrounds. Upon successful completion of the course, students will meet the intermediate low proficiency level.

**Prerequisite:** A final grade of "C" or better in French 2 or an appropriate placement test.

**32350. FRENCH 4 Gr. 11-12 1 Credit Full Year**

This Intermediate Low to Intermediate High level French course offers students the opportunity to refine their communication skills in speaking, listening, reading and writing, while improving self-expression and flexibility in the target language. Students will demonstrate increased control of more sophisticated grammatical concepts and additional thematic vocabulary. Students will continue to study the culture and customs of French-speaking people through comparing and contrasting products, practices, and perspectives. Students will develop a knowledge and appreciation of Francophone history, literature, art, and music. Classes will increase the use of the target language throughout the year. Upon successful completion of the course, students will meet the intermediate mid-intermediate high proficiency level.

**Prerequisite:** A final grade of "C" or better in French 3 or an appropriate placement test.

**30374. ADVANCED PLACEMENT FRENCH LANGUAGE AND CULTURE Honors**                      **Gr. 12**                      **1 Credit**                      **Full Year**

This course follows the guidelines of the College Board® AP French Language and Culture course and provides opportunities for students to demonstrate their proficiency in speaking, listening, reading and writing from the Intermediate to the Pre-Advanced range as defined in the learning objectives in the Curriculum Framework. The AP French Language and Culture course is conducted almost exclusively in French. The course is designed to introduce and review more advanced grammatical structures through authentic audio-visual, literary and non-fiction materials.

Central to the course is the overarching principle as stated in the Curriculum Framework:

When communicating, students in the AP French Language and Culture course demonstrate an understanding of the culture(s), incorporate interdisciplinary topics (connections), make comparisons between the native language and the target language and between cultures (comparisons), and use the target language in real life settings (communities).

**Prerequisite:** A final grade of "C" or better in French 4 or an appropriate placement test.

### L A T I N

**32313. LATIN 1**                      **Gr. 9-12**                      **1 Credit**                      **Full Year**

This Novice Low to Novice Mid level Latin course is designed to introduce students to the fundamentals of Latin grammar and basic vocabulary. It reinforces understanding of English grammar and recognition of English derivatives. The lectures and readings for the text highlight Rome's contributions to Western civilization, especially in architecture, language, law and literature.

**32332. LATIN 2**                      **Gr. 10-12**                      **1 Credit**                      **Full Year**

This Novice Mid to Novice High level Latin course is designed to continue the study of the Latin language. Students will continue to explore grammatical structures and vocabulary through readings and translations of adaptations of work from various Roman authors. Students will increase their knowledge of the life and times of ancient Rome.

**Prerequisite:** A final grade of "C" or better in Latin 1 or an appropriate placement test.

**32353. LATIN 3**                      **Gr. 10-12**                      **1 Credit**                      **Full Year**

This Novice High to Intermediate Low level Latin course is designed to continue the study of the Latin language. Students will increase their knowledge of forms, vocabulary and grammar through readings and translations of more advanced passages, including original Roman texts as the class progresses. As with Latin 1 and 2, there will be a heavy emphasis on understanding language in general and developing strong English skills.

**Prerequisite:** A final grade of "C" or better in Latin 2 or an appropriate placement test.

**32354. LATIN 4**                      **Gr. 11-12**                      **1 Credit**                      **Full Year**

This Intermediate Low to Intermediate High level Latin course is designed to introduce more complex grammatical structures and text-centered vocabulary to further develop the students' skills in morphology, word study, and translation. Students will learn more about Roman literature and poetry through readings and translations of works from Roman authors. The class will also explore the influence of the Greek language and culture in ancient Rome and feature advanced lessons in linguistics.

**Prerequisite:** A final grade of "C" or better in Latin 3 or an appropriate placement test.

**32356. CLASSICAL LANGUAGES (GREEK AND LATIN) FOR PROFESSIONALS**                      **Gr. 11-12**                      **1 Credit**                      **Full Year**

Classical Languages (Greek and Latin) for Professionals is a vocab-and-etymology class. It focuses specifically on the Ancient Greek and Latin vocabulary and roots, cultural material, and grammar relevant to the following subjects: Medicine, Biology, Geology, Physics, and Law. Class assessments test the ability of students to apply their knowledge of Latin roots and etymological principles in order to decipher sophisticated scientific and legal texts. **This course is intended for students explicitly interested in applying what they will have learned about Greek and Latin to future employment in science, medicine, or law and does not qualify students to take Latin 2.**

## MANDARIN CHINESE

**32317. MANDARIN CHINESE 1 Gr. 9-12 1 Credit Full Year**

This introductory Novice Low level Mandarin Chinese class is designed for students with no previous knowledge of Mandarin Chinese. It introduces the Pinyin Romanization system, simplified forms of Chinese characters, basic grammar patterns, and functional everyday expressions within the context of Chinese culture. Students use the language within a limited context of vocabulary and basic structures to build skills in listening, speaking, reading and writing.

**32334. MANDARIN CHINESE 2 Gr. 10-12 1 Credit Full Year**

This Novice Mid level Mandarin Chinese course is designed to introduce additional simple grammatical structures and thematic vocabulary to further develop the four language skills of speaking, listening, reading and writing. Students will develop pronunciation and tones for fluency and the study of Chinese culture and customs will be continued.

**Prerequisite:** A final grade of "C" or better in Mandarin Chinese 1 or an appropriate placement test.

**32336. MANDARIN CHINESE 3 Gr. 10-12 1 Credit Full Year**

This Novice High level Chinese is designed to introduce more complex grammatical structures and thematic vocabulary to further develop and refine the four language skills of speaking, listening, reading and writing. The class is conducted as much as possible in Chinese with the goal of helping each student become a competent communicator. The study of the Chinese culture and customs will be expanded upon.

**Prerequisite:** A final grade of "C" or better in Mandarin Chinese 2 or an appropriate placement test.

**32355. MANDARIN CHINESE 4 Gr. 10-12 1 Credit Full Year**

This Intermediate Low level Mandarin Chinese course offers students the opportunity to refine their communication skills in speaking, listening, reading and writing, while improving self-expression and flexibility in the target language. Students will demonstrate increased control of more sophisticated grammatical concepts and additional thematic vocabulary. Students will continue to study Chinese culture and customs and are provided opportunities to use the language knowledge learned in class in real world experiences. This course is conducted predominantly in Mandarin Chinese to help students use Mandarin more accurately and fluently and to continue to help students become more competent and confident by engaging in a variety of formal and informal communications.

**Prerequisite:** A final grade of "C" or better in Mandarin Chinese 3 or an appropriate placement test.

## SPANISH

**32315. SPANISH 1 Gr. 9-12 1 Credit Full Year**

This Novice Low to Novice Mid level Spanish course is designed for students who are beginning their study of the language. Students develop basic communicative skills related to every day topics. Students identify and compare cultural aspects of Spanish-speaking countries. The emphasis is on vocabulary development and grammatical structures to develop the students' skills in listening, speaking, reading and writing. Upon successful completion of the course, students will meet the Novice Low-Novice Mid proficiency level.

**32316. SPANISH 2 Gr. 9-12 1 Credit Full Year**

This Novice Mid to Novice High level Spanish course is designed for students who successfully completed Spanish 1 at the middle school or the high school. Students will further develop communicative skills related to everyday and familiar topics. Students continue to expand their understandings of Spanish-speaking countries by identifying and comparing cultural aspects. The emphasis is on vocabulary development and grammatical structures to develop the students' skills in listening, speaking, reading and writing. Upon successful completion of the course, students will meet the Novice Mid-Novice High proficiency level.

**Prerequisite:** A final grade of "C" or better in Spanish 1 or an appropriate placement test.

**32333. SPANISH 3 Gr. 10-12 1 Credit Full Year**

This Novice High to Intermediate Low level Spanish course is designed to introduce more complex grammatical structures and thematic vocabulary to further develop the four language skills of speaking, listening, reading and writing. Students will deepen their knowledge of Spanish-speaking cultures and their own by comparing and contrasting products, practices, and perspectives with the goal of fostering effective and appropriate interactions with people from other cultural backgrounds. Upon successful completion of the course, students will meet the Intermediate Low proficiency level.

**Prerequisite:** A final grade of "C" or better in Spanish 2 or an appropriate placement test.

**32352. SPANISH 4 Gr. 11-12 1 Credit Full Year**

This Intermediate Low to Intermediate High level Spanish course offers students the opportunity to refine their communication skills in speaking, listening, reading and writing, while improving self-expression and flexibility in the target language. Students will demonstrate increased control of more sophisticated grammatical concepts and additional thematic vocabulary. Students will continue to study the culture and customs of Spanish-speaking people through comparing and contrasting products, practices, and perspectives. Students will develop a knowledge and appreciation of Hispanic history, literature, art, and music. Classes will increase the use of the target language throughout the year. Upon successful completion of the course, students will meet the Intermediate Mid-Intermediate High proficiency level.

**Prerequisite:** A final grade of "C" or better in Spanish 3 or an appropriate placement test.

**30373. ADVANCED PLACEMENT SPANISH Gr. 12 1 Credit Full Year**  
**LANGUAGE AND CULTURE**  
**Honors**

This course follows the guidelines of the College Board® AP Spanish Language and Culture course and provides opportunities for students to demonstrate their proficiency in speaking, listening, reading and writing from the Intermediate to the Pre-Advanced range as defined in the learning objectives in the Curriculum Framework. The AP Spanish Language and Culture course is conducted almost exclusively in Spanish. The course is designed to introduce and review more advanced grammatical structures through authentic audio-visual, literary and non-fiction materials.

Central to the course is the overarching principle as stated in the Curriculum Framework:

When communicating, students in the AP Spanish Language and Culture course demonstrate an understanding of the culture(s), incorporate interdisciplinary topics (connections), make comparisons between the native language and the target language and between cultures (comparisons), and use the target language in real life settings (communities).

**Prerequisite:** A final grade of "C" or better in Spanish 4 or an appropriate placement test.

# **Merrimack High School Mission Statement**

## **BELIEVE**

Merrimack High School, in partnership with families and our community, provides each student with rigorous educational experiences that develop intellectual potential, physical and emotional well-being, and social stewardship. Students graduating from Merrimack High School will be competent, insightful, and creative thinkers able to compete in a diverse, global society.

## **GO FORWARD**

### **ACADEMIC EXPECTATIONS**

Merrimack students will be engaged 21st century learners who actively explore material to acquire and comprehend new knowledge through:

- Critical, creative and inquisitive thinking
- Decision-making and problem-solving skills
- Interactive skills that effectively articulate and communicate thoughts and ideas
- Visual, technological, and informational literacy

## **INSPIRE**

### **CIVIC AND SOCIAL EXPECTATIONS**

Merrimack students will be effective citizens of the world who exhibit school pride through support of school activities, involvement in community life, and who contribute positively to the global environment.