PROGRAM OF STUDIES

MEDFORD HIGH SCHOOL



2026-2027

Program of Studies

Secondary Schools

Medford High School

Curtis-Tufts High School

Medford School Committee 2026

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Program of Studies

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Program of Studies

MEDFORD HIGH SCHOOL

VISION:

We believe in a future where our students grow into responsible, open-minded leaders, creating a positive impact on the world by embracing diversity, leading with empathy, and excelling in their academic and technical strengths.



MISSION:

At Medford High School, students are encouraged to engage with the world around them. We empower students through academic and career technical education (CTE), while celebrating their unique identities and preparing them for their future. We hold students accountable for their success and support them in their growth.

WE LEAD WITH EMPATHY

WE EMBRACE DIVERSITY

WE EMPOWER EACH OTHER

Program of Studies

NON-DISCRIMINATION POLICY

The Medford Public Schools insure against discrimination in education programs and employment on the basis of race, color, sex, religion, national origin, gender identity, sexual orientation, and disability.

Program of Studies

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Program of Studies

PROGRAM OF STUDIES

2026-2027

COURSE SELECTION

The selection of a student's program of study requires careful consideration on the part of both student and caregiver. School counselors and teachers are prepared to help both student and caregivers make a proper selection by engaging them in a review of the student's past scholastic achievement, fulfillment of course prerequisites, and educational and career goals.

The administration uses student selections in making informed decisions. In some cases, a course that a student requested will not be scheduled due to administrative oversight.

ADMINISTRATIVE FLEXIBILITY

For logistical reasons, the administration might choose to offer certain courses on a rotating basis, e.g., every other year. The administration might also need to cancel a course, change the frequency with which it meets, or make other changes to this Program of Studies.

Program of Studies

CLASSIFICATION OF STUDENTS

A student's homeroom assignment is determined by student classification (freshman, sophomore, junior, or senior). To be promoted to the next class, a student must have secured a minimum number of credits.

Sophomore Status:	Minimum of 26 credits.
Junior Status:	Minimum of 54 credits.
Senior Status:	Minimum of 81 credits.

The following Promotion no Policy adds other specific requirements but does not lessen the above requirements.

PROMOTION POLICY

Students must pass English and Mathematics and meet the credits required in order to be promoted.

Program of Studies

STATE & DISTRICT REQUIREMENTS FOR GRADUATION

Medford High School students must meet the following requirements to participate in graduation. This includes a total of 112 required credits and the completion of Competency Determination criteria.

A.	Four years of English	Take and Pass
B.	Four years of Wellness	Take and Pass
C.	Four years of Mathematics (including Integrated Math I, II, and III)	Take and Pass
D.	Three years of Science (including Biology and Chemistry)	Take and Pass
E.	Three years of Social Studies (including the student-led civics project)	Take and Pass
F.	Two years of World Language (if not enrolled in a CTE program)*	Take and Pass
G.	One course in Arts (if not enrolled in a CTE program)*	Take and Pass
H.	Four years of community service (15 hours per year)	60 hours total

I. Competency Determination Criteria:

In addition to meeting the local graduation requirements and community service hours articulated in the School Committee Policy IKF, a student must meet the competency determination articulated in MGL c. 69 sect. 1D and in 603 CMR 30.00-30.05 in order to receive their high school diploma from Medford High School.

As defined by the Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/commissioner/spec-advisories/2024-1211student-cd-update.html), *the "competency determination" shall be based on the academic standards and curriculum frameworks for tenth graders in the areas of mathematics, science and technology, history and social science, foreign languages, and English, and shall represent a determination that a particular student has demonstrated mastery of a common core of skills, competencies, and knowledge in these areas by satisfactorily completing coursework that has been certified by the student's district as showing mastery of the skills, competencies, and knowledge contained in the state academic standards and curriculum frameworks in the areas measured by the MCAS high school tests described in section one administered in 2023, and in any additional areas determined by the board.*

Program of Studies

STATE & DISTRICT REQUIREMENTS FOR GRADUATION CON'T

Students who have previously earned a Competency Determination (CD) through a regular or retest administration of the MCAS (including the November 2024 retest) or through a DESE appeal process have earned their competency determination.

MHS Students who have not yet earned their competency determination through previous MCAS administrations can meet the requirements for a competency determination through the following:

- Successful completion of **Grade 9 & 10 English Language Arts (ELA) coursework** aligned with the Massachusetts Curriculum Frameworks;
- Successful completion of **Grade 9 & 10 Math coursework (Integrated Math 1 and Integrated Math 2)** aligned with the Massachusetts Curriculum Frameworks;
- Successful completion of **high school Biology coursework** aligned with the Massachusetts Curriculum Frameworks;
- Participation in MCAS ELA, Math, and Biology tests as assigned.

**Course requirements differ for students who are enrolled in Career Technical Education. A student's credits should include four years in an approved Career Technical Education (CTE) program.*

Program of Studies

CORE SUBJECTS

English Language Arts, World Language, Mathematics, Science, Social Studies, English Learners & Special Education

Program of Studies

ENGLISH LANGUAGE ARTS

The English Language Arts Department at Medford High School provides continuing opportunities for each student to develop effective writing, reading, communication and grammar skills necessary for postsecondary endeavors. Although the emphasis placed on specific skills varies for each grade and level, the total program provides continuity in the student's educational program over four years. The English Language Arts curriculum follows specific guidelines that equip students with content knowledge and skills. These include the understanding and development of knowledge and skills leading to students' ability to:

- use informational texts and multimedia to foster strong content knowledge
- write persuasive, narrative and descriptive essays
- demonstrate inquisition and presentation skills through research projects
- think and use language through interactive learning
- analyze and synthesize material that fosters a deep understanding and appreciation for texts
- comprehend textual understanding of literary heritage, literary movements and cultural perspectives
- know the many uses of literature as seen through social commentary texts
- recognize and use all genres of literature
- comprehend and critique social media, the arts and text
- read and comprehend a variety of complex literary and informational texts
- respond both written and orally to the varying demands of audience, task, purpose, and discipline including strategic use of digital media
- develop and use speaking and listening skills to engage in collaborative and productive discussions

Every student must take and pass English 9, 10, 11 and 12. A "double" English (e.g., English 11 and additional credits in other English electives) is strongly recommended in Grades 10, 11 and 12. A student cannot progress to another English course without first fulfilling the prerequisites for that course; therefore, two regular English courses (e.g. English 10 and English 11) may not be taken simultaneously.

In addition, a summer reading requirement exists for all students entering College Prep, Honors and Advanced Placement courses in Grades 9 through 12. Titles are assigned by grade and students are assessed in early September. Therefore, completion of required summer reading is critical.

Program of Studies

Required Courses

ENGLISH 9: LITERARY EXPLORATION I

This course builds on student knowledge of literary and informational reading; persuasive, narrative and descriptive writing; and speaking, listening, and grammatical techniques. Throughout the year, students are provided with continued opportunities for developing these skills. Through robust text sets, students will explore a range of diverse authors with a specific emphasis on authentic voices. This lens will allow students to enhance critical reading and writing skills.

College Prep –5 Credits – Full Year
Honors –5 Credits – Full Year
Prerequisite for College Prep: Passing grade in English 8
Prerequisite for Honors: Average grade of "A-" in English 8

ENGLISH 10: LITERARY EXPLORATION II

Building on the ninth-grade literary exploration course, this course concentrates on themes of identity, heroism, and the power of voice. Students study the roots of the English language as well as literature from epic poetry to modern-day short fiction. Instruction spans the reading of ancient myths with a range of world cultures to modern novels from a vibrant variety of voices. Through class discussion, literary and informational reading, oral presentations, informal essays, critical essays, and independent research, students explore the major themes that the authors themselves explored. From this exposure, students develop higher critical and analytical reading and thinking skills in order to evaluate data and respond appropriately using a full range of communication forms and strategies.

College Prep –5 Credits – Full Year
Honors –5 Credits – Full Year
Prerequisite for College Prep: Passing grade in English 9
Prerequisite for Honors: Average grade of "B-" in Honors English 11 OR average grade of A- in College Prep English 1

Program of Studies

ENGLISH 10: AP SEMINAR

This class uses the Literary Explorations grade 10 curriculum to engage in in-depth foundational writing, collaboration, research and presentation skills. Through immersive learning experiences and interdisciplinary work, students will demonstrate critical thinking, collaboration and academic research skills on topics of the students choosing. In accordance with College Board's requirements, students will complete several short and long-term tasks involving both written presentations and oral defenses of student-created arguments crafted through in-depth and ongoing research.

Advanced Placement – 5 Credits – Full Year
***Note**: Receiving college credit for this class requires additional AP classes and passing grades on the AP exams beyond this AP Seminar course.*
Prerequisite: Passing grade in ELA 9 Honors

ENGLISH 11: AMERICAN LITERATURE

Exploring the many voices that comprise the American experience, this course delves into American literature and its connection to American history as well as the growth and growing pains of American society. Students will read indigenous, colonial, and foundational documents to develop an understanding of the vision that became the American Dream. They will then connect with America's progress and struggles toward achieving that vision through a close analysis of works representing the wide range of diverse voices and experiences that across the world and provide context for their own lives today. Through their reading and research, students will develop an understanding of how literature both reflects and shapes our diverse American society.

College Prep – 5 Credits – Full Year
Honors – 5 Credits – Full Year
Prerequisite for College Prep: Passing grade in English 10
Prerequisite for Honors: Average grade of "B-" in Honors English 11
OR average grade of A- in College Prep English 11

ADVANCED PLACEMENT ENGLISH 11: ENGLISH LANGUAGE AND COMPOSITION

This writing-intensive course includes the study of style, structure, rhetorical devices, and modes of discourse in conjunction with a close examination of American literature. Students should be avid readers and writers, eager to unlock the mysteries of poetry and prose from Emerson to Heming- way and beyond. Course requirements include an after-school seminar held each week for addition- al coursework and for timed writings. Designed to perfect students' critical writing skills in prepa- ration for the Advanced Placement examination in English Language and Composition, this course is also a prerequisite for Advanced Placement World Literature. This course is equivalent to the first-year English course in college. Students who desire Advanced Placement credit should take the national Advanced Placement examination in May.

Advanced Placement – 5 Credits – Full Year
Prerequisite: Average grade of "A-" in Honors English 10

Program of Studies

HUMANITIES AMERICAN STUDIES (Honors) (Grade 11)

This themed interdisciplinary course (Honors American Literature & Honors United States History) grounded in American Literature and United States History. The course provides students with a deep literary and historical knowledge of the aspects of American heritage. The course will examine literary contributions and provide opportunities to more closely understand their connection to major turning points in United States History. In accordance with Massachusetts DESE requirements, students will be expected to complete a Civics Project within this course.

Honors – 10 Credits – Full Year
Prerequisite: A- or higher in college prep US History I; A- or higher in college prep ELA 10; B- or higher in honors US History I; B- or higher honors ELA 10

ENGLISH 12: WORLD LITERATURE

This course explores the roots of literary tradition from a world literature perspective. A survey of world literature over periods of time from authors of multiple voices will afford students the opportunity to challenge and analyze the thinking of the great minds of Western Civilization. A variety of literary genres from a diverse collection of authors will be paired with a series of different types of writing tasks to prepare the students for postsecondary reading and writing.

Basic – 5 Credits – Full Year
College Prep – 5 Credits – Full Year
Honors – 5 Credits – Full Year
Prerequisite for College Prep: Passing grade in English 11
Prerequisite for Honors: Average grade of "B-" in Honors English 11 OR average grade of A- in College Prep English 11

ADVANCED PLACEMENT ENGLISH 12: ENGLISH LITERATURE AND COMPOSITION

This course includes a study of writing style, the structure and variety of sentences, diction, rhetorical strategies, modes of discourse, and appropriate relationships among author, audience and subject. Students read various examples of world literature from several genres and periods. In addition to increasing their ability to analyze an individual literary work in terms of character, language, setting, and themes, students evaluate structure, meaning, value and the relationship of the work to contemporary experience, as well as to the time in which the work was written. This course is equivalent to the first-year English course in college. Students who desire Advanced Placement credit should take the national Advanced Placement examination in May.

Advanced Placement – 5 Credits – Full Year
Prerequisite: Average grade of "A-" in Honors English OR average grade

of "B-" in Advanced Placement English 11

5 Credit English Language Arts Electives

CREATIVE WRITING (Grades 9-12)

Students will explore the basics of Creative Writing and learn the complexities of characterization, prose, plot development, scene setting, and world building. Students will then use these techniques to craft stories that fit their chosen genres while challenging themselves to grow as thinkers and writers.

5 Credits – Full Year

LITERATURE THROUGH FILM (Grades 10-12)

Students will analyze both fiction and nonfiction texts and films. Students will work to identify and analyze differing mediums and lenses, discussing both adaptations and thematically aligned works. Focus on film analysis skills and understanding of storytelling.

5 Credits – Full Year
Prerequisite: Passing grade in ELA 10

DRAMATIC LITERATURE (Grades 9-12)

Students will analyze plays by major playwrights from Shakespeare to Stoppard and will cover realism, absurdism, farce, and classical theater and then bring the plays to life through scenes and monologues. Additionally, students will learn principles of textual analysis and scansion to complement their performing and listening skills. In developing a depth of understanding, young performers will learn the basics of acting including theatre terminology such as stage directions, beat, bit, and parts of the theatre; acting fundamentals including objectives, obstacles, and tactics; and how to create high stakes, characterization, and use breath, voice, and body as a unified instrument. Students will learn various Stanislavsky-style approaches as taught by Meisner, Adler, and Strasberg to bring dramatic texts to life. **They will participate in one-skit performances through the Massachusetts High School Drama Festival**

5 Credits – Full Year
Prerequisites:
- *Active member of the MPS Drama Club*
- ***Note**: MPS Drama Club advisors will provide input before final placement is made*

2 Credit English Language Arts Elective

JOURNALISM (Grades 9-12)

Students will engage in news gathering, digital storytelling, and media ethics. They will gain skills in interviewing, writing genres, and communication outlets for print and online platforms.

College Prep – 2 credits – Full year

Program of Studies

BOOK CLUB (Grades 9-12)

This course provides students with an opportunity to select books of interest, read alone and en- gage in critical discussions with peers. With this course, students can increase their reading flue - cy, oral and written communication skills, active reading skills and love for literature. This course also supports the district literacy program and promotes the principles of Silent Sustained Reading (SSR), which research indicates is essential to creating life-long readers.

College Prep – 2 Credits – Full Year

PHILOSOPHY FOR CRITICAL THINKING AND ETHICAL LIVING (Grades 10-12)

This course is an introduction to the philosophical study of morality. In addition to providing familiarity with the writings of major philosophers and exploring moral philosophy's primary questions, this course is also designed to help students develop their abilities to read, explicate, analyze, and evaluate philosophical literature as well as analyze and write critically on ethical issues. This course is highly recommended for students interested in participating in events for the MHS Ethics Bowl Team in conjunction with the Tufts University Department of Philosophy. This class will run in alternating years.

College Prep – 2 Credits – Full Year

POETRY WORKSHOP (Grades 10-12)

Students will be given an introduction to the classic forms of poetry, as well as an overview of contemporary American poetry. Students will be expected to write their own poetry each week, to learn how to draft, revise, and workshop their poems. The class will look at how poetry is published today, and students will learn to select prospective journals, to draft cover letters, and to send their work out for publication. Ultimately, students will also create chapbooks of their original poetry.

College Prep – 2 Credits – 2 Periods per Cycle – Full Year

WRITING WORKSHOP (Grades 10-12)

This course offers students the opportunity to improve their writing skills through extensive and intensive concentration on the craft of writing. The workshop atmosphere, which emphasizes small-group work and individual assignments, provides instruction in the process of prewriting, editing, and revision. The student's own experiences and background provide material for most writing. Word processors will be utilized to improve both writing and revision skills (although prior computer experience is not necessary.

College Prep – 2 Credits – Full year

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READING AND WRITING SAT PREP (Grades 10-12)

This course helps students master the critical reading and writing skills testing on the SAT. This course also includes some of the grammar, usage and writing skills tested on the SAT II Writing Test.

College Prep – 2 Credits – Full Year

Program of Studies

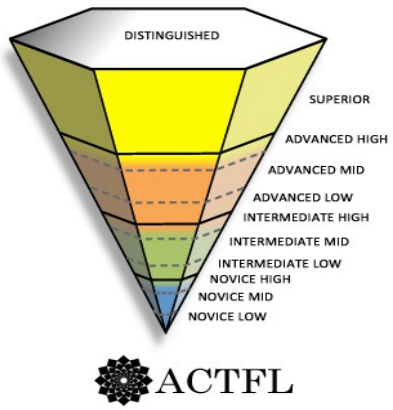
WORLD LANGUAGE

Under Massachusetts General Laws, the study of World Languages (previously called Foreign Languages) is a core subject. M.G.L c. 69, 1D

Our Mission: To develop multilingual learners who honor their heritage, pursue lifelong learning, and contribute to a respectful, equitable, and inclusive world.

Our Vision: A globally minded student who communicates with empathy, values cultural diversity, explores the world with curiosity, and forms meaningful connections among cultures.

The MHS World Languages program offers three modern languages: French, Italian, and Spanish. The curriculum of the World Languages Department is aligned with both the Curriculum Massachusetts Frameworks and the National Standards in Foreign Languages. The World Languages Department uses a proficiency-based approach to give our students access to both the language and culture of the languages we offer. Students work to build proficiency in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking). Our courses are aligned with proficiency targets as indicated on the chart below*. It is the goal of our program that, after completing six consecutive years of World Languages (two in Middle School and four in High School), all of our students reach the ***Intermediate High*** level of proficiency on the ACTFL proficiency in all three modes of communication and four language skills. Students in level 5 have the opportunity to take the course as a College Prep, Honor or Advanced Placement. Students with prior experience in the languages offered by MHS have the opportunity to take a placement test to determine their approximate performance level and will be placed in the appropriate course based on proficiency targets.



Levels	Proficiency Target
Level 1	Novice High
Level 2 CP/H	Intermediate Low
Level 3 CP/H	Intermediate Mid (1)
Level 4 CP/H	Intermediate Mid (2)
Level 5 CP/H/AP	Intermediate High/Advance Low

Program of Studies

Novice Mid: students will be able to minimally show their ability to understand and use words, phrases, and formulaic language that has been practiced and memorized.

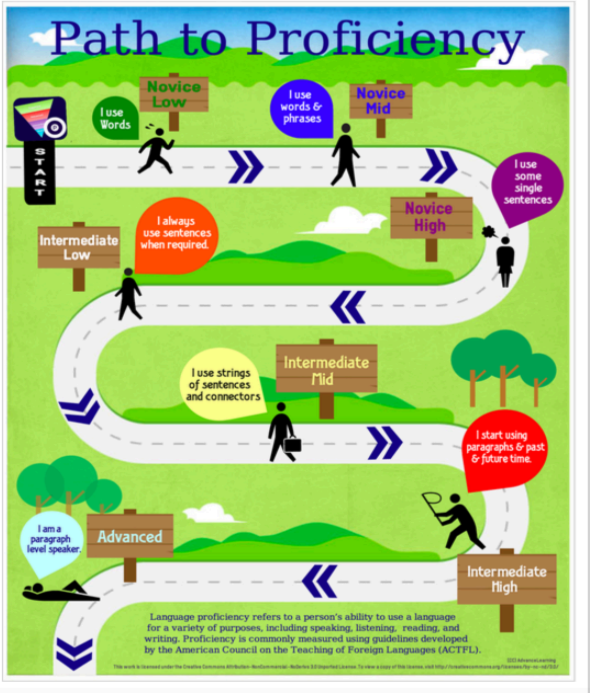
Novice High: students will be able to understand and use words, phrases, and formulaic language that has been highly practiced and memorized.

Intermediate Low: students will be able to express themselves and understand familiar topics of everyday life using sentences and series of sentences.

Intermediate Mid (1): students will be able to express themselves and understand familiar topics of everyday life, asking and answering questions, using language to express their thoughts and using a series of sentences or more complex sentences.

Intermediate Mid (2): students will be able to express themselves and understand familiar topics of everyday life, asking and answering original questions, creating with language to express their thoughts on a variety of familiar topics and using a series of sentences or more complex sentences.

Intermediate High: students will be able to maintain communication on familiar and new concrete topics, narrating in the past, present, and future with some control, and using paragraph-length discourse.



Our World Language Offering

French is the second most widely learned World Language after English, and the fifth most widely spoken language in the world. More than 300 million people speak French on the five continents.

Italian ranks as the fourth most studied language in US colleges and high schools and it is spoken by 60 million people around the world. It is the language most linked to the world of art and culture and has influence in major areas such as painting arts, architecture, literature and music.

Spanish is the second most spoken language in the world, you will be able to communicate with over 500 million people all around the world. There are over 400 million native Spanish speakers. Speaking Spanish will open the door to a rich and historically important culture. An increasing number of employers prefer to hire individuals who can speak Spanish fluently.

Level Up!

It's recommended and encouraged that students continue with the language program up to Level 5. However, most colleges require a minimum of 2 years of the same world language in high school to be considered for admission; many colleges recommend at least 3 years. Four years makes a student more competitive. Students in Level 5 have the opportunity to take the course as College Prep, Honors and Advanced Placement.

Program of Studies

State Seal of Biliteracy

Medford participates in the The State Seal of Biliteracy - an award given to seniors who have attained a high level of proficiency in English and a world language beginning with the graduating class of 2019. According to the Massachusetts Department of Education: *"The State Seal of Biliteracy is an award provided by state approved districts that recognizes high school graduates who attain high functional and academic levels of proficiency in English and a world language in recognition of having studied and attained proficiency in two or more languages by high school graduation."* The chart below summarizes the awards and the criteria.

Pathway Award	Standardized Assessment Criteria for English and Partner Language
State Seal of Biliteracy With Distinction	Score of *Advanced (501-560)* on the grade 10 ELA MCAS Score of *Advanced Low* in all modes of communication of a proficiency test
State Seal of Biliteracy	Score of *Proficient (472-500)* on the grade 10 ELA MCAS **OR** 455-471 on the Grade 10 ELA MCAS test or retest AND a score of 4.2 overall AND 3.9 composite literacy on ACCESS AND completion of an Educational Proficiency Plan (EPP). Score of *Intermediate High* in all modes of communication of a proficiency test.

World Languages Sequence

Students who have successfully completed a language in 6th grade through 8th grade:

1. Can enroll in Level 2 (Intermediate Low) and continue with the same language through High School and advance up to Level 5 (Intermediate High/Advance Low).
2. Can change the language in High School
    a. Can enroll in any Level 1 (Novice High) language that is being offered and advance up to Level 4 (Intermediate Mid 2).
    b. Can enroll in Level 2 (Intermediate Low) if they are able to demonstrate that they meet the Novice High proficiency level. Students must contact the Director of World Languages to schedule a placement test, which will be administered by a member of the World Language staff. It is recommended that students prepare for the placement test through outside enrichment opportunities and/or coursework to ensure that they have learned pre-requisite skills.

Students who haven't completed a language in 6th grade through 8th grade.

1. Can enroll in any Level 1 (Novice High) language that has been offered and advance up to Level 4 (Intermediate Mid 2).
2. Can enroll in Level 2 (Intermediate Low) if they are able to demonstrate that they meet the Novice High proficiency level. Students must contact the Director of World Languages to schedule a placement test, which will be administered by a member of the World Language staff. It is recommended that students prepare for the placement test through outside enrichment opportunities and/or coursework to ensure that they have learned pre-requisite skills.

Program of Studies

World Languages Full Credit Courses

French

French is the second most widely learned world language after English, and the fifth most widely spoken language in the world. More than 300 million people speak French on the five continents. Medford High School offers the following courses in French:

French 1 - Novice High **Level: Unleveled** **5 Credits** Grade 9-12 Full Year
Expectation: This is an introductory course for first-year students who begin the study of French in High School. This course is designed to develop basic proficiency in French in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of French culture and the French speaking countries. Students will begin their journey of learning French by understanding and analyzing authentic resources such as videos, articles, infographics, songs and podcasts of the French-speaking world. The proficiency target for the end of this course is ***Novice High***: students will be able to understand and use words, phrases, and formulaic language that have been highly practiced and memorized.

French 2 - Intermediate Low	**Level: CP**	**5 Credits**	Grade 9-12	Full Year
French 2 - Intermediate Low	**Level: H**	**5 Credits**	Grade 9-12	Full Year

Prerequisite *Course: French 1 - Novice High or French Grade 8 - Novice High*
Prerequisite Skills: *Student's performance needs to be consistent with the Novice High target in all modes/domains.*

Expectations: This course is designed to continue developing proficiency in French in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of French culture and the French speaking countries. Students will continue their journey of learning French by understanding and analyzing authentic resources such as videos, articles, infographics, songs and podcasts of the French-speaking world. The proficiency target for the end of this course is ***Intermediate Low***: students will be able to express themselves and understand familiar topics of everyday life using sentences and series of sentences.

French 3 - Intermediate Mid (1)	**Level: CP**	**5 Credits**	Grade 9-12	Full Year
French 3 - Intermediate Mid (1)	**Level: H**	**5 Credits**	Grade 9-12	Full Year

Prerequisite*: French 2 - Intermediate Low*
Prerequisite Skills: *Student's performance needs to be consistent with the Intermediate Low target in all modes/domains.*

Expectations: This course is designed to build upon and expand students' proficiency in French at the intermediate level in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of French culture and the French speaking countries. Students will strengthen their knowledge of French by

understanding and analyzing authentic resources such as videos, articles, infographics, songs and podcasts of the French-speaking world. The proficiency target for the end of this course is ***Intermediate Mid (1)****:* students

will be able to express themselves and understand familiar topics of everyday life, asking and answering questions, using language to express their thoughts and using a series of sentences or more complex sentences.

French 4 - Intermediate Mid (2)	**Level: CP**	**5 Credits**	Grade 9-12	Full Year
French 4 - Intermediate Mid (2)	**Level: H**	**5 Credits**	Grade 9-12	Full Year

Prerequisite: *French 3 - Intermediate Mid (1)*
Prerequisite Skills: *Student's performance needs to be consistent with the Intermediate Mid (1) target in all modes/domains.*

Expectations: This course is designed to continue building the intermediate level and expand students' proficiency in French in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of French culture and the French speaking countries. Students will continue strengthening their knowledge of French by understanding and analyzing authentic resources such as videos, articles, infographics, songs and podcasts of the French-speaking world. The proficiency target for the end of this course is ***Intermediate Mid (2)****:* students will be able to express themselves and understand familiar topics of everyday life, asking and answering original questions, creating with language to express their thoughts on a variety of familiar topics and using a series of sentences or more complex sentences.

French 5 - Intermediate High	**Level: CP**	**5 Credits**	Grade 9-12	Full Year
French 5 - Intermediate High	**Level: H**	**5 Credits**	Grade 9-12	Full Year
French 5 - Intermediate High	**Level: AP**	**5 Credits**	Grade 9-12	Full Year

Prerequisite: *French 4 - Intermediate Mid (2)*
Prerequisite Skills: *Student's performance needs to be consistent with the Intermediate Mid (2) target in all modes/domains.*

Expectations: This college-level course is designed to build upon and expand students' proficiency in French at the intermediate higher level in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of French culture and the French speaking countries. Communication skills are reinforced to enable students to converse with intermediate high proficiency, read with ease, and express themselves in written composition. Students will be able to understand and analyze French authentic resources such as videos, articles, infographics, songs and podcasts of the French-speaking world with increased skills and confidence. The proficiency target for the end of this course is ***Intermediate High***: students will be able to maintain communication on familiar and new concrete topics, narrating in the past, present, and future with some control, and using paragraph-length discourse.

Program of Studies

Italian

Italian ranks as the fourth most studied language in US colleges and high schools and it is spoken by 60 million people around the world. It is the language most linked to the world of art and culture and has influence in major areas such as painting arts, architecture, literature and music. Medford High School offers the following courses in Italian:

Italian 1 - Novice High **Level: Unleveled** **5 Credits** Grade 9-12 Full Year

Expectation: This is an introductory course for first-year students who begin the study of Italian in High School. This course is designed to develop basic proficiency in Italian in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of Italian culture and the Italian speaking countries. Students will begin their journey of learning Italian by understanding and analyzing authentic resources such as videos, articles, infographics, songs and podcasts of the Italian-speaking world. The proficiency target for the end of this course is ***Novice High***: students will be able to understand and use words, phrases, and formulaic language that has been highly practiced and memorized.

Italian 2 - Intermediate Low **Level: CP** **5 Credits** Grade 9-12 Full Year
Italian 2 - Intermediate Low **Level: H** **5 Credits** Grade 9-12 Full Year

Prerequisite *Course: Italian 1 - Novice High or Italian Grade 8 - Novice High*
Prerequisite Skills: *Student's performance needs to be consistent with the Novice High target in all modes/domains.*

Expectations: This course is designed to continue developing proficiency in Italian in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of Italian culture and the Italian speaking countries. Students will continue their journey of learning Italian by understanding and analyzing authentic resources such as videos, articles, infographics, songs and podcasts of the Italian-speaking world. The proficiency target for the end of this course is ***Intermediate Low***: students will be able to express themselves and understand familiar topics of everyday life using sentences and series of sentences.

Italian 3 - Intermediate Mid (1) **Level: CP** **5 Credits** Grade 9-12 Full Year
Italian 3 - Intermediate Mid (1) **Level: H** **5 Credit** Grade 9-12 Full Year

Prerequisite*: Italian 2 - Intermediate Low*
Prerequisite Skills: *Student's performance needs to be consistent with the Intermediate Low target in all modes/domains.*

Expectations: This course is designed to build upon and expand students' proficiency in Italian at the intermediate level in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of Italian culture and the Italian speaking countries. Students will strengthen their knowledge of Italian by understanding and analyzing authentic resources such as videos, articles, infographics, songs and podcasts of the

Italian-speaking world. The proficiency target for the end of this course is ***Intermediate Mid (1)****:* students will be able to express themselves and understand familiar topics of everyday life, asking and answering

questions, using language to express their thoughts and using a series of sentences or more complex sentences.

Italian 4 - Intermediate Mid (2)	**Level: CP**	**5 Credits**	Grade 9-12	Full Year
Italian 4 - Intermediate Mid (2)	**Level: H**	**5 Credits**	Grade 9-12	Full Year

Prerequisite: *Italian 3 - Intermediate Mid (1)*
Prerequisite Skills: *Student's performance needs to be consistent with the Intermediate Mid (1) target in all modes/domains.*

Expectations: This course is designed to continue building the intermediate level and expand students' proficiency in Italian in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of Italian culture and the Italian speaking countries. Students will continue strengthening their knowledge of Italian by understanding and analyzing authentic resources such as videos, articles, infographics, songs and podcasts of the Italian-speaking world. The proficiency target for the end of this course is ***Intermediate Mid (2)****:* students will be able to express themselves and understand familiar topics of everyday life, asking and answering original questions, creating with language to express their thoughts on a variety of familiar topics and using a series of sentences or more complex sentences.

Italian 5 - Intermediate High	**Level: CP**	**5 Credits**	Grade 9-12	Full Year
Italian 5 - Intermediate High	**Level: H**	**5 Credits**	Grade 9-12	Full Year
Italian 5 - Intermediate High	**Level: AP**	**5 Credits**	Grade 9-12	Full Year

Prerequisite: *Italian 4 - Intermediate Mid (2)*
Prerequisite Skills: *Student's performance needs to be consistent with the Intermediate Mid (2) target in all modes/domains.*

Expectations: This college-level course is designed to build upon and expand students' proficiency in Italian at the intermediate higher level in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of Italian culture and the Italian speaking countries. Communication skills are reinforced to enable students to converse with intermediate high proficiency, read with ease, and express themselves in written composition. Students will be able to understand and analyze authentic Italian resources such as videos, articles, infographics, songs and podcasts of the Italian-speaking world with increased skills and confidence. The proficiency target for the end of this course is ***Intermediate High***: students will be able to maintain communication on familiar and new concrete topics, narrating in the past, present, and future with some control, and using paragraph-length discourse.

Program of Studies

Spanish

Spanish is the second most spoken language in the world, you will be able to communicate with over 500 million people all around the world. There are over 400 million native Spanish speakers. Speaking Spanish will open the door to a rich and historically important culture. An increasing number of employers prefer to hire individuals who can speak Spanish fluently. Medford High School offers the following courses in Spanish.

Spanish 1 - Novice High **Level: Unleveled** **5 Credits** Grade 9-12 Full Year

Expectation: This is an introductory course for first-year students who begin the study of Spanish in High School. This course is designed to develop basic proficiency in Spanish in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of Spanish culture and the Spanish speaking countries. Students will begin their journey of learning Spanish by understanding and analyzing authentic resources such as videos, articles, infographics, songs and podcasts of the Spanish-speaking world. The proficiency target for the end of this course is ***Novice High***: students will be able to understand and use words, phrases, and formulaic language that has been highly practiced and memorized.

Spanish 2 - Intermediate Low	**Level: CP**	**5 Credits**	Grade 9-12	Full Year
Spanish 2 - Intermediate Low	**Level: H**	**5 Credits**	Grade 9-12	Full Year

Prerequisite *Course: Spanish 1 - Novice High or Spanish Grade 8 - Novice High*

Prerequisite Skills: *Student's performance needs to be consistent with the Novice High target in all modes/domains.*

Expectations: This course is designed to continue developing proficiency in Spanish in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of Spanish culture and the Spanish speaking countries. Students will continue their journey of learning Spanish by understanding and analyzing authentic resources such as videos, articles, infographics, songs and podcasts of the Spanish-speaking world. The proficiency target for the end of this course is ***Intermediate Low***: students will be able to express themselves and understand familiar topics of everyday life using sentences and series of sentences.

Spanish 3 - Intermediate Mid (1)	**Level: CP**	**5 Credits**	Grade 9-12	Full Year
Spanish 3 - Intermediate Mid (1)	**Level: H**	**5 Credit**	Grade 9-12	Full Year

Prerequisite*: Spanish 2 - Intermediate Low*
Prerequisite Skills: *Student's performance needs to be consistent with the Intermediate Low target in all modes/domains.*

Expectations: This course is designed to build upon and expand students' proficiency in Spanish at the intermediate level in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of Spanish

culture and the Spanish speaking countries. Students will strengthen their knowledge of Spanish by understanding and analyzing authentic resources such as videos, articles, infographics, songs and podcasts of the Spanish-speaking world. The proficiency target for the end of this course is ***Intermediate Mid (1)****:* students

will be able to express themselves and understand familiar topics of everyday life, asking and answering questions, using language to express their thoughts and using a series of sentences or more complex sentences.

Spanish 4 - Intermediate Mid (2)	**Level: CP**	**5 Credits**	Grade 9-12	Full Year
Spanish 4 - Intermediate Mid (2)	**Level: H**	**5 Credits**	Grade 9-12	Full Year

Prerequisite: *Spanish 3 - Intermediate Mid (1)*
Prerequisite Skills: *Student's performance needs to be consistent with the Intermediate Mid (1) target in all modes/domains.*

Expectations: This course is designed to continue building the intermediate level and expand students' proficiency in Spanish in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of Spanish culture and the Spanish speaking countries. Students will continue strengthening their knowledge of Spanish by understanding and analyzing authentic resources such as videos, articles, infographics, songs and podcasts of the Spanish-speaking world. The proficiency target for the end of this course is ***Intermediate Mid (2)****:* students will be able to express themselves and understand familiar topics of everyday life, asking and answering original questions, creating with language to express their thoughts on a variety of familiar topics and using a series of sentences or more complex sentences.

Spanish 5 - Intermediate High	**Level: CP**	**5 Credits**	Grade 9-12	Full Year
Spanish 5 - Intermediate High	**Level: H**	**5 Credits**	Grade 9-12	Full Year
Spanish 5 - Intermediate High	**Level: AP**	**5 Credits**	Grade 9-12	Full Year

Prerequisite: *Spanish 4 - Intermediate Mid (2)*
Prerequisite Skills: *Student's performance needs to be consistent with the Intermediate Mid (2) target in all modes/domains.*

Expectations: This college-level course is designed to build upon and expand students' proficiency in Spanish at the intermediate higher level in the three modes of communication: interpretive (listening and reading), interpersonal (speaking and writing) and presentational (writing and speaking); and also to expand the knowledge of Spanish culture and the Spanish speaking countries. Communication skills are reinforced to enable students to converse with intermediate high proficiency, read with ease, and express themselves in written composition. Students will be able to understand and analyze authentic Spanish resources such as videos, articles, infographics, songs and podcasts of the Spanish-speaking world with increased skills and confidence. The proficiency target for the end of this course is ***Intermediate High***: students will be able to maintain communication on familiar and new concrete topics, narrating in the past, present, and future with some control, and using paragraph-length discourse.

Program of Studies

World Language Mini Courses

LATIN AMERICAN MUSIC & DANCE (Grades 9-12)

This engaging course introduces students to the rich musical and dance traditions of Latin America. Students explore a variety of Latin music genres—such as salsa, merengue, bachata, cumbia, and more—while learning the foundational dance steps that accompany each style. Through a blend of listening, movement, cultural context, and hands-on practice, students gain an appreciation for the history, rhythms, and cultural significance behind the music and dances.Students will learn about different Latin genres of music and dance steps that accompany them.

College Prep –2 Credits – Full Year

THE CULTURE OF HISPANIC COUNTRIES THROUGH FILM (Grades 9-12)

This course explores the cultures of Hispanic countries through the lens of film. Students examine major cultural themes, historical events, and social traditions as portrayed in Spanish-language and Hispanic cinema. Through guided film viewings, discussions, and contextual analysis, students develop a deeper understanding of the history, values, and lived experiences of diverse Hispanic societies while strengthening their cultural awareness and critical thinking skills.

College Prep –2 Credits – Full Year

CULTURAL FOODS OF ITALY (Grades 9-12)

This course introduces students to the rich culinary culture of Italy, exploring the traditions behind its regional foods, wines, and cuisine. Students learn how geography, history, and local customs have shaped Italian cooking, from classic dishes to time-honored wine practices. Through cultural discussions and culinary exploration, students gain a deeper appreciation of Italy's food traditions and their role in everyday life and celebration.

College Prep –2 Credits – Full Year

Program of Studies

FROM THE FRENCH NEW WAVE TO TODAY: GLOBAL CINEMA (Grades 9-12)

This course examines how the French New Wave of the 1950s–60s revolutionized filmmaking and continues to shape the films and media we watch today—from independent cinema and A24-style storytelling to Hollywood blockbusters and even YouTube vlogs. Students explore how New Wave directors broke traditional rules, experimented with new techniques, and reimagined cinematic storytelling. Through film clips, guided analysis, hands-on projects, and comparisons with contemporary films, students trace the movement's global influence and discover film's power as a creative and expressive art form.

College Prep –2 Credits – Full Year

DECOLONIZATION AND IDENTITY IN THE FRENCH-SPEAKING WORLD (Grades 9-12)

This course explores the impact of colonialism and the ongoing process of decolonization across French-speaking regions of Africa, the Caribbean, and North America. Through literature in translation, film, music, and historical case studies, students examine how individuals and communities have responded to colonization, fought for independence, reclaimed cultural identities, and created new artistic and political expressions. Topics include the legacy of French imperialism, African independence movements, the global significance of the Haitian Revolution, the rise of Creole languages and cultures, and contemporary voices addressing post-colonial realities. Students analyze how identity, language, race, memory, and power continue to shape the modern world.

College Prep –2 Credits – Full Year

LE MONDE FRANCOPHONE: VOCABULAIRE ET EXPRESSIONS IDIOMATIQUES (Grades 9-12)

This course introduces students to the diverse cultures of the Francophone world through a focus on general cultural knowledge, vocabulary, and idiomatic expressions. Students explore similarities and differences in language use across French-speaking regions, examining how history, geography, and culture shape everyday speech. Through authentic texts, media, and guided practice, students build cultural awareness while expanding their understanding of regional vocabulary and idioms used throughout the Francophone world.

College Prep –2 Credits – Full Year

Program of Studies

ARAB CIVILIZATION AND ITS INFLUENCE ON THE MODERN WORLD (Grades 9-12)

This course explores the origins and development of Arab civilization and its lasting influence on the modern world. Students examine how Arab civilization emerged, where it spread, and how its contributions shaped science, technology, philosophy, art, and everyday life. Through historical case studies, cultural analysis, and primary and secondary sources, students gain an understanding of the profound impact Arab scholars, artists, and thinkers have had on global knowledge and contemporary society.

College Prep –2 Credits – Full Year

FRENCH FOR HERITAGE SPEAKERS (Grades 9-12)

This course is designed for students who have grown up hearing or speaking French at home or in their community and wish to strengthen their language skills and cultural knowledge. The course builds on students' existing linguistic abilities while focusing on developing reading, writing, academic vocabulary, and formal speaking skills. Through culturally relevant texts, media, discussions, and projects, students explore the diversity of the French-speaking world, heritage identities, and real-world language use. Emphasis is placed on confidence, accuracy, and pride in bilingualism and cultural heritage.

College Prep –2 Credits – Full Year

ITALIAN FOR HERITAGE SPEAKERS (Grades 9-12)

This course is designed for students who have grown up hearing or speaking Italian at home or in their community and wish to strengthen their language skills and cultural knowledge. The course builds on students' existing linguistic abilities while focusing on developing reading, writing, academic vocabulary, and formal speaking skills. Through culturally relevant texts, media, discussions, and projects, students explore the diversity of the Italian-speaking world, heritage identities, and real-world language use. Emphasis is placed on confidence, accuracy, and pride in bilingualism and cultural heritage.

College Prep –2 Credits – Full Year

SPANISH FOR HERITAGE SPEAKERS (Grades 9-12)

This course is designed for students who have grown up hearing or speaking Spanish at home or in their community and wish to strengthen their language skills and cultural knowledge. The course builds on students' existing linguistic abilities while focusing on developing reading, writing, academic vocabulary, and formal speaking skills. Through culturally relevant texts, media, discussions, and projects, students explore the diversity of the Spanish-speaking world, heritage identities, and real-world language use. Emphasis is placed on confidence, accuracy, and pride in bilingualism and cultural heritage.

College Prep –2 Credits – Full Year

Program of Studies

MATHEMATICS

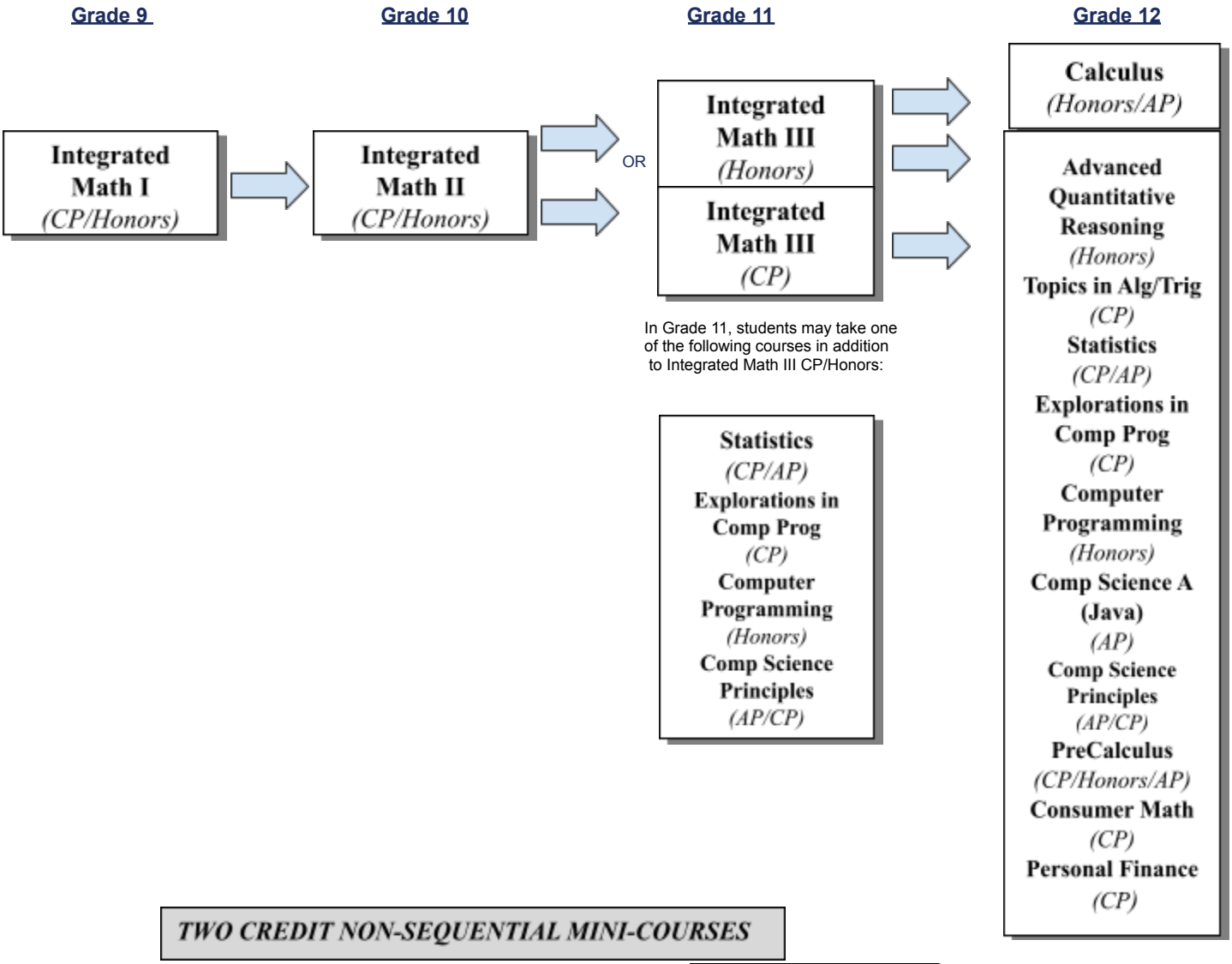
The Mathematics Department offers a rigorous, high-expectations core mathematics program accessible to all students. The curriculum reflects the standards articulated by the *Massachusetts Curriculum Framework for Mathematics*, the *Common Core State Standards* for mathematics education, the National Council of Teachers of Mathematics, and the Massachusetts Comprehensive Assessment System. All students must complete (take and pass) four years of mathematics, including a course beyond Integrated Math III. The course sequence for incoming 9th-grade students is Integrated Math I, II, and III, followed by a 5-credit mathematics elective course.

Computer programming courses offered in the mathematics department may count toward the 4-year requirement in the senior year, with permission from the Curriculum Director and the Director of Guidance. The department also offers mini-courses.

Program of Studies

RECOMMENDED MATHEMATICS SEQUENCE / FIVE CREDIT COURSES

- Refer to the handbook for prerequisites.
- Topics in Algebra/Trig & PreCalculus shall not be taken concurrently or sequentially.
- Most courses are offered every year based on student enrollment and teacher availability.



TWO CREDIT NON-SEQUENTIAL MINI-COURSES

Integrated Math I, II, III Strategies

Financial Literacy

Sports Statistics

Program of Studies

INTEGRATED MATH I (Grade 9)

This is the first course in a three-year, integrated college-preparatory math sequence and meets the Massachusetts state graduation requirement. It follows the Integrated Math Pathway as articulated in the Massachusetts Curriculum Framework for Mathematics. Students extend their understanding of numerical manipulation to algebraic manipulation; synthesize an understanding of function; deepen and extend their understanding of linear relationships; apply linear models to data that exhibit a linear trend; establish criteria for congruence based on rigid motions; and apply the Pythagorean Theorem to the coordinate plane. Students work collaboratively and individually, demonstrating their learning through the Standards for Mathematical Practice. Students are exposed to rich instruction that develops their conceptual understanding, procedural skills, problem-solving skills, and critical thinking abilities, and strengthens situational analysis abilities.

College Prep - 5 Credits – Full Year
Strongly Recommended: Graphing Calculator

HONORS INTEGRATED MATH I (Grade 9)

This is the first course in a three-year college-preparatory integrated math sequence and meets the Massachusetts graduation requirement. It follows the Integrated Math Pathway in the Common Core State Standards, as articulated in the Massachusetts Curriculum Framework for Mathematics. Students extend their understanding of numerical manipulation to algebraic manipulation; synthesize an understanding of function; deepen and extend their understanding of linear relationships; apply linear models to data that exhibit a linear trend; establish criteria for congruence based on rigid motions; and apply the Pythagorean Theorem to the coordinate plane. Additional topics from advanced math courses are incorporated to prepare students for an in-depth study of limits, derivatives, and integrals. Students work collaboratively and individually, demonstrating their learning through the Standards of Mathematical Practice. Students are exposed to rich instruction that develops their conceptual understanding, procedural skills, problem-solving skills, and critical thinking abilities, and strengthens situational analysis abilities.

Honors - 5 Credits – Full Year
Prerequisite: A grade of "A-" or better in 8th Grade Math and Teacher Recommendation
Strongly Recommended: Graphing Calculator

INTEGRATED MATH II (Grade 10)

Integrated Math II is the second course of a three-year college preparatory integrated math sequence and meets the graduation requirement for the state of Massachusetts. It follows the Integrated Math Pathway in the Common Core State Standards, as articulated in the Massachusetts Curriculum Framework for Mathematics. Students extend their understanding of the law of exponents to rational exponents; compare key characteristics of quadratic functions with those of linear and exponential functions; create and solve equations and inequalities involving linear, exponential, and quadratic functions; extend their work with probability; and establish criteria for similarity of triangles based on dilations and proportional reasoning. Students work collaboratively and individually, demonstrating their learning through the Standards of Mathematical Practice.

Program of Studies

Students are exposed to rich instruction that develops their conceptual understanding, procedural skills, problem-solving skills, and critical thinking abilities, and strengthens situational analysis abilities.

College Prep - 5 Credits – Full Year
Prerequisite: A passing grade in Integrated Math I
Strongly Recommended: Graphing Calculator

HONORS INTEGRATED MATH II (Grade 10)

Integrated Math II is the second course of a three-year college preparatory integrated math sequence and meets the graduation requirement for the state of Massachusetts. It follows the Integrated Math Pathway in the Common Core State Standards, as articulated in the Massachusetts Curriculum Framework for Mathematics. Students extend their understanding of the law of exponents to rational exponents; compare key characteristics of quadratic functions with those of linear and exponential functions; create and solve equations and inequalities involving linear, exponential, and quadratic functions; extend their work with probability; and establish criteria for similarity of triangles based on dilations and proportional reasoning. Additional topics from advanced math courses will be incorporated to prepare students for an in-depth study of limits, derivatives, and integrals in the future. Students work collaboratively and individually, demonstrating their learning through the Standards of Mathematical Practice. Students are exposed to rich instruction that develops their conceptual understanding, procedural skills, problem-solving skills, and critical thinking abilities, and strengthens situational analysis abilities.

College Prep - 5 Credits – Full Year
Prerequisite: A grade of "A-" or better in College Prep Integrated Math I;
"B-" or better in Honors Integrated Math I
Strongly Recommended: Graphing Calculator

INTEGRATED MATH III (Grade 11)

Integrated Math III is the third course of a three-year college preparatory integrated math sequence and meets the graduation requirement for the state of Massachusetts. It follows the Integrated Math Pathway in the Common Core State Standards, as articulated in the Massachusetts Curriculum Framework for Mathematics. Students apply methods from probability and statistics to draw inferences and conclusions from data; expand their understanding of functions to include polynomial, rational, and radical functions; expand their knowledge of right triangle trigonometry to include general triangles; consolidate functions and geometry to create models and solve contextual problems. Students work collaboratively and individually, demonstrating their learning through the Standards of Mathematical Practice. Students are exposed to rich instruction that develops their conceptual understanding, procedural skills, problem-solving skills, and critical thinking abilities, and strengthens situational analysis abilities.

College Prep - 5 Credits – Full Year
Prerequisite: A passing grade in Integrated Math II
Strongly Recommended: Graphing Calculator

Program of Studies

HONORS INTEGRATED MATH III (Grade 11)

Integrated Math III is the third course of a three-year college preparatory integrated math sequence and meets the graduation requirement for the state of Massachusetts. It follows the Integrated Math Pathway in the Common Core State Standards, as articulated in the Massachusetts Curriculum Framework for Mathematics. Students apply methods from probability and statistics to draw inferences and conclusions from data; expand their understanding of functions to include polynomial, rational, and radical functions; expand their knowledge of right triangle trigonometry to include general triangles; consolidate functions and geometry to create models and solve contextual problems. Additional topics from advanced math courses will be incorporated to prepare students for an in-depth study of limits, derivatives, and integrals in the future. Students work collaboratively and individually, demonstrating their learning through the Standards of Mathematical Practice. Students are exposed to rich instruction that develops their conceptual understanding, procedural skills, problem-solving skills, and critical thinking abilities, and strengthens situational analysis abilities.

College Prep - 5 Credits – Full Year
Prerequisite: A grade of "A-" or better in College Prep Integrated Math II;
"B-" or better in Honors Integrated Math II
Strongly Recommended: Graphing Calculator

5-CREDIT MATH ELECTIVE COURSES:

HONORS ADVANCED QUANTITATIVE REASONING (Grade 12)

This course provides students with the opportunity to apply mathematics as they model a range of situations to solve problems in algebra, geometry, and trigonometry across diverse areas, including statistics and financial mathematics. The course is highly participatory, with students learning in a cooperative environment where they discuss and present. Students extend their understanding of previously learned concepts and acquire new content as they sharpen the quantitative reasoning skills needed beyond high school. A unit on Data Science is also covered as part of this course. Students electing this course may not take Consumer Math.

Honors– 5 Credits – Full Year
Prerequisite: A grade of "B-" or better in College Prep Integrated Math III;
"C-" or better in Honors Integrated Math III
Strongly Recommended: Graphing Calculator

Program of Studies

STATISTICS THROUGH APPLICATION (Grade 11 and 12)

This course introduces students to essential topics in statistics by focusing on the statistical thinking behind data collection and analysis. It helps students be more discerning consumers of statistics, teaching them to interpret the numbers in surveys, election polls, and medical studies. Topics include sampling, surveys, experimental design, organizing data, distributions, probability, and reference.

College Prep – 5 Credits – Full Year
Prerequisite: A passing grade in Integrated Math II
Strongly Recommended: Graphing Calculator

ADVANCED PLACEMENT STATISTICS (Grade 11 and 12)

This course is equivalent to a first-semester college statistics course. Students are exposed to four broad conceptual themes: exploring data by describing patterns and departures from them; sampling and experimentation, in which students plan and conduct studies; anticipating patterns using probability and simulation to explore random phenomena; and statistical inference through the estimation of population parameters and testing hypotheses. Processes include problem-solving, reasoning, communication, representation, connections, and technology integration. Students electing this course are expected to take the Advanced Placement Examination in May and, depending on the results, may be granted credit and/or appropriate placement by a participating college.

Advanced Placement – 5 Credits – Full Year
Prerequisite: A grade of "A-" or better in College Prep Integrated Math II;
"B-" or better in Honors Integrated Math II
Strongly Recommended: Graphing Calculator

TOPICS IN ALGEBRA AND TRIGONOMETRY (Grade 12)

Students electing this course may take Precalculus later. Students should take this course if they are not ready for PreCalculus and would like to improve their current math skills, expand their mathematical knowledge in preparation for college-level mathematics, and learn how mathematics is applied in various subject areas. The course may include such topics as exponential and quadratic functions, quadratic equations, systems of equations, factoring of polynomials, exponents, radicals, matrices, composite functions, linear programming/modeling, Conics, trigonometry, logarithms, statistics, probability, data analysis, problem-solving techniques, and applications of concepts covered in Integrated Math I, II, and III. Connections to the real world and cross-curricular applications will be made.

College Prep - 5 Credits – Full Year
Prerequisite: A passing grade in Integrated Math III
Strongly Recommended: Graphing Calculator

Program of Studies

PRECALCULUS (Grade 12)

Through problem-solving, reasoning, communication, representation, and connections, this course reviews linear, quadratic, polynomial, rational, and exponential functions and helps develop an understanding of logarithmic and trigonometric functions. Additional topics may include studying parametric functions, complex numbers, sequences, and series, and an introduction to vectors and conic sections.

College Prep - 5 Credits – Full Year
Prerequisite: A grade of "C-" or better in College Prep Integrated Math III;
passing grade in Honors Integrated Math III
Strongly Recommended: Graphing Calculator

HONORS PRECALCULUS (Grade 12)

Through problem-solving, reasoning, communication, representation, and connections, this course presents a comprehensive study of functions with a thorough treatment of trigonometric, logarithmic, and exponential functions. Additional topics include the study of polynomial, rational, and parametric functions; complex numbers; sequences and series; an introduction to vectors and conic sections; polar coordinates; data distributions; and probability.

Honors - 5 Credits – Full Year
Prerequisite: A grade of "B-" or better in College Prep Integrated Math III;
"C-" or better in Honors Integrated Math III
Strongly Recommended: Graphing Calculator

ADVANCED PLACEMENT PRECALCULUS (Grade 12)

Through this course, students develop and hone symbolic manipulation skills, including solving equations and manipulating expressions, for the many functions encountered. Students learn that functions and their compositions, inverses, and transformations are understood through graphical, numerical, analytical, and verbal representations, which reveal different attributes of the functions and are useful for solving problems in mathematical and applied contexts. By examining functions from many perspectives, students develop a conceptual understanding not only of specific function types but also of functions in general. Students electing this course are expected to take the Advanced Placement Examination in May and, depending on the results, may be granted credit and appropriate placement by a participating college.

Advanced Placement - 5 Credits – Full Year
Prerequisite: A grade of "A-" or better in College Prep Integrated Math III;
"B-" or better in Honors Integrated Math III
Strongly Recommended: Graphing Calculator

Program of Studies

HONORS CALCULUS (Grade 12)

This course provides an introduction to many of the concepts found in a first-year college calculus course and is designed for students who are not planning to take the AP Calculus exam. A theoretical foundation is laid through the treatment of limits and continuity. Emphasis is placed upon problem-solving, reasoning, communication, connections, representations, and an understanding of the underlying principles of calculus rather than memorizing formulas. Other topics include derivatives, integration, sequences, curves, and vectors.

Honors - 5 Credits – Full Year
Prerequisite: A grade of "B-" or better in Honors Integrated Math III; "B-" or better in a full-year DESE standards-based College Prep Precalculus and Math Director approval
Strongly Recommended: Graphing Calculator

ADVANCED PLACEMENT CALCULUS (Grade 12)

This course is equivalent to a first-year college calculus course and builds on the PreCalculus standards set by the Department of Elementary and Secondary Education (DESE). A theoretical foundation is laid by treating functions and their graphs in terms of limits, derivatives, and integrals. Emphasis is placed on understanding the underlying principles of calculus rather than on memorizing formulas. Processes include problem-solving, reasoning, communication, representation, connections, and technology integration. Students electing this course are expected to take the Advanced Placement Examination in May and, depending on the results, may be granted credit and appropriate placement by a participating college.

Advanced Placement - 5 Credits – Full Year
Prerequisite: A grade of "A-" or better in Integrated Math III Honors; "A-" or better in a full-year DESE standards-based College Prep Precalculus and Math Director approval
Strongly Recommended: Graphing Calculator

EXPLORATIONS IN COMPUTER PROGRAMMING (Grades 10-12)

This course introduces the development of computer programming techniques using several programming languages, including Scratch, Python, and the web application App Inventor. Emphasis is placed on proper programming style with a concentration on algorithm development and problem-solving. Course content includes data types, strings, mathematical operations, control structures, functions, parameter passing, data structures, arrays, file-processing program documentation, and debugging skills. Students will spend most of class time on hands-on lab activities that reinforce the development of computational thinking skills. This course is designed for students with no previous programming experience.

College Prep – 5 Credits – Full Year
Prerequisite: A passing grade in Integrated Math II or department approval; Students electing this course to satisfy the 4-year mathematics requirement need departmental approval

Program of Studies

HONORS COMPUTER PROGRAMMING (Grades 10-12)

This course provides students with a hands-on investigation of Python. Students will develop an understanding of Python syntax, program design, and programming algorithms through communication, representation, reasoning, making connections, and problem-solving using related software. Topics and procedures include loops, strings, arrays, and various searching and sorting techniques. Programming projects will be analyzed, interpreted, evaluated, and logically coded in Python to reinforce understanding of the explored mathematics topics. Demonstration of computational thinking through effective communication of programming techniques and understanding the completed project coding will be stressed.

Honors – 5 Credits – Full Year
Prerequisite: A grade of "B-" or better in College Prep Integrated Math II; "C-" or better in Honors Integrated Math II, or department approval.
Students electing this course to satisfy the 4-year mathematics requirement need departmental approval

ADVANCED PLACEMENT COMPUTER SCIENCE A (JAVA) (Grade 12)

This course provides students with the equivalent of a first-semester college-level computer science course. Emphasis is placed on object-oriented programming methodology, with a focus on problem-solving and algorithm development. It also includes the study of data structures, design, and abstraction. Students are expected to become proficient in programming in Java and read and understand an extensive program consisting of several classes and interacting objects. Programming assignments and projects will align with the College Board's required program of studies and application of mathematical proficiencies to solve problems rooted in algebra and geometry. Students will need access to a computer. Students will be assigned homework regularly. Students electing this course are expected to take the Advanced Placement Examination in May and, depending on the results, may be granted credit and appropriate placement by a participating college.

Advanced Placement – 5 Credits – Full Year
Prerequisite: A grade of "A-" or better in College Prep Integrated Math III CP; "B-" or better in Honors Integrated Math III; or department approval.
Students electing this course to satisfy the 4-year mathematics requirement need departmental approval

PERSONAL FINANCE (Grade 12)

This course is designed to provide students with the confidence and knowledge to successfully navigate the financial decisions of young adults. Topics include budgeting, banking, credit and loans, taxes, insurance, and investing. This project-based, mathematical modeling course is algebra-focused, applications-oriented, and technology-dependent. In each unit of the course, math skills will be emphasized, and students will learn the value of applied mathematics. This course will count toward the four-year math graduation requirement and is open only to senior students who have already passed Integrated III.

College Prep - 5 Credits – Full Year
Prerequisite: A passing grade in Integrated Math III

Program of Studies

CONSUMER MATH (Grade 12)

This course engages students in real-world problems and prepares them to make informed decisions as discerning consumers. It is designed to enhance the use of problem-solving strategies in educational coursework and the workplace. Students will determine “reasonableness” and evaluate mathematical representations of real-world situations. Topics may include personal finance (checking accounts, credit cards, income taxes, auto loans, and student loans), statistical studies (organizing data, describing data visually and numerically, graphical representations, modeling with data, and numerical analysis), and voting theory (voting methods and election polling). Each unit will deepen students’ understanding of where math works in the world around them. This course is open to senior students who need dual enrollment in Integrated III. Students enrolled in this course may not take Personal Finance due to the overlap of certain units.

College Prep – 5 Credits – Full Year
Prerequisite: A passing grade in Integrated Math II; Potential Dual enrollment with Integrated Math III CP

2 CREDIT MATH ELECTIVE COURSES (MINI-COURSES)

SPORTS STATISTICS (Grades 11 and 12)

Using project-based instruction and real-world situations, this course will give students the knowledge and general understanding of many key aspects of statistics from a sports perspective. Students will learn to use and interpret statistics based on data from various sports. The structure of this class will reflect real-world situations as closely as possible.

College Prep – 2 Credits – 2 Periods per week – Full Year
Prerequisite: A passing grade in Integrated Math II

FINANCIAL LITERACY (Grades 11 and 12)

Using project-based instruction and real-world scenarios, this course will provide students with the knowledge and general understanding of key aspects of personal finance necessary for success now and throughout their adult lives. The structure of this class will reflect real-world situations as closely as possible.

College Prep – 2 Credits – 2 Periods per week – Full Year
Prerequisite: A passing grade in Integrated Math II

Program of Studies

MATH STRATEGIES (Grade 9)

Using a combination of explicit instruction, visual aids, math manipulatives, building students' math vocabulary, cooperative learning (viewing a problem from different angles), collaboration, and reflection, this class helps students develop the skills needed to succeed in the classroom through appropriate scaffolding.

College Prep – 2 Credits – Full Year

MATH STRATEGIES (Grade 10)

Using a combination of explicit instruction, visual aids, math manipulatives, building students' math vocabulary, cooperative learning (viewing a problem from different angles), collaboration, and reflection, this class helps students develop the skills needed to succeed in the classroom through appropriate scaffolding.

College Prep – 2 Credits – Full Year

MATH STRATEGIES (Grade 11)

Using a combination of explicit instruction, visual aids, math manipulatives, building students' math vocabulary, cooperative learning (viewing a problem from different angles), collaboration, and reflection, this class helps students develop the skills needed to succeed in the classroom through appropriate scaffolding.

College Prep – 2 Credits – Full Year

NON-CREDIT MATH SUPPORT INTERVENTION

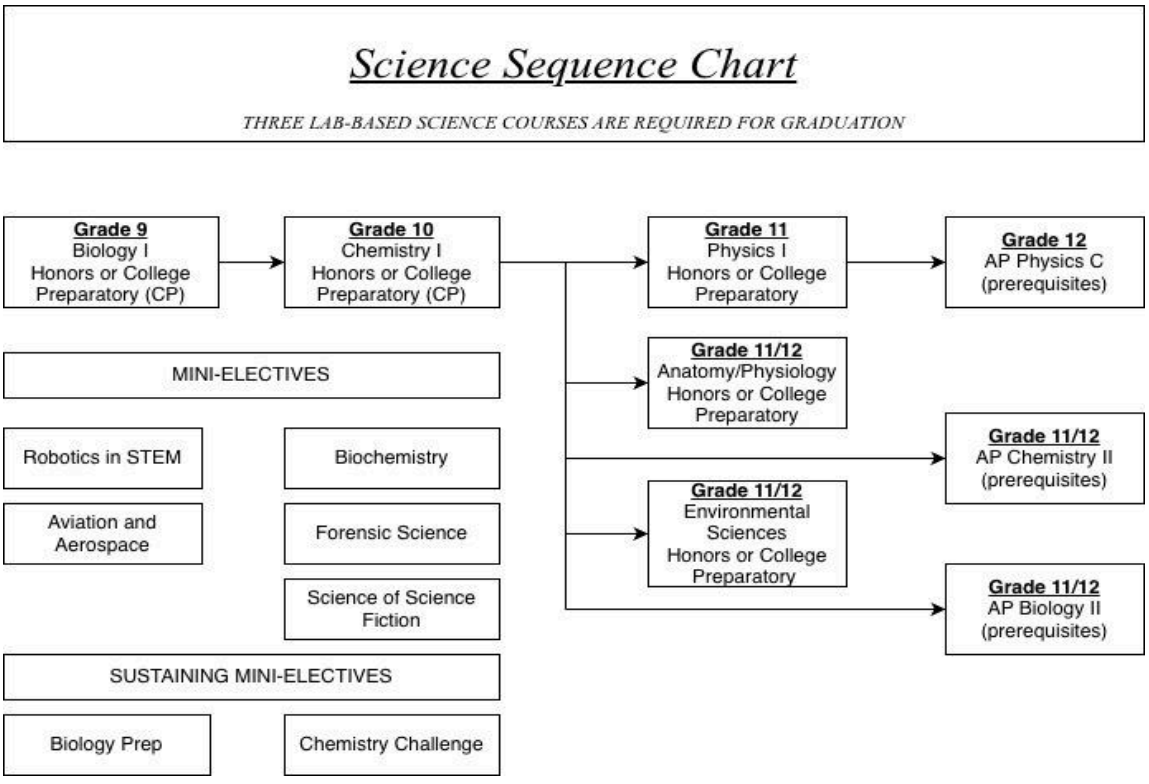
MATH LAB (Grades 9-12)

Math Lab is a drop support space designed to strengthen foundational mathematical skills, provide intervention, and offer tutoring to students concurrently enrolled in a math class. It focuses on improving student confidence and performance through targeted instruction, small-group work, and hands-on activities. Math Lab will be used as an intervention under the guidance of the full-year math teacher.

Program of Studies

SCIENCE

A scientific education is designed to develop in the student an appreciation of the joy, excitement, and intellectual awareness of our biological, physical, technological, and chemical environment. Balanced with the study of the arts and humanities, students will be able to achieve a wider understanding of their complex world. A person literate in science will be able to understand science concepts and process skills in making decisions related to scientific issues that affect society. The science curriculum supports students' interests in different career paths. The expectation is that all students will complete a course in each of the three main domains of science as they pursue their 3-course graduation requirement: physics, biology, and chemistry.
This is also the recommendation of national, state, and local science organizations and many colleges and universities. After exploring these various sciences, students have the opportunity to select one of these areas for further study or another area of science such as anatomy and physiology or environmental science. Lab-Based Science and Technology/Engineering
Credit-Eligible CTE offerings (can be used to satisfy the 3 year lab-based graduation course requirement)
Robotics/Engineering, Grade 11 or 12
Biotechnology, Grade 11 or 12
AP Computer Science Principles



Program of Studies

BIOLOGY I (Grade 9)

This course emphasizes inquiry and lab-based experiences to explore the fundamental principles of living things. Students learn about the diversity of living organisms and their relationship to the environment. They encounter standards in the areas of The Chemistry of Life, Cell Biology, Genetics, Anatomy and Physiology, Evolution and Biodiversity, and Ecology. In classes where dissection is used as an instructional activity, students will be presented with alternatives as described in the district's Dissection Policy.

College Prep – 5 Credits – Full Year
Prerequisite: Passing grade in 8th Grade Science

HONORS BIOLOGY I (Grade 9)

This is a course for students selected by the Science Department for acceleration in Grade 9. Strong mathematical and reading abilities are essential. This rigorous course emphasizes inquiry, research, and lab-based experiences to explore the fundamental principles of living things and examine systems from the molecular level through cell biology and genetics, to the tissue and organ level in vertebrate anatomy and physiology, and at the level of organisms and populations through ecology. Students encounter standards in the areas of The Chemistry of Life, Cell Biology, Genetics, Anatomy and Physiology, Evolution and Biodiversity, and Ecology. In classes where dissection is used as an instructional activity, students will be presented with alternatives as described in the district's Dissection Policy.

Honors – 5 Credits – Full Year
Prerequisite: A grade of A- or better in 8th Grade Science.
A teacher recommendation is also required.

CHEMISTRY I (Grades 10-12)

This course focuses on the interaction of matter through chemical reactions. Properties and states of matter, atomic structures, chemical formulas, bonding, chemical reactions, energy, gas laws, survey of materials, solutions, acids/bases, and organic, nuclear and equilibrium chemistry are some of the topics covered. Laboratory experimentation is an essential feature of the course.

College Prep – 5 Credits – Full Year
Prerequisite: Passing grade in Biology I
Strongly Recommended: Scientific or Graphing Calculator

Program of Studies

HONORS CHEMISTRY I (Grades 10 and 11)

This is a course primarily for students selected by the Science Department for acceleration in Grade 10. Strong mathematical and reading abilities are essential. This course uses inquiry and lab-based experiences to explore the properties of matter and how these properties help to organize elements on the periodic table. Students develop an understanding of the structure of the atom and of chemical reactions, including the involvement of energy and sub-atomic particles to better understand the nature of chemical changes. They learn about chemical reactions (e.g. oxidation-reduction, combustion, decomposition), and gain an understanding of acids and bases and rates of reaction. By calculating stoichiometry problems and molar concentrations, students strengthen proportionality and other mathematical skills. They will encounter other standards in the areas of Properties of Matter; Atomic Structure and Nuclear Chemistry; Periodicity; Chemical Bonding; Chemical Reactions and Stoichiometry; States of Matter, Kinetic Theory, and Thermochemistry; Solutions, Rates of Reactions, and Equilibrium; and Acids, Bases, and Reduction-Oxidation Reactions.

Honors – 5 Credits – Full Year
Prerequisite: A grade of "B-" or better in Honors Biology or "A-" or better in College Prep Biology
Strongly Recommended: Scientific or Graphing Calculator

ANATOMY AND PHYSIOLOGY (Grades 11 and 12)

This course studies the structure and function of the human body and the mechanisms for maintaining homeostasis within it. It includes the study of cells, tissues and the integumentary, skeletal, muscular and nervous systems. It also includes the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproductive systems, and the concepts of development, metabolism, fluid and electrolyte balance, and acid-base balance. This course uses dissection as an instructional activity. Students will be presented with alternatives as described in the district's Dissection Policy.

College Prep – 5 Credits – Full Year
Prerequisite: Passing grade in Biology and Chemistry

HONORS ANATOMY AND PHYSIOLOGY (Grades 11 and 12)

This course has been designed to meet the needs of those students who must acquire a firm grounding in human anatomy and physiology in order to prepare for medical, nursing or paramedical careers. Students will investigate the structure and function of the human body with an em- phasis on laboratory work. This course studies the structure and function of the human body and the mechanisms for maintaining homeostasis within it. It includes the study of cells, tissues and the integumentary, skeletal, muscular and nervous systems. It also includes the

endocrine, cardio- vascular, lymphatic, respiratory, digestive, urinary and reproductive systems, and the concepts of development, metabolism, fluid and electrolyte balance, and acid-base balance. This course uses dissection as an instructional activity. Students will be presented with alternatives as described in the district's Dissection Policy.

Honors – 5 Credits – Full Year
Prerequisite: Grades of "B-" or better in Honors Biology and Honors Chemistry or "A-" or better in College Prep Biology & College Prep Chemistry

PHYSICS I (Grades 11 and 12)

This course will give students a coherent view of Physics with a strong foundation in Newtonian mechanics, electricity/magnetism, waves and light. Emphasis is placed on understanding the basic laws and concepts of Physics. The major topics of the course are mechanics, electricity/magnetism, waves and optics. Experimentation, classroom demonstrations and problem-solving applications are used to accomplish the goals outlined above.

College Prep – 5 Credits – Full Year
Prerequisite: Passing grades in Biology, Chemistry, and Integrated Math 2 or Algebra II
Strongly Recommended: Scientific or Graphing Calculator

HONORS PHYSICS I (Grades 11 and 12)

This course will give students a coherent view of Physics with a strong foundation in Newtonian mechanics, electricity/magnetism, waves and light. The course goes beyond a conceptual understanding of basic laws and concepts including in-depth study, discussion, and application with reliance on strong mathematical understanding. The curriculum is taught at a faster pace than the College Prep level to accommodate the rigor and breadth of an honors level course.

College Prep – 5 Credits – Full Year
Prerequisite: Grades of "B-" or better in Honors Chemistry and Honors Integrated Math 2 or Algebra II or "A-" or better in College Prep levels of the courses named
Strongly Recommended: Scientific Graphing Calculator

Program of Studies

ADVANCED PLACEMENT BIOLOGY II (Grades 11-12)

This course is designed to be the equivalent of a college introductory biology course. Students are expected to take the Advanced Placement Exam in May and, depending on the results, may be granted credit and/or appropriate placement by a participating college. The topics for this laboratory course include biochemistry, cellular studies, genetics, evolution, biodiversity and population dynamics.

Advanced Placement – 6 Credits – Full Year
Prerequisite: A grade of "A-" or better in Honors Biology and Honors Chemistry
Strongly Recommended: Basic four function calculator

ADVANCED PLACEMENT CHEMISTRY II (Grades 11 and 12)

This course is a cooperative educational endeavor of the College Board, which permits students to pursue a college level course while still in high school. Students are expected to take the Advanced Placement Examination in May and, depending on the results, may be granted credit and/ or appropriate placement by a participating college. The topics for this laboratory course include atomic and molecular theory, stoichiometry, phases of matter, solutions, equilibrium, and thermodynamics.

Advanced Placement – 6 Credits – 7 Periods per Cycle – Full Year
Prerequisite: A grade of "A-" or better in Honors Biology, Honors Chemistry, and Honors Integrated Math 2 or Honors Algebra II
Strongly Recommended: Scientific or Graphing Calculator

ADVANCED PLACEMENT PHYSICS II (Grade 12)

This course is equivalent to a first year of college Physics for students with high mathematical ability and is designed with the expectation that students have been exposed to a full year of Physics I. The topics covered are mechanics and electricity/magnetism, with equal emphasis on each. Additional topics may include waves, optics, thermodynamics and relativity. Methods of calculus are used whenever appropriate. Students must have taken or concurrently enroll in Calculus. Students are expected to take the Advanced Placement Exam in May and, depending on the results, may be granted credit and/or appropriate placement by a participating college.

Advanced Placement – 6 Credits – Full Year
Prerequisite: A grade of "A-" or better in Honors Chemistry, Honors Physics and Honors Integrated Math 3 or Honors Pre-calculus. Students need to take Calculus concurrently.
Requirement: TI-83+ or TI-84+ Graphing Calculator.

Program of Studies

ENVIRONMENTAL SCIENCE (Grades 11 and 12)

This course enables students to develop an understanding of the natural environment and the environmental problems the world faces. Students will investigate, through inquiry, labs, project work, presentations, and field experiences, topics such as: fundamental ecological principles, natural resources, air and water pollution, global climate change, hazardous and solid waste, alternative energy resources, soil, deforestation, biodiversity and endangered species, and their ecological, economical and human health impacts. Particular emphasis will be placed on local environments so students develop a basic understanding of ecology as a basis for making ethical decisions and career choices. An independent science fair research project is required. The students are responsible for overseeing the recycling program at MHS and participating in the annual Earth Week cele- bration. This course has a required online component that enhances the concepts taught in class.

College Prep – 5 Credits – Full Year
Prerequisite: A passing grade in Biology and Chemistry

HONORS ENVIRONMENTAL SCIENCE (Grades 11 and 12)

The course explores the role which humans play in causing environmental change and the under- lying values and ethical judgments involved in making choices. Students will investigate, through inquiry, labs, independent research, project work, presentations, and community service, topics such as: fundamental ecological principles, environmental history, human overpopulation, food and agricultural resources, air and water pollution, global climate change, ozone depletion, acid rain, hazardous and solid waste, alternative energy resources, soil, deforestation, overfishing, biodiversity and endangered species, and their ecological, economical and human health impacts. An inde- pendent science fair research project is required. Students are also responsible for overseeing the recycling program at MHS and participating in the annual Earth Week celebration. This course has a required online component that further enhances the concepts taught in class.

Honors – 5 Credits – Full Year
Prerequisite: Grades of "B-" or better in Honors Biology and Honors Chemistry or "A-" or better in College Prep Biology and College Prep Chemistry

Program of Studies

Science Mini-Courses

AVIATION AND AEROSPACE (Grades 9-12)

Students will learn about the engineering process, problem-solving, and the innovations and technological developments that have made today's aviation and aerospace industries possible. They will look at the problem-solving strategies and innovative leaps that took space exploration from the unimaginable to the common in a single generation. Students will explore the classifications of aircraft, how aircraft are made, avionics/instrumentation, flight controls, aircraft design, propulsion and the forces of flight. Students will also accrue simulator time throughout the course.

2 credit elective (mini-course)

ROBOTICS IN STEM (Grades 9-12)

Students will learn the engineering design process through hands-on robotics challenges that develop real problem-solving skills, from first sketch to a working prototype. They will examine the innovations and technological breakthroughs that turned robotics from factory automation into intelligent systems used in homes, hospitals, logistics, and space. Students will explore how robots sense the world (sensors), make decisions (control systems and programming), and act with precision (motors, mechanisms, and end effectors). Along the way, they'll design, build, code, test, and iterate autonomous and driver-controlled robots while practicing teamwork, communication, and rapid iteration—earning meaningful build-and-program time throughout the course.

2 credit elective (mini-course)

BIOCHEMISTRY (Grades 10-12)

Biochemistry uses chemistry to describe biological systems. This course introduces the basic foundations of Chemistry and Biology and how these Scientific fields contribute to a better understanding of the human body functions - on both the molecular and systemic level. Additionally, this course introduces the effects of pharmaceuticals, toxins, diseases and disorders on biological systems at the chemical level. This class will run in alternating years.

College Prep - 2 Credits – Full Year
Prerequisite: A passing grade in grade 9 Science

Program of Studies

EXPLORATIONS IN FORENSIC SCIENCE (Grades 10-12)

This course explores careers, techniques and topics, focusing on the analysis of evidence collection, the decomposition process, crime scenes, skeletal remains, toxicology, and document validity. Case studies and crime scenarios help students understand the implications and issues that emerge as forensics continues to develop. This class will run in alternating years.

College Prep – 2 Credits – Full Year
Prerequisite: A passing grade in Biology and Chemistry

SCIENCE OF SCIENCE FICTION (Grades 10-12)

In this course students will read teacher-directed and self-selected works of science fiction literature by such authors as Asimov, Verne, Vonnegut, etc. (about 1 novel per quarter) and then research, analyze, and critique their major scientific principles and theories. Students will demonstrate their understanding of scientific concepts (such as physics in outer space, the viability of time travel and interplanetary travel, evolution of genetic traits in aliens, and many more!), with a variety of meth- ods including but not limited to papers, presentations, and projects. This class will run in alternating years.

College Prep - 2 Credits - Full Year

Program of Studies

SOCIAL STUDIES

Students need to successfully complete three years of Social Studies instruction in order to be eligible for graduation. As juniors, all students are required to take United States History. Seniors have the choice of several courses but must first ensure that they have passed all of their requirements.

Five-Credit Courses

WORLD HISTORY (Grade 9)

Students in Grade 9 will study the history and geography of the civilizations and nations across the world. Students will examine world cultures and understand the role of interactions among regions and governments such as immigration war, conquest, colonization, trade, and culture diffusion. There will be an emphasis placed on primary sources and the student's ability to develop research questions and conduct inquiries with these primary sources.

College Prep – 5 Credits – Full Year
Honors – 5 Credits – Full Year
Prerequisite for College Prep: Passing grade in United States History I (Grade 8)
Prerequisite for Honors: Average grade of "A-" in United States History I (Grade 8)
Requirement for Honors: Summer reading project due by the first day of school

UNITED STATES HISTORY I (Grade 10)

Students will explore an in-depth analysis of the history of the United States in the 17th, 18th, and 19th century. Exposure to events outside the United States and their impact on the development of the country will also be explored. Throughout the course, there will be an emphasis placed on primary sources and a student's ability to develop research questions and conduct inquiries with these primary sources.

College Prep – 5 Credits – 6 Periods per Cycle – Full Year
Honors – 5 Credits – Full Year
Prerequisite for College Prep: Passing grade in World History
Prerequisite for Honors: Average grade of "B-" in Honors World History OR Average grade of "A-" in College Prep World History
Requirement for Honors: Summer reading project due by the first day of school

Program of Studies

UNITED STATES HISTORY II (Grade 11)

This course will explore the history of the United States and beyond in the 20th and 21st centuries. Students will understand how people of diverse backgrounds have worked to define the United States, how sectional issues have resulted in bitter conflicts, the ideas that have united the country, how the United States became a world power, and how citizens have fought to expand civil rights and defend democratic processes at home and in other parts of the world. There will be an emphasis placed on primary sources and students' ability to develop research questions and conduct inquiries with these primary sources.

College Prep – 5 Credits – 6 Periods per Cycle – Full Year
Honors – 5 Credits – Full Year
Prerequisite for College Prep: Passing grade in US History I
Prerequisite for Honors: Average grade of "B-" in Honors US HistoryI OR Average grade of "A-" in College Prep US History I
Requirement for Honors: Summer reading project due by the first day of school

HUMANITIES AMERICAN STUDIES (Honors) (Grade 11)

This themed based interdisciplinary course (Honors American Literature & Honors United States History) grounded in American Literature and United States History. The course provides students with a deep literary and historical knowledge of the aspects of American heritage. The course will examine literary contributions and provide opportunities to more closely understand their connection to major turning points in United States History. In accordance with Massachusetts DESE requirements, students will be expected to complete a Civics Project within this course.

Honors – 10 Credits – Full Year
Prerequisite: A- or higher in college prep US History I; A- or higher in college prep ELA 10; B- or higher in honors US History I; B- or higher honors ELA 10

ECONOMICS (Honors) (Grade 12)

This honors course is designed for highly motivated seniors wishing to gain an overview of economics as presented in the Massachusetts Social Studies Curriculum Frameworks. Students will gain knowledge in a wide range of topics including workers, wages and employment in the modern economy, international trade and monetary policy, supply and demand, economic growth, productivity and living standards, GDP and unemployment and the role of the Federal Reserve. The course will also feature enrichment activities, weekly simulations and periodic field trips to participate in competitive activities with schools from around the area.

Honors – 5 Credits – Full Year
Prerequisite for Honors: Average grade of "B-" in Honors United States History II OR Average grade of "A-" in College Prep United States History II
Requirement for Honors: Summer reading project due by the first day of school

Program of Studies

PSYCHOLOGY (Grades 11-12)

This yearlong course is designed to provide students with an overview of historical and contemporary theory and practice in the study of human behavior. As such, students will engage in experimentation, projects, discussion and debate. Units of study include learning and motivation, sensation and perception, emotional, behavioral, social and moral development, abnormal behavior and social psychology. Students will also enjoy learning about their own personality, development and learning style.

College Prep - 5 Credits - Full Year
Honors - 5 Credits - Full Year
Prerequisite for Honor: Average grade of a "B-" in Honors United States History II
OR Average grade of "A-" in College Prep United States History II
Requirement for Honors: Summer reading project due by the first day of school

ART and IDEAS (Grades 11 and 12)

Art and Ideas will train students in visual art skills through studio practice and an exploration of art history and theory. Art develops actively within historic contexts. This course examines these developments by uncovering their history and learning the practice of art forms from around the world. Students can expect history and theory to be balanced with studio art components. At the end of this course, students will have a working understanding of movements throughout art history and a working reservoir of visual art skills. This course satisfies the Fine Arts course requirement and also counts as a History elective course.

College Prep – 5 Credits – Full Year
Honors – 5 Credits – Full Year
Prerequisite for College Prep: Passing grade in United States History
Prerequisite for Honors: Average grade of B- or higher in United States History honors or AP United States History
OR Average grade of “A-” in College Prep United States History

PAINTING: HISTORY AND STUDIO PRACTICE (Grades 11 and 12)

This course will provide students with a historical understanding of how painting has changed throughout the history of art and will support students in developing their own painting skills in studio art sessions. From paleolithic cave paintings to digital printmaking we will have the opportunity to learn about and practice the craftsmanship of fine art painting. Topics will include but are not limited to the historic art movements of prehistoric, classical, romanticism, impressionism, expressionism, fauvism, realism, and contemporary painting. Media will include but are not limited to tempera, acrylic, watercolor and oil paint and paint sticks.

College Prep – 5 Credits – Full Year
Honors – 5 Credits – Full Year
Prerequisite for College Prep: Passing grade in United States History & a Passing grade in Art I
Prerequisite for Honors: Average grade of B- or higher in United States History honors or AP United States History & a Passing grade in Art I
OR Average grade of "A-" in College Prep United States History & a passing grade in Art I

SUCCESSFUL CITIZENSHIP (GRADE 12)

This course will be a dynamic exploration of three critical components of successful citizenry in the modern world: civic engagement, financial literacy, and service to others. Topics covered will include rights and responsibilities, financial and political literacy, engagement in government, community groups & financial markets, and current events in politics & the economy. The course is primarily project-based concentrating both on individual success and strong collaboration with peers. The course will use

multiple web-based platforms to engage in content and include an extended multi-faceted service learning component which has the possibility to be applied to the MHS community service requirement.

College Prep – 5 Credits – Full Year
Honors – 5 Credits – Full Year
Prerequisite for College Prep: Passing grade in United States History
Prerequisite for Honors: Average grade of B- or higher in United States History honors or AP United States History OR Average grade of "A-" in College Prep United States History

LAW IN AMERICAN SOCIETY (Grade 11 and 12)

The primary purpose of this course is to develop an understanding of the roles that government and law play in American life. The course expands on the review of issues featured in the grade 11 United States History course to include topics such as: judicial review, civic responsibility, federalism, political parties, and civil, criminal, and constitutional law. The course will also place heavy emphasis on understanding the structure, key elements and functions of the US legal system. Students will also have opportunities to learn about the law in daily life through assignments, simulations and discussion based activities on essential Constitutional rights, equal protection under the law, criminal procedure and criminal defense, and trial practice in Massachusetts and at the Supreme Court level.

College Prep – 5 Credits – Full Year
Prerequisite for College Prep: Passing grade in United States History

HONORS TRIAL PRACTICE & AMERICAN JUSTICE I (Grade 11) and HONORS TRIAL PRACTICE & AMERICAN JUSTICE II (Grade 12)

The primary scope of this course is to develop an understanding of the role of the judicial system in American society, politics and daily life. It is intended to promote informed, responsible and active citizenship among students. The course will examine key case law and tenets of the United States Constitution, in addition to historical events and legal issues that continue to shape daily life in the United States. A central component of this course will be real-life Mock Trial competitions with schools from across the Commonwealth. Participation in Mock Trial is a course requirement and involves approximately 3 half days of time off campus. Students must attend at least three mock trials as a requisite to the course.

Honors – 5 Credits – Full Year
Prerequisite for Honors: Average grade of "B-" in Honors United States History II
OR Average grade of A- in College Prep United States History II

Program of Studies

Advanced Placement Courses

ADVANCED PLACEMENT MODERN WORLD (Grade 10)

Students will explore significant historical events, individual developments and processes from 1200 to present. Six themes guide the students through this time period - historical developments in different times and places:humans and the environment, cultural developments and interactions, governance, economic systems, social Interactions and organization,and technology and innovation. As they engage in this content, they will analyze primary and secondary sources; develop historical arguments; make historical connections; and utilize reasoning about comparison, causation, continuity and change over time.

Advanced Placement – 5 Credits – Full Year
Prerequisite: A- or higher in World History Honors

ADVANCED PLACEMENT UNITED STATES HISTORY (Grade 11)

This Advanced Placement course follows a standardized curriculum established by the College Board and can be taken in lieu of United States History II. Students electing this course are expected to take the Advanced Placement examination in May and, depending on the results, may be granted credit and/or appropriate placement by a participating college.

Advanced Placement – 5 Credits – Full Year
Prerequisite: Average grade of "A-" in Honors World History
OR Average grade of "B-" in Advanced Placement
European History
Requirement: Summer reading project due by the first day of school

ADVANCED PLACEMENT EUROPEAN HISTORY (Grade 11-12)

The Advanced Placement European History course examines the development of European History from 1300 to the present day. The class follows a standardized curriculum established by the College Board and can be taken in lieu of US History I. Students electing this course are expected to take the Advanced Placement examination in May and, depending on the results, may be granted credit and/or appropriate placement by a participating college.

Advanced Placement – 5 Credits – Full Year
Prerequisite: *Average grade of "B-" in AP United States History or*
A- in Honors United States History
Requirement: Summer reading project due by the first day of school

ADVANCED PLACEMENT PSYCHOLOGY

This elective course is for highly motivated Medford High School seniors who are interested in taking the Psychology Advanced Placement examination in May. This course will follow the curriculum established by the AP College Board, which will include the content areas: history of psychology, research methods, biology of behavior, sensation and perception, consciousness, learning, gender, cognition, motivation and emotion, developmental psychology, personality, stress and health, abnor- mal psychology, social psychology and mental health.

Advanced Placement – 5 Credits – Full Year
Prerequisite: Average grade of "A-" in Honors United States History
Requirement: Summer reading project due by the first day of school

ADVANCED PLACEMENT UNITED STATES GOVERNMENT AND POLITICS (Grades 11 and 12)

This Advanced Placement course follows a standardized curriculum established by the College Board. Students electing this course are expected to take the Advanced Placement examination in May and, depending on the results, may be granted credit and/or appropriate placement by a participating college. The course provides an analytical perspective on government and politics in the United States with a specific focus on the following: the constitutional underpinnings of U.S. government; political beliefs and behaviors; political parties, interest groups, and mass media; institutions of national government: the Congress, the presidency, the bureaucracy, and the federal courts; public policy; and civil rights and civil liberties. Students will study general concepts used to interpret U.S. politics and will analyze constitutional principles through specific case studies.

Advanced Placement – 5 Credits – Full Year
Prerequisite: Average grade of "A-" in Honors United States History OR
Average grade of "B-" in AP United States History or B- in AP European History
Requirement: Summer reading project due by the first day of school

5-Credit Social Studies Electives

HISTORY THROUGH FILM (Grades 10-12)

Students will analyze historical events and eras through how they are portrayed in movies, especially evaluating accuracy and dramatic and narrative license. Throughout this class, students will engage in project-based learning through conversation and discussion.

College Prep – 5 Credits – Full Year
Prerequisite: Passing Grade in World History

HISTORY OF THE 1960s AND 70s (Grade 12)

The primary scope of this course is to develop an understanding of the changes that occurred in the United States and around the world during the 1960s and 70s. It is intended to promote reading and writing skills that mimic a history course at the college level to help students prepare for a liberal arts experience. The course will examine key events within the Civil Rights movement, feminism, the War in Vietnam, as well as the Presidencies of Kennedy, Johnson, and Nixon. Each Term will include a similar assessment trajectory students would see in college. At the end of the year, there will be a focus on museum studies and an opportunity to engage in outside authentic learning experiences.

College Prep - 5 Credits - Full Year
Honors - 5 Credits - Full Year
Prerequisites for Honor: Average grade of a "B-" in Honors United States History II OR Average grade of "A-" in College Prep United States History II

2-Credit Social Studies Electives

AMERICAN POP CULTURE HISTORY: A Study of the United States since World War (Grades 10-12)

Understanding the history of the United States in the post-World War II world can be difficult wit - out learning about popular culture. Some view pop culture as trivial or unimportant, but it can tell us much about the political, economic and social factors that have shaped the history of the United States over the last 60 years. In this class students will gain an appreciation for American culture and history while examining examples of film, movies, television, art, literature, music and more. This course is open to grades 11 & 12 students. This class will run in alternating years.

College Prep – 2 Credits – Full Year

CIVICS (Grades 10-12)

This class provides a background for the understanding of United States citizenship and the foundations and operation of the American government. Students will apply this understanding the understand- ing of Constitutional principles to current event topics relevant to the nation.

College Prep – 2 Credits – Full Year

Program of Studies

CONTEMPORARY ISSUES (Grades 9-12)

This course is conducted in a seminar format with a major emphasis on the self-directed learner. Students will be expected to apply what they have learned from earlier social studies courses (both in content and in skills) to an examination of the major issues, events, and personalities of the Unit- ed States and the world. Topics studied will include, but not be limited to, population, immigration, affirmative action, terrorism, global economic competition, pollution, campaign finance reform and election analysis.

College Prep – 2 Credits – Full Year

HISTORY OF SPORTS

This class will examine the development of sports in America and the emergence of organized and national sports. Our historical study will focus on helping students gain a better understanding of the inner relationship that sports have on social, economic, cultural, and political forces in the United States, as well as the world. This course will examine key events in which sports reflected issues of gender, race, ethnicity, and international politics. This course will consist of films, readings, lectures, and discussions.

College Prep – 2 credits – Full year

ENGLISH LEARNERS

The English Learners (EL) Department provides instruction for students who need to reach English proficiency in order to participate fully in the academic and social life of the school. The department offers a full range of English Language Development (EL LA courses) as well as sheltered instruction in Mathematics, Science and Social Studies.

EL Student Placement

English Learner students in Grades 9-12 will be placed in the appropriate English Language Proficiency (ELP) class as their English Class. The classes are broken into four levels: EL LA 1, EL 1.5, EL LA 2, EL LA 3, EL LA 4, or EL CTE

Initial English Language Proficiency (ELP) is determined by ELP testing at the Assessment Center at Medford High School. In subsequent years, students are assessed annually using ACCESS for ELLs 2.0 to determine ELP. New placement decisions are made each year based on student performance on the ACCESS 2.0, MCAS assessments, locally administered diagnostic language assessments, and other district determined measures

EL LA 1 – (Grades 9–12)

This is an English Language Development class for students at the Entering and Emerging stages of English language proficiency. Students will learn social and academic English while learning about American culture. This course will focus on listening, reading, writing and speaking skills with a focus on early literacy, vocabulary, grammar, receptive language and oral communication.

College Prep – 10 credits – Full Year

EL LA 2 - (Grades 9–12)

This course is for students who are at the Emerging and Developing stages of English language development. Students at this level receive sheltered instruction in all classes which are designed to further develop students' academic skills in listening, reading, speaking and writing skills. The curriculum is a continuation of EL LA 1, with increased complex demands and a focus on reading strategies and writing for a variety of genres.

College Prep – 10 credits – Full Year

EL LA 3 - (Grades 9–12)

This course is for students who understand most conversational and academic English spoken at a native pace. The students are at the Developing and Expanding levels of language development, and this course has a rigorous focus on academic grade-level language skills in listening, reading, writing and speaking. Students engage in research writing and learn the academic skills necessary for literary analysis.

College Prep – 10 credits – Full Year

EL LA 4 - (Grades 9–12)

This course is for students who approximate native level academic English skills. Students at the Expanding and Bridging levels will study similar topics to mainstream English classes, but with teaching practices that include advanced English language development curricula to boost students' productive and receptive language skills. Cognitively demanding listening, reading, and speaking, are a major component of this course with a strong focus on writing across the content areas.

College Prep – 5 credits – Full Year

EL CTE - (Grades 9–12)

This course is for students in a CTE program who understand most conversational and academic English. The students are at a mix of Emerging, Developing and Expanding levels of language development, and this course has a rigorous focus on academic, career and technical language skills in listening, reading, writing and speaking. Although not specific to a particular CTE course, students gain the linguistic support they need for their career or technical program.

College Prep – 5 credits – Full Year

EL Writing - (Grades 9–12)

This course is for students who require additional support in writing across the curriculum. The students approximate native level academic English skills and are participating in their grade level ELA class. This course has a rigorous focus on the five elements of writing across multiple genres while continuing to build students' academic and technical vocabulary with complex grammatical structures.

College Prep – 2 credits – Full Year

Program of Studies

EL/SEI CONTENT AREA COURSES (Grades 9–12)

EL Core Content classes are offered in Math, Science and Social Studies for newcomer students and students who may have interruptions in their education. The goal of these courses is to provide English learners with intensive support to access the content in English. The curriculum is equivalent to the grade level course of study, but moves at a pace that is appropriate for students at the Entering and Emerging stages of English Language development.

English learners at the transitional level of English Language Development are placed in content classes with teachers who have the Sheltered English Immersion (SEI) Endorsement from the Massachusetts Department of Elementary and Secondary Education. All classes meet one period per day.

EL Literacy (Grades 9–10)

This course will help students who require support to increase their skills in the fundamental concepts of listening, speaking, reading, and writing in the English language. Students will focus on learning common letter patterns to increase their spelling skills and pronunciation of words. They will apply their learning to fiction and nonfiction readings to demonstrate an increased mastery in decoding, fluency, and comprehension as well as oral and written expression.

College Prep – 2 credits – Full Year

EL Foundational Math (Grades 9-10)

This course is an introduction to Integrated Mathematics and is designed to support students who may have interruptions in their education or students who may require additional mathematics background support. This includes introduction to whole numbers, operations of whole numbers, exponents, graphs, statistics, measurements, integers, introduction to fractions, and operations of fractions. Problem solving will be part of all units and this course supports early literacy for students using the WIDA Standard: The Language for Mathematics.

College Prep – 5 credits – Full Year

Program of Studies

EL Integrated Math 1 (Grades 9–12)

This is the first course of a three-year college preparatory integrated math sequence. This course follows the Integrated Math Pathway in the Common Core State Standards articulated by the Massachusetts Curriculum Framework for Mathematics. This course integrates algebraic concepts with geometric concepts. The core curriculum follows Integrated Math 1, but provides language support and linguistic scaffolds to support students at the foundational level of English Language Development using the WIDA Standard: The Language for Mathematics.

College Prep – 5 credits – Full Year

EL Life Science (Grades 9-10)

This course is an introduction to life science and explores the foundational principles of living things. Through this course, students develop the necessary academic vocabulary and basic understanding of a variety of living organisms, their life processes and their relationship to the environment. This course supports early literacy for students using the WIDA Standard: The Language for Science.

College Prep – 5 credits – Full Year

SEI Biology (Grades 9–12)

This course emphasizes inquiry and lab-based experiences to explore the fundamental principles of living things. Students learn about the diversity of living organisms and their relationship to the environment. The core curriculum follows Biology I, but provides language support and linguistic scaffolds to support students at the foundational level of English Language Development using the WIDA Standard: The Language for Science.

College Prep – 5 credits – Full Year

EL World History (Grades 9–10)

Students study the history and geography of the civilizations and nations across the world while examining world cultures. Students will learn about the interactions among regions and governments and include topics such as immigration, war, conquest, colonization, trade, and culture. There is an emphasis on primary sources and students will develop research questions and conduct inquiries with these primary sources. The core curriculum follows the World History curriculum, but provides language support and linguistic scaffolds to support students at the foundational level of English Language Development using the WIDA Standard: The Language for Social Studies.

Students will explore and analyze the history of the United States between the 17th and 19th centuries. They will gain an exposure to events outside the United States and understand their impact on the development of the United States during this time period. There is an emphasis on primary sources and students will develop research questions and conduct inquiries with these primary sources. The core curriculum follows US History I curriculum, but provides language supports and linguistic scaffolds to support students at the foundational level of English Language Development using the WIDA Standard: The Language for Social Studies.

College Prep – 5 credits – Full Year

EL US History II (Grades 9–11)

This course will explore the history of the United States and beyond in the 20th and 21st centuries. Students will understand how people of diverse backgrounds have worked to define the United States, how sectional issues have resulted in bitter conflicts, the ideas that have united the country, how the United States became a world power, and how citizens have fought to expand civil rights and defend democratic processes at home and in other parts of the world. There will be an emphasis placed on primary sources and students' ability to develop research questions and conduct inquiries with these primary sources. The core curriculum follows US History II curriculum, but provides language supports and linguistic scaffolds to support students at the foundational level of English Language Development using the WIDA Standard: The Language for Social Studies.

College Prep – 5 credits – Full Year

Program of Studies

SPECIAL EDUCATION

Students requiring special education services are first identified through the eligibility process and recommendations are made and documented on a student's Individualized Education Plan (IEP). All students regardless of learning challenges have access to the Medford High School's curriculum. Each student's team recommends accommodations or schedule adjustments. The purpose of these recommendations is to maximize student success.

Services are individualized based on disability-related needs and are recommended by an IEP team. These services may include co-teaching, inclusion opportunities, and related services (counseling, occupational therapy, physical therapy, speech and language and social skills).

Specialized programming can include Resource Room Learning Centers,Learning Group Program, Therapeutic Learning Program, ACCESS High School program, Project Transition, or a combination of above services.

Listed below are the current offerings for Medford High School and Medford Vocational Technical High School.

RESOURCE ROOM LEARNING CENTERS

Small group academic instruction for Reading, ELA, Math, Science, Social Studies and Reading and Writing Across the Curriculum. Reading courses are scientifically-based and are a highly structured literacy program. Curriculum is fully aligned with the Massachusetts Curriculum Frameworks, with course specific skill focus.

LEARNING GROUP PROGRAM

Curriculum aligned with Massachusetts Curriculum Frameworks, modified based on student needs, grade level academic courses including ELA, Reading, Math, Social Studies and Science, plus elective courses to build transition skills, while addressing executive functioning, organizational and social skills. Use of rule-based reading and writing programs are prominently woven within the program curriculum. With team recommendation and application process, students access MVTHS CTE programs and related shops.

THERAPEUTIC LEARNING PROGRAM

Instruction to address individual learning needs of students with moderate-severe social, neurological, health or mental health disorders. Individual counseling, group counseling, and pragmatic language instruction are integrated elements. Facilitated inclusion opportunities are embedded within the program.

Program of Studies

ACCESS PROGRAM

Highly staffed intensive program that addresses and accommodates individual students. Curriculum is aligned to the Massachusetts Curriculum Frameworks as the access/entry skill levels of complexity. Methodology includes strong multi-disciplinary collaboration between instructional staff, related service providers and parents. Students participate in standards-based instruction while addressing social, motor and communication skills. Opportunities for facilitated inclusion components as well as an enriched transitional component to facilitate community access, prevocational work skills, via on-campus and off-campus training opportunities, as well as focus on transition planning with community-based agencies.

PROJECT TRANSITION

This is a post-high school opportunity for students who will continue within a school program between the ages of 18-22. Curriculum is focused on individual student transitions from school to adult life. Each student designs an individual transition plan, which is implemented through the collaborative efforts of the student, school team, family and state agencies as appropriate.

CURTIS TUFTS HIGH SCHOOL

Public therapeutic day school program with Clinical services. Instruction to address individual learning needs of students with moderate-severe social, neurological, health or mental health disorders. Individual/group counseling, and pragmatic language instruction are integrated components. Facilitated transition to HS/MVTHS CTE programs as students demonstrate progress towards goals**.**

MEDFORD ACADEMY

Medford Academy is an alternative educational program within Medford High School that offers enrolled students flexible and responsive learning environments, schedules and instruction to support their academic success.

INDIVIDUAL HOME/HOSPITAL INSTRUCTION

Teams may determine the need for individualized instruction when other options are not deemed appropriate. Medical conditions require a physician’s request for home/hospital tutorials before they can be implemented.

Program of Studies

ELECTIVE SUBJECTS

Fine & Performing Arts, Health & Physical Education, and Media Technology will receive A - F letter grades.

All other elective subjects will be graded on a Pass/Fail basis.

Program of Studies

FINE & PERFORMING ARTS

All students must take and pass an Arts course (music or art) for graduation.

Those who are planning advanced studies in art, as well as those who are interested in art as a source of income, personal development or academic enrichment, will find educational opportunities available to them. Instruction in all courses builds solid technical skills on a foundation of the principles of design. Students may sample an art discipline through an introductory level class, or explore a medium in depth through advanced level courses. Students who complete a program of advanced level classes will produce the high quality work demanded for admission to most art schools and universities. Students who are planning careers in music or who are interested in acquiring the skills and benefits music study provides will find educational opportunities available to them.

All Fine Arts classes will receive an A - F letter grade unless indicated otherwise.

ART & IDEAS (Grades 11 and 12)

Art and Ideas will train students in visual art skills through studio practice and an exploration of art history and theory. Art develops actively within historic contexts. This course examines these developments by uncovering their history and learning the practice of art forms from around the world. Students can expect history and theory to be balanced with studio art components. At the end of this course, students will have a working understanding of movements throughout art history and a working reservoir of visual art skills. This course satisfies the Fine Arts course requirement and also counts as a History elective course.

College Prep – 5 Credits – Full Year
Prerequisite for College Prep: Passing grade in United States History

ADVANCED PLACEMENT ART (Grades 11 and 12)

This course is geared towards students who are looking for a capstone course of self-designed study in which a student develops a body of work or expands upon a portfolio developed in an advanced class. Students will create a portfolio of work to demonstrate inquiry through art and design and development of materials, processes, and ideas over the course of a year. Portfolios include works of art and design, process documentation, and written information about the work presented. For those who wish to submit to the college board for AP credit, students can submit portfolios for evaluation based on specific criteria, which include skillful synthesis of materials, processes, and ideas and sustained investigation through practice, experimentation, and revision, guided by questions. Students who wish to submit to the college board can submit their

portfolios in one of the following categories that we offer: (2D or 3D Art and Design, Drawing).

For students who intend to apply to Art Schools or Major in Fine Art these portfolios can be used for the college application process.

Advanced Placement--5 Credits Total -- Full Year
Prerequisite: A minimum of one year of previous studio experience and teacher permission

PHOTOGRAPHY (Grades 10-12)

Students will learn processes and techniques for taking and printing successful photographs. Along the way we will engage with historic photographers, movements, and philosophies about the artistic process. Most of the work will be digital using phone cameras, but we will also be working with 19th century photographic media.

College Prep – 2 credits – Full year

COMPREHENSIVE ART I (Grades 9-12)

The course is designed for students who are interested in learning more about traditional materials (pencil, pen and ink, watercolor, oil pastels, pastels, acrylic paint, and colored pencil)

Areas of concentration are drawing, painting, and printmaking. Students will learn techniques, tools, and applications that will enable them to develop a body of work that expresses their unique responses to open ended, creative projects. It encourages experimentation balanced with the more guided development of technical skills with specific art materials. The course also offers exposure to art history and how to understand and discuss works of art that you may have never seen before.

College Prep - 4 Credits -- Full Year

COMPREHENSIVE ART II (Grades 10-12)

This is an in depth continuation of Comprehensive Art I. Students will expand their knowledge about art making with more emphasis on individual expression and creative approach. In addition to improving their drawing and design skills, students will create art requiring personal interpretation and exploration. Assignments are designed to address art themes and topics through drawing, painting (acrylic and oil), printmaking (silkscreen and intaglio), collage, design, and mixed media. The art experiences in Comprehensive Art II have both fine and commercial art applications.

College Prep -- 4 Credits -- Full Year
Prerequisite: Comprehensive Art I

Program of Studies

COMPREHENSIVE ART III (Grades 12)

This course is for students who have taken Comprehensive Art II and who have identified art as an area in which they have strength and abundant interest. Some students taking this course are beginning a process for developing an art portfolio for art school and/or college admission. A wide range of two-dimensional art materials will be explored in a structured studio setting. Artistic independence will be encouraged with opportunities to visit museums and galleries and Artist Open Studios.

College Prep - 4 Credits - Full Year
Prerequisite: Comprehensive Art II

DESIGN I (Grades 10-12)

This upper-level course is designed for students who have successfully completed Comprehensive Art I and are prepared to engage in advanced study of the Elements and Principles of Design. Students will apply both two-dimensional and three-dimensional techniques to investigate and solve complex design problems while developing strong creative and analytical skills. Traditional and digital media will be explored to support the creative process from concept development through final execution, with an emphasis on experimentation, innovation, and technical refinement.

Students will demonstrate mastery of the Elements of Design—line, shape, form, space, size, texture, color, and value—and the Principles of Design—balance, rhythm, repetition, unity, variation, movement, and pattern—through original work, peer analysis, and the study of historical and contemporary artworks. Ongoing critique, reflection, and revision will be integral to the course as students evaluate their own work and that of others, strengthening visual literacy, craftsmanship, and conceptual understanding.

College Prep - 4 Credits - Full Year
Prerequisite: Art I

DESIGN II (Grades 11-12)

In this course, students will refine their use of the Elements and Principles of Design to create a portfolio of work. By selecting materials from the Design course – whether it be traditional or digital – students can continue to hone their creative problem- solving skills and develop a deeper understanding of how to analyze design problems. Students will complete an investigation, with evidence of complex ideas, that demonstrates intention, originality, innovation, and technical mastery. Throughout the course students will explore a variety of design fields and categories including: fashion design, advertising design, interior design, and graphic design. As an honors level course, the content will be covered at an accelerated pace. Honors students will study topics at a deeper level and will be expected to complete more independent coursework and assignments.

College Prep – 4 Credits – Full Year
Prerequisite: Design I

Program of Studies

CERAMICS I (Grades 9-12)

Ceramics uses the medium of clay to create work that is both functional and sculptural. All methods of hand-building are taught in-depth. Instruction is offered in a wide variety of ceramic painting techniques using both glazes and under-glazes. Projects will focus on design, visual symbolism, and imagination. Students will be asked to reflect on their values, creative development and contemporary issues throughout the process of developing their work.

College Prep – 4 Credits – Full Year

CERAMICS II (Grades 11-12)

Ceramics II is for students who have a serious interest in creating functional and sculptural work out of clay. Students will further develop the technical skills established in Ceramics I as they create work that reflects issues of personal and societal importance. In addition, the elements and principles of design will be stressed in all projects. Students enrolled in Ceramics II will also work with the potter's wheel and explore high fire materials.

College Prep – 4 Credits – Full Year
Prerequisite: A grade of "B-" in Ceramics I or teacher recommendation

CERAMICS III (Grades 12)

Ceramics III is an independent study class for students who have a serious interest in Ceramics. Ceramic III students will identify a central motif or concept they wish to explore in-depth, either functional or sculptural, and then create a portfolio quality body of work that demonstrates mastery of technique, breadth of ideas, and development of design concepts. A portfolio of work meeting requirements for college admission will result from this class.

College Prep – 4 Credits – 4 Periods per Cycle – Full Year
Prerequisite: Permission only, grade A- or better in Ceramics II

SCULPTURE Grades (9-12)

This course is an investigation of creating form in three dimensions, with an emphasis on experimentation. The class is designed to challenge students to take artistic risks in a variety of media. Students will have the opportunity to sculpt and build imaginatively, developing expression and skill. They will gain a working knowledge of materials and processes, while exploring significant social, political, historic and personal issues using their own creative voices.

College Prep – 4 Credits – Full Year

Program of Studies

WHEEL THROWING (Grades 9-12)

Students will explore a variety of techniques for creating both functional and non-functional forms using a pottery wheel. Beginning with foundational throwing skills, students will develop the ability to shape and refine basic forms, building a strong technical base. From there, they will progress to experimenting with non-traditional approaches and methods for altering wheel-thrown pieces, encouraging creative expression and innovation. The course will also introduce advanced techniques in glaze layering, allowing students to enhance the surface quality and visual impact of their work. Throughout, emphasis will be placed on both skill development and personal artistic exploration.

College Prep – 2 Credits – Full Year

FASHION DESIGN AND ILLUSTRATION (Grades 10-12)

This course explores the creative, artistic, and cultural aspects of the fashion industry. Students will study the history of fashion and how clothing reflects social change, culture, and identity across different time periods. The course introduces fashion illustration techniques, including figure drawing, garment rendering, and the use of color, texture, and pattern to communicate design ideas.Students will also explore textile design, learning about fabrics, surface design, and basic construction concepts, as well as the principles of clothing design from concept to finished look. In addition, the course examines fashion branding and marketing, helping students understand how designers and companies develop a visual identity and connect with audiences. Through hands-on projects, research, and creative exploration, students will build a portfolio of work while developing an appreciation for both the artistic and practical sides of fashion.

College Prep – 4 Credits – Full Year
Prerequisite: Art I

Program of Studies

INTRO TO BAND (Grades 9-12)

A beginner-level instrumental music course designed for students with little to no previous experience. Students will learn the fundamentals of playing a band instrument of their choice (woodwind, brass, or percussion). Through guided practice, sectional work, and full ensemble experiences, students will develop basic tone production, posture, instrument care, rhythm reading, and music literacy. The course emphasizes proper technique, steady tempo, intonation development, and ensemble awareness at an introductory level. Students will learn to read music, play simple melodies, and perform beginning band literature. Reflection, listening, and peer collaboration support their growth as young musicians. By the end of the course, students will be able to perform age-appropriate repertoire with developing tone, rhythm accuracy, and expressive musicality. Participation in at least one performance is required as part of the course experience.

College Prep – 4 Credits – Full Year

BAND (Grades 9-12)

This course is designed for students who have previously participated in band at the middle school level or other band experience. No beginners are eligible without prior permission of the Director of Arts. As part of the band experience, students will be expected to participate in at least one performance during the year.

(Students enrolled in this course that are also part of the Marching Band are expected to take part in the full marching band experience, which includes rehearsals, football games, parades,competitions, concerts.)

College Prep - 4 Credits – Full Year

CHORUS (Grades 9-12)

This course is open to all students who have an interest in singing. Chorus students will study and perform a wide variety of vocal music spanning many styles and historical periods, from traditional works to contemporary selections. As part of the choral experience, students will be expected to participate in at least one performance during the year.

College Prep - 4 Credits – Full Year

Program of Studies

MUSIC ELECTIVES

ORCHESTRA (Grades 9-12)

This course is for those students who have had previous experiences and lessons in violin, viola, cello or string bass. No beginners are eligible without prior permission of the orchestra director. Wind and percussion players are to be admitted only after taking and passing an audition. Attendance at rehearsals, programs, concerts, and musical activities after school hours is required. All Orchestra students must attend one weekly nighttime rehearsal.

College Prep - 4 Credits – Full Year

GUITAR I (Grades 10-12)

Guitar class is designed for beginning guitar students who have never played guitar before, and/or want to learn how to read music. Students will learn how to read both standard notation and TAB notation. They will also learn chords, a variety of guitar riffs and techniques, and gain a basic understanding of improvisation. *Students will be allowed to use school- owned acoustic guitars during class. However, students are strongly encouraged to own their own acoustic guitar at home for practicing.

College Prep – 4 credits – Full year

INTRO TO PIANO (Grades 9-12)

This beginner-friendly course introduces high school students to the fundamentals of piano playing. Students learn basic music theory, proper hand positioning, note reading, and simple chord progressions. Through a mix of solo and group practice, they develop rhythm, technique, and musical expression. No prior experience is required. By the end of the course, students will be able to play simple songs and have a strong foundation for further piano study.

College Prep – 2 Credits – Full Year

SONGWRITING AND COMPOSITION (Grades 9-12)

A creative music course designed for high school students of all levels—no prior musical training is required. Students will explore how songs and instrumental compositions are built, gaining foundational skills in melody writing, lyric development, chord progressions, rhythm, structure, and musical expression. Through guided exercises, listening analysis, experimentation, and peer collaboration, students will write original musical ideas and complete full compositions. The class incorporates both traditional methods (notation, basic theory) and modern tools such as digital audio workstations

(DAWs), loop-based writing, and recording techniques. Students will study examples from a wide variety of genres—pop, rock, hip-hop, R&B, classical, jazz, film music, and more—to understand how artists use music to communicate ideas and emotions. By the end of the course, each student will create and revise original songs or compositions and present them in a final showcase or portfolio.

College Prep – 4 Credits – Full Year

PERCUSSION (Grades 9-12)

A beginner-friendly introduction to the essential skills of rhythm, technique, and ensemble performance for percussionists. Students will learn to read, write, and interpret rhythmic notation while gaining foundational playing techniques on snare drum, auxiliary percussion, and selected pitched percussion instruments. Through independent practice and ensemble experiences, students will develop coordination, listening skills, and fundamental musicianship. By the end of the course, students will confidently perform level-appropriate percussion music, understand key musical concepts, and participate effectively in a percussion ensemble.

College Prep – 4 Credits – Full Year

MODERN MUSIC ENSEMBLE (Grades 9-12)

This course is for students who have previous experience and/or lessons in guitar or bass. This class will be primarily performance based, rehearsing two, three, and four part arrangements for guitar in many genres. Students will be required to perform in concerts as part of their grade. (Students will have access to a guitar in class but are encouraged to practice outside of school as well.)

College Prep – 4 credits – Full year
Prerequisite: Guitar, piano or audition

MUSIC TECHNOLOGY (Grades 10-12)

Students will discover and explore introductory concepts used in music recording, sequencing, and composition using a variety of music software. Prior musical experience in instrumental or vocal training is helpful and suggested, but not required. **Basic Piano Skills are strongly encouraged.**

College Prep – 4 Credits – Full Year

Program of Studies

BEGINNING UKELE (Grades 9-12)

An introductory music course designed for students of all experience levels, including those with no prior musical background. Students will learn basic ukulele technique, chords, strumming patterns, and simple melodies while developing foundational music skills such as rhythm, listening, and ensemble performance. The class focuses on playing popular songs from a variety of styles, building confidence, and making music in a supportive, collaborative environment. Students will have opportunities to play individually and in groups, and instruments can be provided by the school if needed. No previous music experience is required.

College Prep – 4 Credits – Full Year

MUSIC APPRECIATION: POP, FILM, CLASSICAL (Grades 9-12)

An engaging elective that explores how music shapes culture, storytelling, and emotion across different styles and time periods. Students will listen to, analyze, and discuss popular music, film scores, and classical works, learning how each genre reflects its historical and social context. The course introduces basic musical concepts in a way that is accessible to students of all musical backgrounds. Through guided listening, videos, and creative projects, students will develop critical listening skills and a deeper appreciation for the music they hear every day.

College Prep – 2 Credits – Full Year

Program of Studies

HEALTH & PHYSICAL EDUCATION

Mission Statement

Medford Public Schools provides a quality physical education/health education program for all students in grades K-12. The program is staffed with Massachusetts DESE highly qualified licensed teachers. The goal of the Physical Education & Health Education Department of Medford Public Schools is to enhance the wellbeing of the school community by creating a culture that integrates and balances the six dimensions of wellness: social, physical, intellectual, occupational, emotional and spiritual. The department strives to encourage an active, healthy lifestyle, healthy decision making, and a life- long commitment to wellness. The curriculum is based on state and national physical education and health education frameworks.

Graduation Requirements - High school students must complete 2 full years of health and 4 full years of physical education each year to graduate.

Health Education

HEALTH I- This course is designed to introduce students to personal health concepts. Topics covered will include: dimensions of wellness, mental health awareness, stress management, healthy relationships, disease prevention and sex education.

2 Credits – Full Year

***HEALTH* II**- This course introduces the student to healthy decision making. Topics covered include: dimensions of wellness, nutrition, communication skills, drug, alcohol & tobacco education, goal setting, consumer health, online safety & basic CPR skills.

2 Credits – Full Year

Physical Education

FRESHMAN PHYSICAL *EDUCATION-FOUNDATION* OF FITNESS

This course is designed to introduce the student to the principles of fitness. Emphasis is on the scientific basis for setting up and engaging in personalized physical fitness programs. Students will learn basic anatomy, cardiovascular exercise routines and the proper form for strength & flexibility exercises for each muscle group. Upon completion, students should be able to set up and implement an individualized physical fitness program. Students will also learn basic water safety skills.

2 Credits – Full Year

Program of Studies

SOPHOMORE PHYSICAL EDUCATION- PERSONAL WELLNESS *ACTIVITIES*

This course is designed to introduce the student to the dimensions of wellness. Students will learn about the dimensions of wellness by participating in activities that address leadership, decision-making, commitment, risk-taking, stress management, and compassion. Games and fitness activities will help to build personal wellness, self-esteem, group support, initiative and responsibility.

2 Credits – Full Year

Junior & Senior Electives

COOPERATIVE *GAMES* & *TEACHING PHYSICAL EDUCATION*

Students will examine the role and responsibilities of a physical education teacher. Topics addressed may include: philosophy of physical education**,** biomechanics, motor development, lesson planning, and class management. Students will learn games that focus on communication, cooperation, teamwork**,** trust and problem solving. Students will also focus on the social and physical development of children. The students will observe, assist and teach young children in a wide range of early movement activities. The class will include coverage in the areas of nutrition, games**,** and personal wellness.

2 Credits – Full Year

GET FIT

This course will include a variety of fitness activities such as fitness walking and hiking**,** aerobic activity, circuit training, pilates, yoga, jogging and core strengthening. Classes consist of a warm-up, cardio training**,** cool down and stretching, as well as muscle conditioning exercises. Students will learn anatomy and exercise physiology, fitness evaluation, training program design**,** nutrition, teaching methods**,** and safety issues. Students will be introduced to a variety of career opportunities in the fitness field. *2 Credits – Full Year*

***LIFEGUARD TRAINING*/WATER GAMES**

Provide sentry-level participants the knowledge and skills to prevent, recognize, and respond to aquatic emergencies and to provide care for breathtaking and cardiac emergencies, injuries and sudden illness until EMS personnel take over. Prerequisites: Minimum age is.15, swim 300 yards continuously**,** tread water for 2 minutes using only your legs, complete a timed event within one minute (swim 20 yards**,** surface dive to a depth of 7 to 10 feet, retrieve a 10 pound object**,** return to the surface and swim 20 yards backstroke to the start point, exit the water without using steps or the ladder). Participants who successfully complete the Lifeguarding course receive an American Red Cross certificate for Lifeguarding/First Aid/CPA/AED, valid for 2 years. Students will learn the basics of water safety and some water sports such as water polo**,** volleyball**,** basketball, and Frisbee.

2 Credits – Full Year

Program of Studies

LIFETIME ACTIVITIES & OUTDOOR *PURSUITS*

This course provides diverse offerings to meet the individual needs of all students and to develop competency in individual and dual activities. Improved fitness is a goal through a variety of activities. Activities may include: golf**,** pickle ball, hiking, snowshoeing, ultimate frisbee, badminton, tennis, bocci and volleyball.

2 Credits – Full Year

TEAM *SPORTS*, *COACHING* AND *OFFICIATING*

Instruction and games for the individual who enjoys cooperative and a competitive physical environment. Among the activities are basketball, floor hockey, team handball, volleyball, flag football, soccer and whiffle ball. This course will also include coaching techniques**,** sports management and officiating.

2 Credits – Full Year

ATHLETIC *TRAINING*, *CPR* & *FIRST* AID

This course is designed to educate students about the prevention and care of athletic injuries. This course will be taught by a licensed athletic trainer or certified physical educator on staff. Athletic training is recognized as an allied health profession dealing with sports medicine and fitness. Students will be taught anatomy and physiology, rehabilitation techniques, bracing and strapping techniques in a sports medicine laboratory. Students will be taught the basic fundamentals of Sports Medicine**.** Students will learn how to recognize and treat life- threatening emergencies, including cardiac arrest and choking for adult, child and infant victims. Students also learn to recognize the warning signs of heart attack and stroke in adults and breathing difficulties in children and basic first aid/treating athletic injuries. Successful completion of this class will result in American Red Cross Certification.

2 Credits – Full Year

UNIFIED PHYSICAL EDUCATION

This course combines students of all abilities to participate in developmentally appropriate activities including lifetime activities, physical fitness, and sport. Students will work together to increase competence and confidence in a variety of physical activities. Through ongoing leadership opportunities, members of this course will be empowered to help create a more inclusive and accepting school environment for all students.

2 Credits – Full Year

Program of Studies

YOGA

This course is designed to introduce students to the basics through intermediate and advanced postures, breathing techniques, and relaxation methods of yoga. Students will begin to experience the benefits of stretching, moving, and breathing freely as they relieve built up stress and learn to relax. Students will experience the benefits of using props and advancing their yoga practice.

2 Credits – Full Year

PE INDEPENDENT STUDY

This course is designed to allow students to use athletics or instructionally based activity for PE credit**.** Students must apply to the director of PE for approval. To be eligible students must have passed grade 9 and 10 physical education. Qualifying activities: Play a Massachusetts Interscholastic Athletic Association- sanctioned sport for 2 seasons**,** Participate in an "instructionally-based" fitness/exercise program for at least 6 months.(Examples include "club" teams, dance programs, martial arts, or yoga lessons) Students must complete all assignments for credit.

2 Credits – Full Year

For additional information on the curriculum, instructional or assessment programs of the Health and Physical Education Department, contact: Rachel Perry, Director of Physical Education rperry@medford.k12.ma.us or 781-393-2280

Program of Studies

MEDIA & TECHNOLOGY

COMPUTER SCIENCE PRINCIPLES (Grades 10-12) AP

The Computer Science Principles (CSP) curriculum is a full-year, rigorous,entry-level course that introduces high school students to the foundations of modern computing. The course covers a broad range of foundational topics such as programming, algorithms, the Internet, big data, digital privacy and security, and the societal impacts of computing. There are no formal prerequisites for this course, though the College Board recommends that students have taken at least Algebra 1. The curriculum does not assume any prior knowledge of computing concepts. It is intended to be suitable as a first course in computing though students with a variety of backgrounds and prior experiences will also find the course engaging and with plenty of challenges such as becoming proficient in the Javascript programming language.

Prerequisite: There are no formal prerequisites for this course,
though the College Board recommends that students have taken at least Algebra 1.
AP - 5 Credits – Full year
***Note:** Students can receive Math or Science credits for this class (but it does not replace math or science required courses)*

GAME DESIGN (Grades 9-12)

Dive into the dynamic world of interactive creation with this rigorous, project-based course focused on the fundamentals of building real-world 3D video games. Students will master the core process of game design, from initial concept to playable prototype, using industry-standard integrated development environments (Unity). The course provides a hands-on introduction to the C# programming language, allowing students to implement basic game mechanics, user interfaces, and interactive systems. Furthermore, students will gain exposure to 3D asset creation using professional tools (Blender), learning how to integrate custom models into their game projects. By studying the structure and career paths within the game development industry, students will plan, design, and ultimately create their own functional 3D games. Success in this course requires a commitment to analytical thinking, evidenced by a B grade or higher in the prior year's math course. Prior exposure to computer science or coding concepts is highly recommended.

Prerequisite: Success in this course requires a commitment to analytical thinking,
evidenced by a B grade or higher in the prior year's math course.
Prior exposure to computer science or coding concepts is highly recommended.
College Prep - 4 Credits – Full year

Program of Studies

ADVANCED GAME DESIGN (Grades 10-12)

This project-based course serves as the rigorous capstone experience for students pursuing advanced skills in interactive software creation. Students will leverage the prerequisite foundational design and programming concepts learned in Game Design I or an equivalent introductory programming course to tackle complex, large-scale development projects.The curriculum emphasizes advanced software engineering principles, focusing on creating efficient and robust game systems using the C# language within an integrated development environment (Unity). Key areas of study include the development of Artificial Intelligence (AI), complex physics and collision systems, advanced data management, and implementation of networking or multiplayer features. Specifically, AI will be used both in-game (sophisticated in-game enemy AI, pathfinding, and decision-making systems) as well as a tool to expedite programming and asset creation (Blender) workflows. Students will be challenged to follow industry-standard practices, including version control, iterative prototyping, and formal testing. The primary focus of the year will be the design, development, and deployment of a portfolio-quality 3D game, either individually or as part of a small development team, simulating a professional studio environment.

Prerequisite: Completion of Game Design course
College Prep - 4 Credits – Full year

CYBERSECURITY (grades 10-12) AP

This new AP Cybersecurity course offers a broad introduction to the cybersecurity field. Students will learn about common threats and vulnerabilities, and study how individuals and organizations use strategies to manage cybersecurity risk. The course emphasizes hands-on, project-based learning, often involving scenarios to test security skills against "attacks". Students will explore specific vulnerabilities, attacks and detection measures across a variety of areas including physical spaces, computer networks, devices, and data and applications. Throughout the course, students will consider the impact of cybersecurity on individuals, organizations, societies, and governments. As an AP Career Kickstart course, students have the opportunity to earn an employer-endorsed credential in the cybersecurity field.

Prerequisite: There are no specific course prerequisites.
Students should be motivated and willing to work both individually and in teams on cybersecurity projects.
AP - 5 Credits – Full year

Program of Studies

ARTIFICIAL INTELLIGENCE (AI) FOUNDATIONS (Grades 9-12)

In AI Foundations, students explore how computers and artificial intelligence help people solve problems, make decisions, and create new things. Students write their own programs in Python, figure out how devices and the Internet actually work, and dive into data to find patterns and tell stories. Along the way, students use AI tools, think through tough questions about privacy and fairness, and build skills needed to create technology—not just use it. This class is designed for high school students at any level of computer science experience. No specific prior coursework is required and all concepts are introduced through guided activities, collaborative learning and hands-on projects.

Prerequisite: No specific prior coursework is required and all concepts are introduced through guided activities, collaborative learning and hands-on projects.
College Prep- 2 credits - Full year

MAKER LAB (Grades 9-12)

In this course students will implement the Engineering Design and User-Centered Design processes to innovate solutions to problems. Students learn how to conduct needs assessments, brainstorm solutions, make justified design decisions, and test prototypes of their concepts through custom 3-D design, coding and other hands-on projects. Students will also learn how to troubleshoot equipment such as 3-D printers. Students will document their learning through a digital portfolio.

Prerequisite: No specific prior coursework is required.
College Prep - 2 Credits - Full year

MEDIA LITERACY (Grades 9-12)

Media literacy is the ability to critically consume and create information. This Media Literacy course will teach students how to critically access, analyze, evaluate, create and use information. Students will be empowered to play an active role in their media experiences, and gain a greater understanding of the media they interact with every day.This course is an interdisciplinary approach to navigating today's information environment including print, digital, film, news, and other media sources. The course will cover critical evaluation of various formats of media; digital citizenship and ethics; information literacy; and analysis and production of media. Students will learn to ask questions, reflect on answers, challenge biases and consider different thoughts, ideas and opinions.

Prerequisite: No specific prior coursework is required.
College Prep - 2 Credits - Full year

Program of Studies

ACADEMIC SUPPORT

MATH STRATEGIES I (Grade 9)

This course is designed to support students who are simultaneously enrolled in an Integrated Math 1 course, and is open to students based on teacher and department recommendation. It is not considered as one of the courses in the 4-year requirement for graduation. Strongly Recommended: Graphing Calculator

College Prep – 2 Credits – Full Year

MATH STRATEGIES (Grades 10-12)

This course is designed to support students who are simultaneously enrolled in an Algebra 2 course, and is open to students based on teacher and department recommendation. It is not considered as one of the courses in the 4-year requirement for graduation. Strongly Recommended: Graphing Calculator

College Prep – 2 Credits – Full Year

CHEMISTRY CHALLENGE (Grades 11-12)

This course is designed to support students who are simultaneously enrolled in a Chemistry course, and is open to students based on teacher or department recommendation only.

College Prep – 2 Credits – Full Year

LITERACY CHALLENGE (Grades 11-12)

This course is designed to support students in literacy. This is open to students based on teacher and department recommendation. It is not considered as one of the courses in the 4-year requirement for graduation.

College Prep – 2 Credits – Full Year

Program of Studies

BIOLOGY PREP (Grades 10-12)

This course is designed for students who had a Failing performance level result on a previous MCAS exam or are interested in receiving additional support in preparation for the exam. It will provide students with additional preparation for the Grade 10 Biology MCAS exam or Grades 11-12 Biology MCAS mid-year exam. Students will review key concepts and skills from a Biology course and will have additional practice with Biology multiple-choice and open response MCAS questions.

College Prep – 2 Credits – Full Year

MCAS ENGLISH REVIEW (Grades 10-12)

This course not only offers students an intensive review of the learning standards in the Massachusetts English Language Arts Framework, but also helps them to understand and use strategies in preparation for the English Language Arts MCAS Examination. Ninth and tenth graders who have been determined to be at risk of not meeting the proficient standards on the English Language Arts MCAS Examination are required to enroll in MCAS English Review during the school day or take a similar course after school or on the weekend.

College Prep – 2 Credits – Full Year

Program of Studies

ACADEMIC MINI ELECTIVES

Please see individual Department listings for the full description of each of these elective courses. These are 2 credit electives.

ENGLISH LANGUAGE ELECTIVES:
BOOK CLUB (Grades 9-12)
JOURNALISM (Grades 9-12)
POETRY WORKSHOP (Grades 10-12)
WRITING WORKSHOP (Grades 10-12)
READING AND WRITING SAT PREP (Grades 10-12)

WORLD LANGUAGE ELECTIVES:
LATIN AMERICAN MUSIC/DANCE (Grades 10-12)
THE CULTURE OF HISPANIC COUNTRIES THROUGH FILM (Grades 10-12)
CULTURAL FOODS OF ITALY (Grades 9-12)
FROM THE FRENCH NEW WAVE TO TODAY: GLOBAL CINEMA (Grades 9-12)
DECOLONIZATION AND IDENTITY IN THE FRENCH-SPEAKING WORLD (Grades 9-12)
LE MONDE FRANCOPHONE: VOCABULAIRE ET EXPRESSIONS IDIOMATIQUES (Grades 9-12)
ARAB CIVILIZATION AND ITS INFLUENCE ON THE MODERN WORLD (Grades 9-12)
FRENCH FOR HERITAGE SPEAKERS (Grades 9-12)
ITALIAN FOR HERITAGE SPEAKERS (Grades 9-12)
SPANISH FOR HERITAGE SPEAKERS (Grades 9-12)

MATHEMATICS ELECTIVES:
SPORTS STATISTICS (Grades 11 and 12)
FINANCIAL LITERACY (Grades 11 and 12)
MATH STRATEGIES (Grade 9)
MATH STRATEGIES (Grade 10)
MATH STRATEGIES (Grade 11)

Program of Studies

SCIENCE ELECTIVES:
AVIATION AND AEROSPACE (Grades 9-12)
ROBOTICS IN STEM (Grades 9-12)
BIOCHEMISTRY (Grades 10-12)
EXPLORATIONS IN FORENSIC SCIENCE (Grades 10-12)
SCIENCE OF SCIENCE FICTION (Grades 10-12)

SOCIAL STUDIES ELECTIVES:
AMERICAN POP CULTURE HISTORY: A Study of the United States since World War (Grades 10-12)
CIVICS (Grades 10-12)
CONTEMPORARY ISSUES (Grades 10-12)
HISTORY OF SPORTS

Program of Studies

CAREER & TECHNICAL EDUCATION PROGRAMS

Medford Vocational Technical High School offers a variety of Career and Technical Education (CTE) programs designed to prepare students for success in both college and careers. These programs are approved by the Massachusetts Department of Elementary and Secondary Education under **Chapter 74**, the state's system for vocational technical education.

Chapter 74 programs provide students with rigorous, competency-based instruction that combines academic learning with hands-on technical training. Students explore their interests during freshman year and are placed into a technical program beginning second semester, grade 9. From that point forward, students participate in a rotating schedule that includes both academic coursework and technical training within their selected program.

Each program is aligned with state-approved frameworks and industry standards to ensure students develop the knowledge and skills needed for employment, apprenticeships, or continued education. Students receive training using industry-standard tools, equipment, and technology while developing important workplace skills such as teamwork, communication, problem solving, and professionalism.

Many programs also provide opportunities for students to earn **industry-recognized certifications**, participate in **work-based learning experiences**, and engage with **local employers and advisory committees** that help guide program curriculum.

Graduates of Medford Vocational Technical High School leave with a strong academic foundation, practical technical experience, and a clear pathway toward college, careers, or both.

Cooperative Education Program

The Cooperative Education Program provides eligible students with the opportunity to gain valuable real-world work experience while completing their high school education. Through this program, students work in paid positions related to their Career and Technical Education program while continuing their academic studies.

Cooperative Education placements are designed to extend classroom learning into authentic workplace environments. Students apply the technical skills and professional habits developed in their program while gaining experience working with employers in their chosen industry.

Program of Studies

Students participating in Cooperative Education must demonstrate strong attendance, academic performance, and professional behavior. Placements are carefully coordinated and supervised by school staff to ensure that students receive meaningful training aligned with their career pathway.

Through this experience, students develop essential employability skills including communication, responsibility, time management, and workplace problem solving. Cooperative Education also helps students build professional networks and explore potential career opportunities within their field.

Participation in the Cooperative Education Program provides students with a valuable bridge between school and the workforce while preparing them for success in post-secondary education, apprenticeships, or full-time employment.

Freshman Exploratory Program

All ninth grade students at Medford Vocational Technical High School participate in the Freshman Exploratory Program. This program provides students with the opportunity to experience a variety of Career and Technical Education (CTE) programs before selecting their permanent program of study.

During **quarters one and two**, freshmen rotate through each CTE program on a **five-day exploratory schedule**. This structure allows students to gain hands-on exposure to the tools, technology, and learning environments associated with each technical program. Exploratory experiences are designed to introduce students to basic skills, safety procedures, and the types of projects and career pathways associated with each program.

Throughout the exploratory process, students are encouraged to reflect on their interests, strengths, and career goals. Teachers also provide feedback regarding student engagement, effort, and readiness for specific programs.

At the conclusion of the exploratory period, students submit their **program preferences**. Every effort is made to place students into their first-choice program; however, placement depends on **program capacity and available seats**.

For programs that receive **more requests than available openings**, student placement is determined through a **random lottery process**. This ensures a fair and equitable selection process for all students.

Students are then scheduled into their assigned CTE program for **quarters three and four of freshman year**, where they begin developing foundational technical skills within their chosen career pathway.

Program of Studies

The Freshman Exploratory Program helps ensure that students make informed decisions about their technical program while providing early exposure to the wide range of career opportunities available through Career and Technical Education.

Program Placement Process

Placement into a Career and Technical Education (CTE) program at Medford Vocational Technical High School occurs during freshman year following participation in the Freshman Exploratory Program. The placement process is designed to ensure that students make informed decisions about their technical program while maintaining fairness and transparency when programs reach capacity.

The program placement process follows these steps:

1. **Exploratory Participation**
   All ninth grade students participate in the Freshman Exploratory Program during quarters one and two. Students rotate through each CTE program on a five-day schedule, gaining hands-on exposure to the skills, tools, and career pathways associated with each program.
2. **Student Reflection and Teacher Feedback**
   During the exploratory period, students reflect on their interests and experiences in each program. Teachers may provide feedback regarding student engagement, safety awareness, effort, and overall readiness for specific programs.
3. **Program Preference Selection**
   At the conclusion of the exploratory rotation, students submit their ranked program preferences.
4. **Program Placement**
   School staff review student preferences and available program capacity. Every effort is made to place students into their first-choice program whenever possible.
5. **Lottery Process for Oversubscribed Programs**
   If a program receives more requests than available seats, a **random lottery process** is conducted to determine placement. This process ensures fairness and equal opportunity for all students interested in that program.
6. **Final Placement**
   Students are scheduled into their assigned CTE program beginning in **quarter three of freshman year**, where they begin developing foundational skills within their chosen technical area.

This placement process helps ensure that students are matched with programs that align with their interests while maintaining equitable access to all Career and Technical Education opportunities offered at Medford High School.

Program of Studies

Automotive Technology

The Automotive Technology program prepares students for careers in the automotive service and repair industry through a competency-based, Chapter 74 curriculum. Students develop technical skills in engine repair, braking systems, electrical systems, steering and suspension, diagnostics, and preventive maintenance.

Instruction emphasizes safety, proper tool use, and industry standards while exposing students to modern automotive technologies. Through hands-on projects and shop-based learning, students develop the problem-solving and technical skills necessary for employment, apprenticeships, or continued education in automotive technology.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Biotechnology

The Biotechnology program prepares students for careers in the life sciences through laboratory-based instruction and scientific inquiry. Students develop skills in laboratory safety, research methods, data analysis, and biotechnology processes used in research and biomanufacturing.

The program introduces students to a range of career pathways within the life sciences industry. Graduates are prepared for entry-level laboratory positions or for continued study in biotechnology and related scientific fields.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Program of Studies

Business Marketing

The Business Marketing program equips students with the skills and knowledge necessary for careers in business, marketing, and entrepreneurship. Students develop proficiency in Microsoft Office applications, marketing principles, personal finance, business communication, and workplace professionalism.

Hands-on experience is gained through the management of the Mustang Mall, the school's student-run enterprise, where students practice customer service, sales, and business operations. Graduates are prepared for entry-level positions in business and retail environments or for continued study at two- or four-year colleges.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Carpentry

The Carpentry program prepares students for careers in residential and commercial construction. Students develop skills in job-site safety, tool use, framing, finishing, blueprint reading, and building systems.

Instruction integrates carpentry mathematics, green building concepts, and industry best practices. Students gain hands-on experience through shop projects and construction-based learning that prepares them for apprenticeships, employment, or further education in construction-related fields.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Program of Studies

Construction Craft Laborers

The Construction Craft Laborers program provides students with broad exposure to multiple career pathways within the construction industry. Students develop hands-on skills in safety, site preparation, equipment use, masonry basics, and general construction practices.

Through individual and group projects, students learn the importance of teamwork, responsibility, and strong work ethic. Graduates leave the program with foundational construction knowledge applicable to careers in laboring, construction management, and related trades.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Cosmetology

The Cosmetology program prepares students for careers in the beauty and personal care industry. As a state-regulated program, students complete the required hours of instruction necessary to qualify for the Massachusetts State Board of Cosmetology Licensing Exam.

Students develop skills in hair care, skin care, nail services, sanitation, and professional salon practices. Emphasis is placed on professionalism, time management, and client communication. Graduates are prepared for state licensure and employment in the cosmetology field.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Program of Studies

Culinary Arts

The Culinary Arts program prepares students for careers in the food service and hospitality industry. Students learn the principles of food preparation, sanitation, nutrition, and restaurant operations through a competency-based curriculum.

Students gain hands-on experience through Bistro 489, the school's student-operated public restaurant. This experience allows students to develop practical skills in food preparation, kitchen operations, and customer service.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Early Childhood Education

The Early Childhood Education program prepares students for careers working with young children in educational and childcare settings. Students study child growth and development, curriculum planning, and classroom management.

Students gain practical experience through the on-site preschool laboratory and community placements. Graduates may pursue certification through the Massachusetts Department of Early Education and Care and continue their education in teaching and human services fields.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Program of Studies

Electrical

The Electrical program provides students with foundational skills required for careers in the electrical industry. Students learn wiring methods, electrical theory, safety practices, and code compliance aligned with the National Electrical Code and Massachusetts Electrical Code.

Through hands-on shop projects, students gain experience installing and troubleshooting electrical systems while developing the technical knowledge needed for apprenticeships or continued study in electrical fields.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Engineering & Robotics

The Engineering & Robotics program introduces students to engineering design principles and modern manufacturing technologies. Students develop skills in computer-aided design (CAD), mechanical systems, electronics, automation, and robotics.

Through project-based learning, students design, build, and test solutions to real-world engineering challenges while developing critical thinking and problem-solving skills. Graduates are well prepared for continued study in engineering or technology-related fields.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Program of Studies

Film & TV Production

The Film & TV Production program provides students with hands-on experience in visual storytelling and media production. Students learn the full production process including planning, filming, editing, and postproduction.

Instruction includes camera operation, lighting, sound recording, scriptwriting, and digital editing. Students work collaboratively on projects that develop both technical skills and creative expression while building a professional media portfolio.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Graphic Design

The Graphic Design program prepares students for careers in digital media, visual communications, and the printing and publishing industries. Students develop technical skills in graphic design, digital illustration, page layout, and image editing using industry-standard software such as Adobe Creative Suite.

Through project-based learning, students design graphics, publications, and digital media while learning the full production process from concept to final output. Instruction includes preparing projects for both print and electronic display, developing page layouts, and working with digital media sources. Students also complete real-world design projects that support school and community initiatives, helping them develop both technical skills and professional work habits.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Program of Studies

Health Assisting

The Health Assisting program prepares students for careers in healthcare by providing foundational knowledge in patient care, medical terminology, and clinical practices.

Students earn certifications in First Aid, CPR, and AED and participate in supervised clinical experiences at healthcare facilities. Graduates are prepared for entry-level healthcare positions or for continued education in nursing and allied health fields.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Metal Fabrication

The Metal Fabrication program prepares students for careers in welding, metalworking, and manufacturing industries. Students learn welding processes, metal cutting techniques, fabrication methods, and blueprint reading.

Hands-on shop projects allow students to develop precision, craftsmanship, and safety practices necessary for employment or apprenticeships in welding and manufacturing trades.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Program of Studies

Programming & Web Development

The Programming & Web Development program provides students with a foundation in computer science, programming languages, web design, and digital technologies.

Through project-based learning, students develop websites, applications, and digital projects while strengthening computational thinking and problem-solving skills. Graduates are prepared for entry-level technology careers or continued education in computer science and information technology.

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Plumbing

The Plumbing program is a proposed Chapter 74 program designed to prepare students for careers in the plumbing and pipefitting industry. Students will develop skills in pipe installation, plumbing systems, blueprint reading, safety practices, and building codes.

The program will provide hands-on experience with industry tools and materials while emphasizing safety and compliance with Massachusetts plumbing regulations.

This program is anticipated to open in Fall 2026 pending approval from the Massachusetts Department of Elementary and Secondary Education (DESE).

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15

Program of Studies

Information Support Services & Networking (ISSN)

The Information Support Services & Networking program is a proposed Chapter 74 program designed to prepare students for careers in information technology and computer networking.

Students will learn computer hardware, operating systems, networking fundamentals, cybersecurity basics, and troubleshooting techniques. The program will emphasize hands-on technical training and industry certification preparation.

This program is anticipated to open in Fall 2026 pending approval from the Massachusetts Department of Elementary and Secondary Education (DESE).

Credits Earned
Grade 9: 4
Grade 10: 12
Grade 11: 15
Grade 12: 15