

PROGRAM OF STUDIES

MEDFORD HIGH
SCHOOL
&
MEDFORD
VOCATIONAL
TECHNICAL HIGH
SCHOOL



2025-2026



Program of Studies

Secondary Schools

Medford High School

Vocational-Technical High School

Curtis-Tufts School

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2025

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Program of Studies

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Program of Studies

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2025-2026

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Program of Studies

CORE VALUES AND BELIEFS

RESPECT

RESPONSIBILITY

EMPATHY & KINDNESS

MISSION STATEMENT

Medford High School encourages and assists all students to become creative and critical thinkers with compassionate hearts who embrace global citizenship.

As a community of lifelong learners, we collaborate and engage with each other to develop and realize our potential. In an inclusive environment of physical safety and emotional security, Medford High School fosters diversity and addresses the needs of the whole child. At Medford High School, educators personalize the educational experience and emphasize the importance of personal integrity as essential to becoming engaged citizens and contributors to their community, nation, and global society.

21st CENTURY LEARNING EXPECTATIONS

- Become self-directed learners.
- Communicate effectively.
- Apply problem-solving skills and critical and creative thinking.
- Use technology appropriately as a tool for learning, collaboration, presentation, research, and design.
- Act with integrity, respect and responsibility toward themselves, others, and the environment.
- Exhibit flexibility and adaptability.
- Collaborate in diverse groups to share knowledge, build consensus, and achieve goals.
- Practice leadership in and service to their community.
- Become contributing citizens in a global society.

NON-DISCRIMINATION POLICY

The Medford Public Schools insures 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

Directors/Supervisors/Coordinators

Coordinator of World Language - Dr. Vilma Bibeau 489 Winthrop Street • 781-393-2375 vbibeau@medford.k12.ma.us

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Director of Athletics/Community Schools - Robert Maloney, 489 Winthrop Street • 781-393-2380 rmaloney@medford.k12.ma.us

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Director of Buildings & Grounds - John McLaughlin, 489 Winthrop Street • 781-393-2374 & 2208 jmclaughlin@medford.k12.ma.us

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Program of Studies

PROGRAM OF STUDIES

2025-2026

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, and 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 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

The total number of credits required for eligibility of a high school diploma is 112, beginning with the class of 2002. Those 112 credits include, but are not limited to, the following:

- | | | |
|----|---|---------------|
| A. | Four years of English | Take and Pass |
| B. | Four years of Wellness | Take and Pass |
| C. | Four years of Mathematics (including Geometry and Algebra II) | Take and Pass |
| D. | Three years of Science (including Biology and Chemistry) | Take and Pass |
| E. | Three years of Social Studies | Take and Pass |
| F. | Two years of World Language
(if not enrolled in a CTE program)* | Take and Pass |
| G. | One course in Fine Arts | Take and Pass |
| H. | Four years of community service (60 hours required, 15 per year) | |
| I. | Participation in the English Language Arts and Mathematics MCAS tests | |
| J. | Participation in the Science and Technology MCAS test. | |
| K. | Completion of Civics Learning Project | |

*Course requirements differ for students who are enrolled in Career Technical Education. In lieu of F & G above, a student's credits should include four years in an approved Career Technical Education (CTE) Program.

CORE SUBJECTS

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 inquiry 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

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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 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 Hemingway and beyond. Course requirements include an after-school seminar held each week for additional coursework and for timed writings. Designed to perfect students' critical writing skills in preparation 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

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.

Program of Studies

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

Program of Studies

WORLD LANGUAGE

Mission Statement:

The World Language Program at the Medford Public Schools provides students with the necessary tools to become global citizens and learners committed to understanding and appreciating their own culture as well as the culture of others. The program strives to empower students by broadening their perspectives, applying their language and presentational skills to real-life situations, and nurturing empathy for others. Furthermore, the program is committed to inspiring all students to find joy in language learning and applying their knowledge to other disciplines. As a result, students will develop the skills to be successful in today's job market and feel fully competent and well-adjusted in today's diverse world.

World Language courses in Medford Public Schools follow the proficiency model of language instruction reflected in the Massachusetts State Curriculum Frameworks and the National Standards for Education. Students are presented with grammar and vocabulary in context and are encouraged to express themselves in the Target Language independently of a text as soon as possible. Awareness of cultural differences and similarities is essential to complete language education. Interdisciplinary themes allow students to use the language they acquire to learn about their world in general. They also demonstrate a more authentic use of the language to communicate important information.

A minimum two-year high school world language course sequence is recommended for students seeking admission to competitive colleges. Our curriculum does not focus on standardized tests other than the Advanced Placement Exams and the Seal of Biliteracy Exam. However, students who have completed the Spanish, French, or Italian Intermediate Honors have been introduced to the full continuum of grammatical concepts and ample vocabulary. In most cases, this prepares students with the skills necessary for success on the SAT Subject Tests. Colleges express no preference among languages.

Seal of Biliteracy

Medford High School students may be eligible to receive a Seal of Biliteracy upon graduation. The Seal of Biliteracy is an award given by the Commonwealth of Massachusetts in recognition of students who have studied and attained a designated level of proficiency in two or more languages (including English) by high school graduation. The criteria are 1) a rating of Intermediate-High or above evaluated via testing that measures all language skills: reading, writing, listening, and speaking, and 2) a score of proficient or above on the high school ELA MCAS. Students fluent in a language not taken at school may qualify based on an alternate assessment and should contact the Coordinator of the World Language Department. We encourage all students to continue their study of language throughout high school, as multiple years of study will provide the opportunity to earn this award.

The following describes communicators in the Target Language when enrolled in a particular course. This is aligned with the American Council for the Teaching of World Languages (ACTFL).

Program of Studies

Novice Low

“Speakers at the Novice Low sublevel have no real functional ability and, because of their pronunciation, may be unintelligible. Given adequate time and familiar cues, they may be able to exchange greetings, give their identity, and name a number of familiar objects from their immediate environment. They are unable to perform functions or handle topics pertaining to the Intermediate level, and cannot therefore participate in a true conversational exchange.” (ACTFL, 2012)

Novice Mid

“Speakers at the Novice Mid sublevel communicate minimally by using a number of isolated words and memorized phrases limited by the particular context in which the language has been learned. When responding to direct questions, they may say only two or three words at a time or give an occasional stock answer. They pause frequently as they search for simple vocabulary or attempt to recycle their own and their interlocutor’s words. Novice Mid speakers may be understood with difficulty even by sympathetic interlocutors accustomed to dealing with non-natives. When called on to handle topics and perform functions associated with the Intermediate level, they frequently resort to repetition, words from their native language, or silence.” (ACTFL, 2012)

Novice High

“Speakers at the Novice High sublevel are able to handle a variety of tasks pertaining to the Intermediate level, but are unable to sustain performance at that level. They are able to manage successfully a number of uncomplicated communicative tasks in straightforward social situations. Conversation is restricted to a few of the predictable topics necessary for survival in the Target Language culture, such as basic personal information, basic objects, and a limited number of activities, preferences, and immediate needs. Novice High speakers respond to simple, direct questions or requests for information. They are also able to ask a few formulaic questions.” (ACTFL, 2012)

Intermediate Low

“Speakers at the Intermediate Low sublevel are able to handle successfully a limited number of uncomplicated communicative tasks by creating with the language in straightforward social situations. Conversation is restricted to some of the concrete exchanges and predictable topics necessary for survival in the Target-language culture. These topics relate to basic personal information; for example, self and family, some daily activities and personal preferences, and some immediate needs, such as ordering food and making simple purchases. At the Intermediate Low sublevel, speakers are primarily reactive and struggle to answer direct questions or requests for information. They are also able to ask a few appropriate questions. Intermediate Low speakers manage to sustain the functions of the Intermediate level, although just barely.”

Intermediate Mid

“Speakers at the Intermediate Mid sublevel are able to handle successfully a variety of uncomplicated communicative tasks in straightforward social situations. Conversation is generally limited to those predictable and concrete exchanges necessary for survival in the Target culture. These include personal information related to self, family, home, daily activities, interests and personal preferences, as well as physical and social needs, such as food, shopping, travel, and lodging.” (ACTFL, 2012)

Intermediate High

“Intermediate High speakers are able to converse with ease and confidence when dealing with the routine tasks and social situations of the Intermediate level. They are able to handle successfully uncomplicated tasks and social situations requiring an exchange of basic information related to their work, school, recreation, particular interests, and areas of competence.” (ACTFL, 2012)

Advanced Low

“Speakers at the Advanced Low sublevel are able to handle a variety of communicative tasks. They are able to participate in most informal and some formal conversations on topics related to school, home, and leisure activities. They can also speak about some employment-related topics, current events, and matters of public and community interest.” (ACTFL, 2012)

Program of Studies

FRENCH I, ITALIAN I, SPANISH I (Grades 9-12)

This course is an introduction to the Target Language. The course includes reading simple texts and discussions about the Target Language-speaking world. Students “learn by doing” per the department’s proficiency-based approach to teaching and learning and the progress indicators set forth by the American Council on the Teaching of World Languages (ACTFL). Instruction focuses on communication in real-life and simulated situations. By the end of this level, students should be able to communicate basic information about themselves, their everyday life, and the people they know by using phrases and simple sentences or asking and answering simple questions. The teacher will model the Target Language and students will be expected to practice using the Target Language. The target level in this course is Novice Low/Mid.

College Prep - 5 Credits – Full Year

FRENCH II, ITALIAN II, SPANISH II (Grades 9-12)

This course, taught primarily in the Target Language, focuses on further developing the four basic language skills (listening, speaking, writing, and reading) through various thematic units. Centering around the individual, these units cover topics such as daily routines, health & fitness, childhood experiences, and shopping, emphasizing communicating in practical, everyday situations. In addition to exploring more in-depth and advanced grammar topics, the content encourages students to think globally and make connections with the Target Language-speaking cultures around the world. Per the department’s proficiency-based approach to teaching and learning, students “learn by doing.” By the end of this level, students should be able to start, maintain and end a simple conversation on a variety of familiar topics, express needs, wants, and preferences on topics of interest, write about their daily life and understand messages and simple statements on everyday topics. The Target level in this course is Novice High.

College Prep - 5 Credits – Full Year

Prerequisite: Spanish I - French I - Italian I/Novice Mid ability

HONORS FRENCH II, HONORS ITALIAN II, HONORS SPANISH II (Grades 9-12)

This course, taught primarily in the Target Language, focuses on further developing the four basic language skills (listening, speaking, writing, and reading) through various thematic units. Centering around the individual, these units cover topics such as daily routines, health & fitness, childhood experiences, and shopping, emphasizing communicating in practical, everyday situations. In addition to exploring more in-depth and advanced grammar topics, the content encourages students to think globally and make connections with the Target Language-speaking cultures around the world. By the end of this level, students should be able to start, maintain and end a simple conversation on a variety of familiar topics, express needs, wants, and preferences on topics of interest, write about their daily life and understand messages and simple statements on everyday topics. The Target level in this course is Intermediate Low.

Honors - 5 Credits – Full Year

Prerequisite: Spanish I - French I - Italian I/Novice High ability

Program of Studies

FRENCH III, ITALIAN III, SPANISH III (Grades 9-12)

This course is taught primarily in the Target Language, concentrating on developing vocabulary and speaking proficiency. Students will be tasked with: engaging in authentic conversations about familiar topics in the Target Language, communicating effectively every day, presenting information (both verbally and written) on present, past, and future events, as well as making cultural comparisons between the United States and other Target Language-speaking countries. Students will learn to start locally but think globally, as they will be exposed to various authentic materials from the Target Language-speaking countries. Per the department's proficiency-based approach to teaching and learning, students will "learn by doing." The Target level in this course is Intermediate Low.

College Prep - 5 Credits – Full Year

Prerequisite: Spanish II - French II - Italian II/Novice High ability

HONORS FRENCH III, HONORS ITALIAN III, HONORS SPANISH III (Grades 9-12)

This course is taught primarily in the Target Language, concentrating on developing vocabulary and speaking proficiency. Students will be tasked with: engaging in authentic conversations about familiar topics in the Target Language, communicating effectively every day, presenting information (both verbally and written) on present, past, and future events, as well as making cultural comparisons between the United States and other Target Language-speaking countries. Students will learn to start locally but think globally, as they will be exposed to various authentic materials from the Target Language-speaking countries. Per the department's proficiency-based approach to teaching and learning, students will "learn by doing." The Target level in this course is Intermediate Mid.

Honors - 5 Credits – Full Year

Prerequisite: Spanish II-French II-Italian II/Intermediate Low ability

FRENCH IV, ITALIAN IV, SPANISH IV (Grades 11-12)

This course, conducted primarily in the Target Language, is designed to synthesize all the skills learned in the first three levels of the Target Language. By the end of this course, students should be able to participate in conversations on a wide variety of topics beyond everyday life, and communicate effectively on various present, past, and future events. Increasing proficiency in spoken and written language use will be developed within a cultural context with an emphasis on expanding vocabulary. Grammar will be reviewed as it applies to situations encountered. Literature is introduced via selected short stories and poems that will be used as a tool to increase comprehension of the written Target Language. Students will be expected to speak in the Target Language daily as their main form of verbal communication, write regularly, periodically present to the class, and participate in daily class discussions. The Target level in this course is Intermediate Low/Mid.

College Prep - 5 Credits – Full Year

Prerequisite: Spanish III - French III - Italian III/Intermediate Low/Mid ability

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HONORS FRENCH IV, HONORS ITALIAN IV, HONORS SPANISH IV (Grades 11-12)

This course, conducted almost entirely in the Target Language, is designed to synthesize all the skills learned in the first three levels of the Target Language. By the end of this course, students should be able to participate in conversations on a wide variety of topics that go beyond everyday life and communicate effectively on a wide variety of present, past, and future events. While a grammar reference text will be provided, the course will not rely on any specific textbook. Increasing proficiency in both spoken and written use of the language will be developed within a cultural context with an emphasis on the expansion of vocabulary. Literature is introduced via selected short stories and poems that will be used as a tool to increase comprehension of written tasks in the Target Language. Students will be expected to speak in the Target Language daily as their main form of verbal communication, write regularly, present to the class periodically, and participate in daily class discussions. The Target Level in this course is Intermediate Mid/High.

College Prep - 5 Credits – Full Year

Prerequisite: Spanish III - French III - Italian III/Intermediate Mid ability

HONORS FRENCH V, HONORS ITALIAN V, HONORS SPANISH V (Grades 11-12)

This course, conducted entirely in the Target Language, is designed to synthesize all the skills learned in the first four levels of the Target Language. Students will be able to participate in conversations on a wide variety of topics that go beyond everyday life and communicate effectively on a wide variety of present, past, and future events. While a grammar reference text will be provided, the course will not rely on any specific textbook. Increasing proficiency in both spoken and written use of the language will be developed within a cultural context with an emphasis on the expansion of vocabulary. Literature is introduced via selected short stories and poems that will be used as a tool to increase comprehension of written tasks in the Target Language. Students will be expected to speak in the Target Language daily as their main form of verbal communication, write regularly, present to the class periodically, and participate in daily class discussions. The Target Level in this course is Intermediate High.

Honors - 5 Credits – Full Year

Prerequisite: Spanish IV - French IV - Italian IV/Intermediate Mid ability

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ITALIAN V, FRENCH V and SPANISH V CP (Grades 12)

This course, conducted entirely in the Target Language, allows students to study universal themes and make cultural comparisons through the Target Language films. Increasing proficiency in both spoken and written use of the language will be developed within a cultural context with an emphasis on the expansion of vocabulary. By the end of this course, students should be able to exchange detailed information in an organized way on both familiar topics, as well as social, academic, and professional topics that will be useful in the future to use and apply to their future careers. They will deliver short presentations on social and cultural topics for a specific audience, write well-organized texts for a variety of purposes, and understand directions and instructions on everyday tasks, as well as the main idea and many details of descriptions or interviews. They will follow the general idea of texts and speeches and some details of various stories and autobiographical accounts when written in a wide variety of past, present, and future time frames. The Target level in this course is Intermediate Mid/High.

College Prep - 5 Credits – Full Year

Prerequisite: Spanish IV - French IV - Italian IV/Intermediate Mid ability

ADVANCED PLACEMENT FRENCH LANGUAGE (Grade 12)

ADVANCED PLACEMENT ITALIAN LANGUAGE (Grade 12)

ADVANCED PLACEMENT SPANISH LANGUAGE (Grade 12)

This course is for students who have hit the Target level of Intermediate High and wish to take the Advanced Placement of the Target Language and Culture Exam. Students will engage in various tasks in the Target Language surrounding the themes of global challenges, science and technology, contemporary life, personal and public identities, families and communities, and beauty and aesthetics. The course is designed to reflect a college-level course's academic expectations and rigor as delineated by the College Board. Students are invited and encouraged to take the Advanced Placement of the Target Language and Culture Exam.

Advanced Placement - 5 Credits – Full Year

Prerequisite: Spanish IV - French IV - Italian IV/Intermediate Mid/High ability

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MATHEMATICS

The Mathematics Department offers a core mathematics program that is rigorous in content, high in expectations, and 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 take and pass four years of mathematics to include a course beyond Algebra II OR 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.

Additionally, students have the opportunity to accelerate in mathematics at grade ten. Computer programming courses offered in the mathematics department can count toward the 4-year requirement in the senior year with permission from the Curriculum Director and Director of School Counseling. The department also offers mini-courses.

Program of Studies

INTEGRATED MATH I (Grade 9)

This is the first 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 articulated by 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 and demonstrate 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

Strongly Recommended: Graphing Calculator

HONORS INTEGRATED MATH I (Grade 9)

This is the first 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 articulated by 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 in the future. Students work collaboratively and individually and demonstrate 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

Strongly Recommended: Graphing Calculator

Program of Studies

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 articulated by the Massachusetts Curriculum Framework for Mathematics. Students extend their understanding of law of exponents to rational exponents; compare key characteristics of quadratic functions with linear and exponential functions; create and solve equations and inequalities involving linear, exponential, and quadratic functions; extend work with probability; and establish criteria for similarity of triangles based based on dilations and proportional reasoning. Students work collaboratively and individually and demonstrate 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 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 articulated by the Massachusetts Curriculum Framework for Mathematics. Students extend their understanding of law of exponents to rational exponents; compare key characteristics of quadratic functions with linear and exponential functions; create and solve equations and inequalities involving linear, exponential; and quadratic functions; extend work with probability; and establish criteria for similarity of triangles based 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 and demonstrate 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 College Prep Integrated Math I, “B-” or better in Honors Integrated Math I: Strongly Recommended: Graphing Calculator

Program of Studies

INTEGRATED MATH III (Grades 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 articulated by the Massachusetts Curriculum Framework for Mathematics. Students apply methods from probability and statistics to draw inferences and conclusions from data; expand understanding of functions to include polynomial, rational, and radical functions; expand right triangle trigonometry to include general triangles; consolidate functions and geometry to create models and solve contextual problems. Students work collaboratively and individually and demonstrate 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

HONORS INTEGRATED MATH III (Grades 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 articulated by the Massachusetts Curriculum Framework for Mathematics. Students apply methods from probability and statistics to draw inferences and conclusions from data; expand understanding of functions to include polynomial, rational, and radical functions; expand 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 and demonstrate 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 II:
Strongly Recommended: Graphing Calculator

Program of Studies

Program of Studies

HONORS MATHEMATICAL DECISION MAKING w/ DATA SCIENCE (Grade 12)

This course provides students the opportunity to apply mathematics as they model a range of situations to solve problems involving the use of algebra, geometry, and trigonometry in diverse areas such as statistics and financial mathematics. The course is highly participatory, as students learn in a cooperative environment where they discuss and make presentations. Students extend their learning of previously known concepts and learn new content as they sharpen the quantitative reasoning skills needed post-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: Prerequisite: A grade of "B+" or better in College Prep Algebra II or Integrated Math III or PreCalculus; "B-" or better in Honors Algebra II or Integrated Math III

Strongly Recommended: Graphing Calculator

STATISTICS THROUGH APPLICATION (Grades 11 and 12)

This course introduces students to essential topics in statistics by focusing on 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 Algebra 2

Strongly Recommended: Graphing Calculator

Program of Studies

ADVANCED PLACEMENT STATISTICS (Grades 11 and 12)

This course is equivalent to a first-semester college course in statistics. Students are exposed to four broad conceptual themes: exploring data by describing patterns and departures from patterns; sampling and experimentation whereby students plan and conduct studies; anticipating patterns using probability and simulation to explore random phenomena; and statistical inference through 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 “B” or better in Honors Algebra II or Integrated Math III; A- or better in either Algebra II or Integrated Math III CP
Strongly Recommended: Graphing Calculator

TOPICS IN ALGEBRA AND TRIGONOMETRY (Grades 11 and 12)

Students electing this course may take Precalculus as a later course. 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 Algebra II or Integrated Math III
Strongly Recommended: Graphing Calculator

PRECALCULUS (Grades 11 and 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 “B-” or better in Algebra II CP or Integrated Math III CP; “C” in Honors Algebra II or Integrated Math III; Strongly Recommended: Graphing Calculator

Program of Studies

Program of Studies

HONORS PRECALCULUS (Grades 11 and 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, and an introduction to vectors and conic sections, polar coordinates, data distributions, and probability.

Honors - 5 Credits - Full Year

Prerequisite: A grade of "A-" or better in CP Algebra II or Integrated Math III; "B" or better in Honors Algebra II or Integrated Math III

Strongly Recommended: Graphing Calculator

HONORS CALCULUS (Grades 11 and 12)

This course provides an introduction to many of the concepts found in a first-year college course in calculus and is designed for students who are not planning on taking 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 a full-year DESE standards-based College Prep Precalculus or "C-" or better in a full-year DESE standards-based Honors Precalculus course

Strongly Recommended: Graphing Calculator

ADVANCED PLACEMENT CALCULUS (Grades 11 and 12)

This course is equivalent to a first-year college course in calculus and builds on the PreCalculus standards by the Department of Elementary and Secondary Education (DESE). A theoretical foundation is laid by treating functions and their graphs with 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 "B+" or better in a full-year DESE standards-based Honors Precalculus course; A- or better in Integrated Math III Honors

Strongly Recommended: Graphing Calculator

Program of Studies

EXPLORATIONS IN COMPUTER PROGRAMMING (Grades 11 and 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 structure, arrays, file-processing program documentation, and debugging skills. Students will spend the majority of the 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 Algebra II or Integrated Math III CP or department approval; Students electing this course to satisfy the 4-year mathematics requirement need departmental approval.

HONORS COMPUTER PROGRAMMING (Grades 11 and 12)

This course provides students with a hands-on investigation of the object-oriented programming language C++. Students will develop an understanding of the syntax of C++, 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 C++ 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: Grade of “C” or better in Honors Algebra II, “B” or better in CP Algebra II or Integrated Math III CP, or department approval. Students electing this course to satisfy the 4-year mathematics requirement need departmental approval.

Program of Studies

ADVANCED PLACEMENT COMPUTER SCIENCE A (JAVA) (Grades 11 and 12)

This course provides students with the equivalent of a first-semester college-level course in computer science. Emphasis is placed on object-oriented programming methodology, concentrating 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: For incoming 11th graders, a Grade of “B-” or better in Honors Algebra II or “B+” or better in CP Algebra II or Integrated Math III CP or department approval. For incoming 12th graders B- in Honors Precalculus or B+ in Precalculus CP or department approval. Students electing this course to satisfy the 4-year mathematics requirement need departmental approval.

PERSONAL FINANCE (Grade 12 Only)

This course is designed to provide students with the confidence and knowledge to navigate the financial decisions of young adults successfully. Topics include budgeting, banking, credit and loans, taxes, insurance, and investing. This is a project-based, mathematical modeling course that 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 towards the four-year math graduation requirement and is open to only senior students who have already passed Algebra II.

College Prep - 5 Credits - Full Year

Prerequisite: Grade 12 students only and a passing grade in Algebra II CP or Integrated Math III CP

Program of Studies

CONSUMER MATH (Grade 12 Only)

This course engages students in relevant real-life problems and prepares them for various future options as discerning consumers. It is designed to develop and improve the utilization of problem-solving strategies in educational coursework and the workplace. Students will determine “reasonableness” and evaluate mathematical representations of real-world situations. Topics will 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 Algebra II. Students enrolled in this course may not take Personal Finance due to the overlap of certain units.

College Prep – 5 Credits – Full Year

Prerequisite: Passing grade in Integrated Math II CP; Dual enrollment with Integrated Math III CP

SPORTS STATISTICS (Grade 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 the sports perspective. Students will learn how to use and interpret statistics based on the data and numbers from various sports. The structure of this class will reflect real-world situations as closely as possible.

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

Prerequisite: A passing grade in the student’s sophomore-year course

FINANCIAL LITERACY (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 personal finances necessary to be successful 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 Cycle – Full Year

Prerequisite: A passing grade in the student’s sophomore-year course

Program of Studies

MATH STRATEGIES (Grades 9 - 12)

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 gain the necessary skills through proper scaffolding to be successful in their classroom.

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

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)

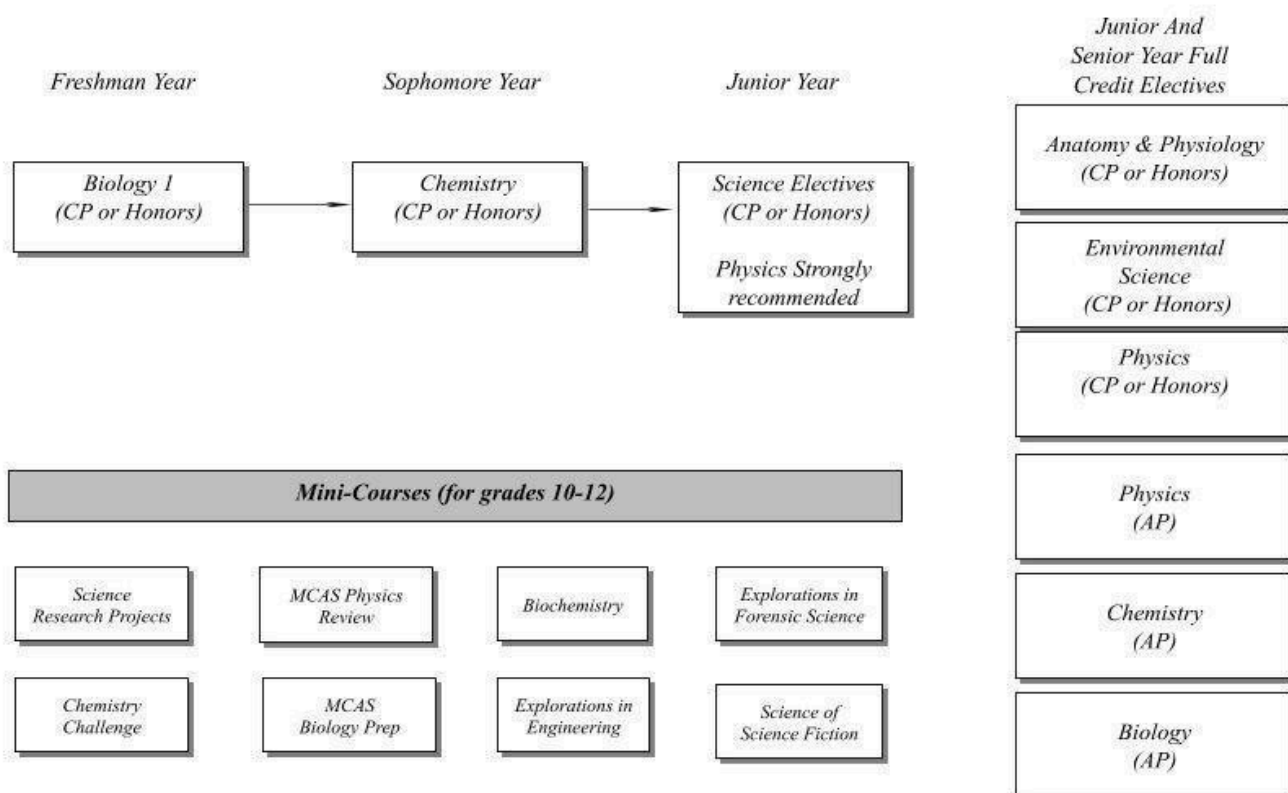
Robotics/Engineering, Grade 11 or 12

Biotechnology, Grade 11 or 12 AP

Computer Science Principles

SCIENCE SEQUENCE CHART

THREE LAB-BASED SCIENCE COURSES ARE REQUIRED FOR GRADUATION



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 (Grade 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 & 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

Program of Studies

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 emphasis 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 and 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 celebration. 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 underlying 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 independent 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

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

Program of Studies

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

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 History I 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.

Program of Studies

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

HISTORY OF THE 1960s AND 70s (Senior Elective - 5-credit Course)

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

PSYCHOLOGY (Grade 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

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
Requirement for Honors: Summer reading project due by the first day of school

Program of Studies

ART and IDEAS (Grade 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

PAINTING: HISTORY AND STUDIO PRACTICE (GRADES 11 &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

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 ex-tended 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

Program of Studies

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 be expected to participate in a real-life practicum through the Mock Trial Competition. 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. Students taking this course will be required to participate in The Massachusetts Bar Association's Mock Trial Program which has a minimum of two afterschool requirements.

College Prep – 5 Credits – Full Year

HONORS TRIAL PRACTICE AND AMERICAN JUSTICE I (Grade 11) & HONORS TRIAL PRACTICE AND 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 EUROPEAN HISTORY (Grade 10)

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 “A-” in Honors World History

Requirement: Summer reading project due by the first day of school

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 II

OR Average grade of “B-” in Advanced Placement
European History

Requirement: Summer reading project due by the first day of school

ADVANCED PLACEMENT HUMAN GEOGRAPHY (Grade 12)

This is an Advanced Placement course for highly motivated interested in studying human, social and political activity at global and regional scales, and the causes and consequences of those activities. Specific topics covered will include population, natural resources, agriculture, economic activity, urban and rural settlements, and cultural phenomena. Special attention will be paid to the role that globalization plays in altering patterns of human activity at multiple scales. The primary objectives of this course are to introduce human geography as a field of inquiry and teach you about the patterns of human activity that are most important at global and regional scales. By the end of the course, you should have a greater understanding of human social, political and economic activity, and the impact it has on the global society.

Advanced Placement – 5 Credits – Full Year

Prerequisite: Average grade of “A-” in Honors World History II or Honors
United States History OR Average grade of “B-” in AP United States History
or AP European History

Program of Studies

ADVANCED PLACEMENT PSYCHOLOGY (Grade 12)

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, abnormal 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 & HONORS UNITED STATES GOVERNMENT AND POLITICS (Grade 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 World History II OR

Average grade of “B-” in AP United States History or Advanced Placement European History

Requirement: Summer reading project due by the first day of school

Program of Studies

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 1.5 - (Grades 9 – 12)

This is an English Language Development class for students at the Entering and Emerging stages of English language proficiency who have successfully passed the core requirements of EL LA 1, but need more time before transitioning to EL LA 2. Students will expand upon their social and academic English while continuing to learn about American culture. This course further develops students' literacy while increasing listening, reading, writing and speaking skills with a continued focus on vocabulary, grammar, receptive language and oral communication.

College Prep – 10 credits – Full Year

Program of Studies

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

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

Program of Studies

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.

College Prep – 5 credits – Full Year

EL US History I – Grades 9 – 11

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

Program of Studies

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.

Program of Studies

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.

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.

Program of Studies

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.

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

Classes in Fine Arts, Health, Media Technology and Physical Education will receive A - F letter grades. All other elective subjects will be graded on a Pass/Fail basis.

Program of Studies

FINE ARTS

All students must take and pass a Fine 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

ART & IDEAS (Grades 11 & 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

Program of Studies



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 10-12)

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 11-12)

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 10-11)

The goal of this course is to introduce students to the Elements and Principles of Design using both 2- Dimensional and 3-Dimensional techniques and projects. Students will develop their creative problem- solving skills and work to understand and analyze design problems. Traditional and digital media will be explored in order to understand the creative process by conceiving and completing projects that demonstrate experimentation, invention, and technical mastery. Students will demonstrate competency by understanding and executing the following Elements and Principles of Design: Line, Shape, Form, Space, Size, Texture, Color, Value, Balance, Rhythm, Repetition, Unity, Variation, Movement, and Pattern. Students will create and identify these Design Elements in their own work, the work of their peers, and that of historical artworks. Students will critique their own work and that of their peers. 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

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.

Prerequisite: Design I

Program of Studies

CERAMICS I (Grades 10-12)

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

PAINTING (Grades 10-12)

This introductory high school painting course is designed for students of all skill levels, with no prior art experience required. Students will explore fundamental painting techniques using various mediums such as acrylic, watercolor, and oil. The course covers essential concepts, including color theory, composition, brushwork, and texture, while encouraging creativity and personal expression. Students will study historical and contemporary artists for inspiration and develop their own artistic styles through guided projects and independent work.

College Prep – 4 Credits – 4 Periods per Cycle – Full Year

Program of Studies

SCULPTURE Grades (10-12)

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

BAND (Grades 9-12)

This course is designed for students who play a band instrument. All students must attend nighttime rehearsals and must participate in ALL Medford High School football games, parades, (Patriots' Day, Memorial Day, graduation, competitions, concerts, and band activities that occur after school hours as outlined in the MHS Band Handbook.

College Prep - 4 Credits – Full Year

CHORUS (Grades 9-12)

This course is open to all students who want to sing. The chorus will study and sing a variety of music from past to present. Attendance at concerts, rehearsals, and musical activities that meet after hours is required. In addition, all Chorus students must attend one weekly after-school rehearsal.

College Prep - 4 Credits – Full Year

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

Program of Studies



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

PERCUSSION I (Grades 10-12)

Percussion I class will introduce students to reading and writing rhythms and applying them to percussion instruments. Students will learn basic skills as they apply to snare drum and other pitched and non-pitched instruments. The class will give students the opportunity to perform and practice independently, as well as with an ensemble.

College Prep – 4 credits – Full year

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.

College Prep – 4 Credits – Full Year

INTRODUCTION TO AMERICAN MUSICAL THEATER (Grade 10-12)

The American Musical Theatre is a course of study for the serious student interested in expanding skill and knowledge in the area of acting technique and the study of theater as an art. The subject matter will range from stage terminology, structure of plays, and early theatrical history to vocal and movement training for the actor. Also included will be acting (improvisation, character analysis, and duet/group acting) as well as stage design and construction, lighting, costuming and makeup. Actors are required to create and maintain a professional acting portfolio. Students enrolled in this class are strongly encouraged to participate in each of the school's theatrical productions.

College Prep - 4 credits - Full Year

Program of Studies

ADVANCED TECHNICAL THEATER PRODUCTION (Grades 9-12)

Technical Theater Production is a “hands on” course exploring the organizational demands, creative ingenuity, and collaborative methods essential for good theater production. Students will study the history and types of theater and the scope of our own theater. Students will receive training in set design, scenic art design, prop construction, set construction, light rigging and operation, sewing and costume design, make-up design and application, theater business management, and sound design and operation. Students enrolled in this class will be expected to take an active part in the school’s theatrical productions, including a minimum of 20 after-school hours. (Pass/Fail)

College Prep – 2 credits – Full Year

Program of Studies

HEALTH

Students are required to complete two complete years (four semesters) of health education in order to meet graduation requirements. Students alternate health education with physical education during each of their four years at Medford High School.

All Health classes will receive A - F grades.

Introduction to Health 1.0

For freshmen. This course is designed to introduce students to personal health concepts. Topics covered will include: Mental health awareness, healthy relationships, disease prevention, and sex education.

1 Credits – 2 Periods per Cycle – Half Year

Healthy Decision Making 1.0

For sophomores. This course introduces the student to healthy decision-making. Topics covered include: How to deal with peer pressure, refusal skills, communication skills, drugs, alcohol & tobacco education, basic nutrition, body image and fitness.

1 Credits – 2 Periods per Cycle – Half Year

Healthy Lifestyles

For juniors. This course provides students with the tools needed to live a healthy lifestyle. Topics covered include: Stress management, goal setting, advanced nutrition, and consumer health.

1 Credits – 2 Periods per Cycle – Half Year

Transitioning From Adolescence into Adulthood

For seniors. This course provides students with the skills necessary for the transition from adolescence to adulthood. Topics covered include: Sexuality, violence prevention, conflict resolution, self-advocacy, accessing health & community health.

1 Credits – 2 Periods per Cycle – Half Year

EMR - Emergency Medical Response

This is a major course offered to juniors and seniors who are interested in emergency response career training.

5 Credits - Full Year

Health Education

9th grade - Introduction to Health



10th grade - Healthy Decision Making



11th grade - Healthy Lifestyles



12th grade - Transitioning from Adolescence into Adulthood

Program of Studies

PHYSICAL EDUCATION

Students are required to complete two years of Physical Education during their four years at Medford High School. This includes freshman physical education, sophomore physical education and two electives. All Physical Education classes will receive an A - F letter grade.

The comprehensive goals of the Physical Education Program are to emphasize the mental, emotional and social aspects of living, as well as the physical development aspects necessary for a satisfying and active life. The program emphasizes the relationship of physical activity to the physical, mental, social and emotional maturity of the students. Both present and future physical and recreational needs of students are met through: (1) participation in a wide variety of physical activities that will lead to the development of coordination, strength, skills and endurance; (2) participation in a variety of physical activities that have continuing lifetime values; and (3) experiences designed to develop knowledge, understanding, and attitudes that result in desirable practices necessary to maintain physical, social, emotional and mental health.

Students in Physical Education or Fitness classes are expected to change prior to each class and participate to the best of their ability. Grades are determined through attendance, proper attire, assessments and participation.

Student athletes must participate in their scheduled Physical Education class in order to participate in an athletic practice, competition, or game that day.

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 swimming and water safety techniques.

1.0 Credit – 2 Periods per Cycle – Half Year

SOPHOMORE PHYSICAL EDUCATION- PERSONAL WELLNESS ACTIVITIES:

This course is designed to introduce the student to the seven 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, compassion, and personal fitness. Students will also learn basic CPR. These activities will help to build personal wellness, self- esteem, group support, initiative and responsibility

1.0 Credit – 2 Periods per Cycle – Half Year

Program of Studies

JUNIOR ELECTIVES

COOPERATIVE GAMES - 1.0 credit 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 preschool age 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.

1.0 Credit – 2 Periods per Cycle – Half Year

FIRST AID & CPR - 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.

1.0 Credit – 2 Periods per Cycle – Half Year

GET FIT - This course will include a variety of fitness activities such as fitness walking and hiking, step aerobics, 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. Nutrition and weight-control concepts may also be discussed.

1.0 Credit – 2 Periods per Cycle – Half Year

LIFEGUARD TRAINING/WATER GAMES - Provides entry-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/CPR/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.

1.0 Credit - 2 periods per cycle - Half Year

LIFETIME ACTIVITIES - 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: hiking, fitness walking, golf, pickleball, snowshoeing, ultimate frisbee, badminton, tennis, bocci and volleyball.

1.0 Credit – 2 Periods per Cycle – Half Year

Program of Studies

TEAM SPORTS - 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 wiffle ball. This course may also include coaching techniques, sports management and officiating

1.0 Credit – 2 Periods per Cycle – Half 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.

1.0 Credit – 2 Periods per Cycle – Half Year

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.

1.0 Credit – 2 Periods per Cycle – Half Year

SENIOR ELECTIVES

ATHLETIC TRAINING - 1.0 credit (Pre requisites: CPR or Lifeguarding) 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 and certified physical educators 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.

1.0 Credit – 2 Periods per Cycle – Half Year

COACHING/OFFICIATING - 1.0 credit (Pre requisites : Team sports) In this course, students will examine the role and responsibilities of coaches and officials. Topics addressed may include: qualities of an effective leader, moral and ethical issues in sport, the role of a coach, role of an official, race and sport, Title IX, facility preparation, and how to design and run an effective practice. Students are encouraged to coach/officiate within the community using the skills and tactics addressed throughout the semester.

1.0 Credit – 2 Periods per Cycle – Half Year

Program of Studies

TEACHING PHYSICAL EDUCATION - 1.0 credit (Pre requisites : Cooperative games or Unified Physical Education) In this course, 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 be teaching preschool classes using the skills and tactics addressed throughout the semester.

1.0 Credit – 2 Periods per Cycle – Half Year

ADVANCED FITNESS AND RECREATION - 1.0 credit (Pre requisites : Lifetime, Yoga or Get fit) In this course students will learn anatomy and exercise physiology, fitness evaluation, training program design, recreational program design, nutrition, teaching methods, and safety issues. Students will be introduced to a variety of career opportunities in the fitness/recreation field.

1.0 Credit – 2 Periods per Cycle – Half Year

Pathways	Junior Elective	Senior Elective
Medical Pathway	CPR or Lifeguarding	Athletic Training
Sports Pathway	Team Sports	Coaching/officiating
Teaching Pathway	Cooperative games or unified PE	Teaching PE
Fitness/ Rec Pathway	Lifetime, Yoga or Get fit	Advanced Fitness/Recreation

Program of Studies

MEDIA & TECHNOLOGY

COMPUTER SCIENCE PRINCIPLES (Grades 11-12) AP® or Non-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.

College Prep and AP - 5 Credits – 6 Periods per Cycle – Full year

Note: Students can receive Math or Science credits for this class
(but it does not replace math or science required courses)

CYBERSECURITY (Grades 10-12)

Through project-based work, collaboration, and simulations, students will learn and apply basic skills and concepts in the growing areas of cybersecurity. Students will become familiar with the Linux and DOS command-line interfaces and apply the highly versatile Python programming language. Students will learn about malware and network vulnerabilities, as well as the legal impacts and historical context of current cybersecurity practices. Students will also learn and practice strategies in cryptography, reverse engineering, binary exploitation, digital forensics, social engineering, and web exploitation through competitive challenges. Some coding experience is helpful, but not required.

College Prep - 4 Credits – Full year

INVENTION WORKSHOP (Grades 9-12)

We will implement the Engineering Design and User-Centered Design processes to innovate solutions to problems. Students will 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 and chromebooks. Students will document their learning through a digital portfolio.

College Prep - 2 Credits – Full year

Program of Studies



GAME DESIGN (Grades 10-12)

The Game Design course introduces students to the fundamentals of creating real-world 3D video games. Students learn about the process of designing and developing games by using integrated development environments such as Unity and/or Game Lab. Students learn about the game development industry and plan, design, and create their own 3D games. Throughout this course students become more familiar with the C# coding language.

College Prep - 4 Credits - Full year

STUDENT TECHNOLOGY HELP DESK I (HD1) (Grades 9-12)

In this hands-on class, students will learn how to operate, troubleshoot, and train others to use equipment in the MHS Makerspace, and diagnose/repair chromebook hardware issues. Makerspace equipment includes a 3-D printer, Cricut cutting machine, audio/ video devices, and more. We will address topics in cybersecurity, networking, and we will operate a Tier 2 chromebook repair service for the district. Students will document their problem-solving accomplishments with written tutorials, reflections, videos, and technical drawings on a website portfolio.

College Prep - 2 Credits - Full year

STUDENT TECHNOLOGY HELP DESK II (HD2) (Grades 10-12)

Students must have previously taken HD1 or permission from the instructor to enroll in HD2. HD2 is an independent study class. Students will be expected to track their repair/training activities and complete a self-directed capstone project each semester.

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 (Grade 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

MCAS 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

MCAS MATH REVIEW (Grade 10)

This course provides students an opportunity to review mathematics concepts and skills in context, practice with the types of questions that students will encounter on the Grade 10 MCAS examination, and test-taking strategies. This course is required for students who, in grade eight, failed the MCAS test in Mathematics and recommended for students who never participated in MCAS testing. 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

MCAS MATH REVIEW (Grades 11-12)

This course provides students with an opportunity to review mathematics concepts and skills in context, as well as in the types of questions that students will encounter on the MCAS Retest and/or MCAS EPP examinations. This course is highly recommended for students who, as tenth graders, failed the MCAS test in Mathematics or are currently on an Educational Proficiency Plan. 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

Program of Studies

ACADEMIC PATHWAY MINI 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 without 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

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

BOOK CLUB (Grades 10 - 12)

This course provides students with an opportunity to select books of interest, read alone and engage in critical discussions with peers. With this course, students can increase their reading fluency, 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

CIVICS (Grades 10 - 12)

Program of Studies

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 understanding of Constitutional principles to current event topics relevant to the nation.

College Prep – 2 Credits – Full Year

CIVIL RIGHTS MOVEMENT OF THE 20TH CENTURY (Grades 10-12)

The civil rights movement was one of the most significant sources of social change in the United States during the 20th Century. Calls for freedom, respect, dignity, and equality under the law fueled the movement and forced national, state, and local governments to respond. In this course, students will learn about the rich historical background of the movement and will analyze the political and social dynamics of change of the period with a focus on the 1954-1985 time period. Students will explore the movement from many perspectives using, where possible, first-hand accounts from the people who lived during this important era in United States history. This class will run in alternating years.

College Prep – 2 Credits – Full Year

CONTEMPORARY ISSUES (Grades 10 - 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 United 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

CREATIVE WRITING

This writing-intensive course aims to both present the literary canon, and pose students with a simple question: where do they sit amidst it? In this course, students will read samples of successful written work, and strive to iterate upon said work in the form of their own fiction, nonfiction, and poetry. This workshop-based writing class encourages peer collaboration, and to develop student sensibilities as readers, writers, and editors. A central component of this course will be the creation of a short novella as a cumulative project. NOTE: THIS COURSE DOES NOT REPLACE YOUR REQUIRED ENGLISH 12 COURSE

College Prep – 2 credits – Full year

Program of Studies

CROSS-CULTURAL PERSPECTIVES (Grades 10 - 12)

Cross Cultural Perspectives focuses on broadening our points of view by looking at our ever-changing world through different lenses and from different perspectives. This course will explore a variety of relevant topics in contemporary Anthropology and Sociology. Students will focus on asking good questions, and the course will explore multiple frameworks on how to navigate the 21st century as a global society in which languages, traditions and cultures create a rich and complex community that exists all around us all. This course is open to all Medford High students. Texts included in the curriculum are complex. Active daily dialogue, dynamic classroom participation, and quarterly reflective writing are required

College Prep – 2 credits – Full Year

DIVERSITY & COMMUNITY ENRICHMENT (Grades 10 - 12)

This course is designed for students who are interested in planning and executing projects and events that will promote diversity, acceptance and equality at Medford High School. Students will be responsible for attending occasional night events in addition to working on projects outside of the classroom setting.

College Prep - 2 Credits – Full Year

DRAWING FROM ART HISTORY

This course will allow students to expand their drawing skills while engaging with some of the most interesting pieces of art from human history. Each class will consist of a drawing session and collaborative discussion about a historic art piece. We will also engage in class activities to develop our perceptive and creative abilities. Over the course of the year we will each build our own art history sketch/textbook.

College Prep - 2 Credits – 2 Periods per Cycle – Full year

EXPLORATIONS IN ENGINEERING (Grades 10- 12)

Students will explore engineering fields through simple projects and use, for example, the construction of model bridges or vehicles. This class will run in alternating years.

College Prep – 2 Credits – Full Year

Prerequisite: A passing grade in grade 9 Science

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

Program of Studies

HISTORY AND PRACTICE OF ART AND INNOVATION (Grades 10 - 12)

This course approaches the History of Art as a study of how people have creatively and innovatively responded to the changing conditions of their world. Whether it is Leonardo Da'Vinci responding to the market demands of Renaissance Italy by incorporating the humanistic focus of ancient Roman art, or it is Steve Jobs meeting the demands of the 21st century technology industry by drawing from the clean simplicity of German design in the 1960s, great artists have always been able to apply knowledge of the past in ways that meet the market demands of their world. The course serves as an interdisciplinary bridge for students to synthesize their learning from art, history, science and mathematics as they study how advances in each discipline affected the cultural production of their time. The class includes a studio art component and is project-based - requiring students to work in teams to predict and create artwork that responds to the conditions of different case studies from world history. This class will run in alternating years.

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

JOURNALISM

This class is focused on learning the basics of proper journalistic practice, the mechanics of writing different pieces, and digital management of the school newspaper. During our meetings we will review what makes a good story before creating our own for Medford High School's own student-led news resource *The Mustang News*. Students will learn writing structure, proper creation of a writing credit, creation of an author bio, and basic website management.

College Prep – 2 credits – Full year

Program of Studies

LATIN AMERICAN MUSIC/DANCE (Grades 10 - 12)

Students will be introduced to the development of music/dance throughout history, with a focus on the fusion of European, African, and Indigenous cultures. Dances include the Salsa, Bachata, Samba, Merengue, Cha-Cha, and more. This class will run in alternating years.

College Prep – 2 Credits – Full Year

MATH SAT PREP (Grades 10 - 12)

This course provides students with an opportunity to review the mathematics concepts of algebra, geometry, trigonometry, and data analysis in preparation for the new Mathematics SAT. It is not considered as one of the courses in the 4-year requirement for graduation. Strongly

Recommended: Graphing Calculator

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

Prerequisite: Passing grade or concurrent enrollment in Algebra 2.

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)

In this two credit elective, 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

Program of Studies

PSYCHOLOGY OF SPORTS (Grades 10-12)

This class will provide an in-depth look at the influence of the principles of psychology on sports. Using case studies, guest speakers and current research reviews, students in this class will examine the brain and human behavior relating to athletic performance, motivation, attention, leadership, mental competitiveness, and group dynamics. Students will also explore the implications of stress, defeat and success. As part of the course, each student will also be expected to identify a minimum of one athletic goal and develop a treatment plan designed to facilitate achievement of this goal.

This class will run in alternating years.

College Prep – 2 Credits – Full Year

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

SCIENCE FAIR PROJECTS (Grades 10-12)

This course is designed to provide students with challenging opportunities to conduct experimental science research that leads to an exhibit in the annual Science Fair. Students will have assistance with selecting topics, gathering data and materials, analyzing results, and preparing a Science Fair display.

College Prep – 2 Credits – Full Year

Prerequisite: Commitment to developing a project for the annual Science Fair

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 methods 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

SPORTS STATISTICS (Grades 10-12)

During this course students will conduct various statistical studies by analyzing data from many different sports and activities. This data will be organized into a spreadsheet and evaluated mathematically to draw various conclusions. Statistical theory and skills will be developed using innovative research associated with various sports. Students will make extensive use of computer applications.

College Prep – 2 Credits – 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

Program of Studies

CAREER AND TECHNICAL EDUCATION PROGRAMS

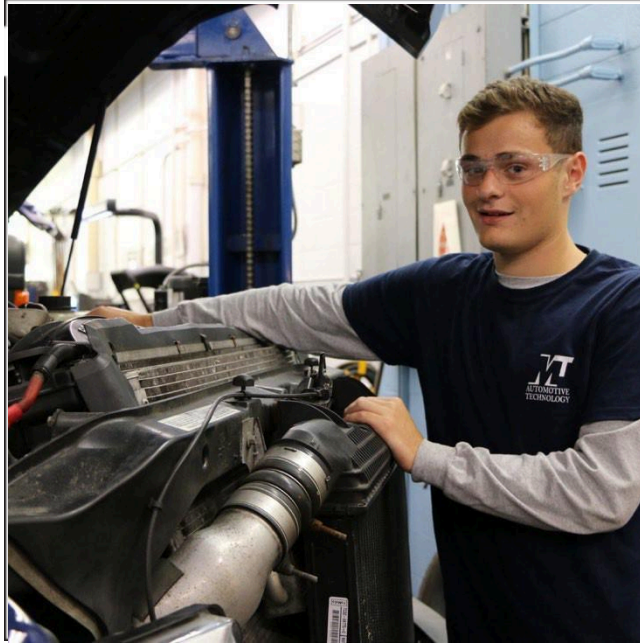
COOPERATIVE EDUCATION - All Departments

Cooperative Education is a school/work based program that expands upon the skills and education students have gained in their Career and Technical program. The Cooperative Education program is open to students in the 12th grade and during the 4th quarter for qualified students in the 11th grade. Job placement in this program is directly related to the student's area of technical training. Students must have achieved proficiency in their technical area, and completed the 10-hour OSHA certification program. Academic grades, attendance and discipline records are also reviewed to determine eligibility status. Students may be removed from a Cooperative Education placement if it is deemed that they are not performing academically, have poor attendance or discipline referrals.

Cooperative Education is a school-based and a work-based program. Cooperative Education students continue to receive their academic education in the traditional classroom setting while spending their career area week employed by area businesses in their technical field. Students perform work best suited to their qualifications and educational needs while employers evaluate the student progress according to their predetermined standards. Students will receive no less than minimum wage from the employer, with the exception of those industries not covered by the minimum wage law.

For further information, please refer to the Cooperative Education handbook located in the cooperative education office

Automotive Technology



Skills you will learn:

- Electrical/Electronic Systems
- Engine Performance
- Suspension and Steering
- Heating and Air Conditioning
- Brakes
- Customer Service

The Automotive Technology Course is a three-year program that conforms to the National Automotive Technicians Education Foundation (NATEF) standards. Adherence to the NATEF curriculum and standards exposes and trains students in the trade through a series of tasks and competencies in the areas of: brakes, electrical/electronic systems, engine performance, suspension and steering, heating and air conditioning, and additional areas. The program provides the participants with a classroom segment and hands-on work. Students work daily on customer vehicles that have been scheduled for repairs. Students interact daily with customers, write service orders, schedule jobs, order parts and complete repairs. The program is self-paced.

The Automotive Technology program is a Chapter 74 approved program taught by ASE MasterCertified and NATEF approved instructors.

Upon graduation, students are employed as entry-level technicians, mechanics, brake specialists, electronic technicians, assistant service managers, consultants, and sales people in the automotive parts supply business.

Biotechnology



Skills you will learn:

- Safely and precisely create chemical solutions and growth media
- Grow bacterial, animal, and plant cells
- Produce and purify DNA, proteins, cells
- Learn about the Biotech industry and Biotech careers
- Genetically engineer DNA and cells

Articulation Agreements:

Tufts University
Bunker Hill Community College

Licenses, Certifications, and Affiliations

Massachusetts
Biomanufacturing
Certificate First Aid and
CPR, SkillsUSA, OSHA
10 Hour General Industry
Safety Card

Industry Partners:

Neon Therapeutics, MA Department of Conservation and Recreation, Thermo Fisher Scientific

The Biotechnology program will introduce students to the field of Biotechnology through career exploration as well as course specific content and skills. The students will be instructed in aseptic technique and the proper use of equipment used in biology, chemistry, physics, and engineering (e.g., micropipettes, and electrophoretic, chromatographic and spectrophotometric tools). In addition, bio-manufacturing industry skills such as Standard Operating Procedures, Good Manufacturing Practices, Instrumentation, and Statistical Process Controls are reviewed. The Biotechnology program student is eligible for OSHA 10 Hour General Industry Safety Certification and Massachusetts Biomufacturing Certification. A certificate in Biomufacturing prepares students for entry level positions in many areas of biopharmaceutical production with excellent opportunities for advancement and career growth.

Business Marketing



Skills you will learn:

- Leadership and accountability
- Initiative and self-direction
- Communication and collaboration
- Technology in the workplace
- Creativity and innovation
- Social and cross-cultural skills
- Entrepreneurship
- Business communication
- Advertising and design
- Retail management

Articulation Agreements:

Bunker Hill Community College

Licenses, Certifications, and

Affiliations Microsoft Office Specialist Certification (MOS), Certified Meeting Professional (CMP), Massachusetts Retail Association, DECA, WISE Financial Literacy Certifications, University of New Hampshire High School Entrepreneurship Competition, SkillsUSA, OSHA 10 Hour General Industry Safety Card

Industry Partners:

Medford Chamber of Commerce, TJ Maxx, McGoldrick Marketing, ReMax Realty, BodyCote, LEGO Education

The Business Marketing Program provides the skills, background, and certification necessary to prepare students to become well-rounded employees, employers, or entrepreneurs. Students will be given an introduction to marketing, entrepreneurship, and Microsoft Office computer applications such as Microsoft Excel, Word, Access, and PowerPoint. This program integrates computer applications and business communication skills with a strong foundation in business courses. Legal issues are also introduced and students develop knowledge in personal finance and practice time management, organizational skills, and goal setting.

Students will develop business relations skills as well as an understanding of business attitudes essential to participate as productive workers and consumers in the multinational workplace. Through hands-on experience, students will develop an ability to organize and manage the operations of an active business with the Mustang Mall, a school-based enterprise. The store offers face-to-face consumer experiences and builds customer service and interpersonal skills. Students are also encouraged to further develop their business communication skills including writing, editing, and overall computer operations. Integrated within this rigorous curriculum is a strong focus on leadership development and public speaking skills. All learners are challenged to meet high standards and expectations while receiving the necessary support for success.

Possible career pathways for graduates from the Business Technology & Marketing Program include Administrative Assistant, Office Manager, Salesperson, Payroll Clerk, Manager, Executive Assistant, Marketing, Advertising, Public Relations, Banking, Accounting, and Retail Operations.

The Business Technology & Marketing Program prepares students for continuing their education in this field at the 2-year and/or 4-year college degree level and assists students with the college selection process.

Carpentry



Skills you will learn:

- Safe use of hand and power tools
- Reading blueprints/plans
- Foundation layout
- Building framing (wood/steel)
- Finish and trim carpentry
- Installing windows and doors
- Roofing and drywall
- Cabinet installation

Articulation Agreements: New England Carpenter's Training Fund Apprenticeship Program
Eastern Massachusetts Carpenter's Apprenticeship & Training Committee
New England Institute of Technology
Wentworth Institute of

Licenses, Certifications, and Affiliations SkillsUSA,
OSHA 10 Hour Construction Industry Safety Card

Industry Partners:

Phoenix Construction, Mystic Builders, Gentry Remodeling, Silva Lightning Builders, New England Design Contractors, Lake HVAC, Dan's Service, Consolidated Sterilizer Systems, Davinci Plumbing

Students in the Carpentry program receive instruction in various methods, tools and materials used in home construction. The primary focus is on house framing, siding, roofing, and interior finish work, with additional consideration for utilizing green building products, energy-efficient installation techniques, and high-efficiency mechanical systems including solar power. Students are taught fundamentals of design, blueprint reading, layout, and accurate dimensioning. They work with a variety of building and finishing materials, and become familiar with modern methods and installation techniques for those materials. Engineered wood products and pre-fabricated components are incorporated as time and material-saving alternatives to conventional site-built lumber framing. Students employ the safe use of a variety of hand and power tools throughout their training.

Extended activities range from shed construction to larger building and remodeling projects both within the school and off-campus. Students also participate in field trips and other learning experiences which expose them to career possibilities and opportunities within the larger construction context. Retail sales, product development and factory/mill work are just a few options students may pursue. Our program is an excellent stepping stone to an apprenticeship program in the New England Carpenter's Union and/or a degree in construction management, architecture, and civil or structural engineering. The variety of jobs available and income-earning potential is extensive.

Construction & Craft Laborers (CCL)



Skills you will learn:

- Hand, power and pneumatic tools
- Surveying
- Installation of utilities
- Concrete work
- Demolition
- Scaffold building
- Landscaping

The construction industry is one of the most diverse and rewarding industries in the world. From a single-family home to a railway tunnel under the English Channel, the potential for personal and financial growth is only limited by your willingness to work and learn. A career in construction can provide a standard of living for you and your family, as well as a sense of pride and accomplishment in the projects you help build. It is beyond the scope of this document to list all of the major types of construction. They have been identified and grouped into the following three categories:

1. Building - construction and reconstruction of residential and commercial buildings.
2. Highway, Utilities and Land Development - construction and reconstruction of the following: major and minor highways, subdivisions, bridges, dams, tunnels and airfields, underground utilities (telephone and electric), piping systems (petroleum, water, sewer, natural gas, and collection systems)
3. Environmental - remediation and activities associated with the following: asbestos abatement, decontamination and demolition of nuclear facilities, hazard waste removal, lead abatement, permit-required confined spaces, and erosion control.

Construction remains a major growth industry in North America and a source of jobs for new entrants into the workforce. The United States Bureau of Labor Statistics (BLS) predicts construction jobs will increase from 7 million to 7.8 million in the years 2008-2018.

Cosmetology



Skills you will learn:

- Hair Extensions
- Chemical Hair Straightening
- Haircutting
- Permanent Waving
- Creative Coloring
- High Styling
- Manicuring
- Make-up Application

Articulation Agreements: Catherine Hynes -
Aesthetics Hairlines Distributor education classes

Licenses, Certifications, and Affiliations

Mass. Board of Registration of Cosmetology
Master Hair Colorist, Hair
Extensions, Chemical Hair
Straightening Systems, SkillsUSA,
OSHA 10 Hour General Industry
Safety Card

Industry Partners:

Bella Capelli, Salon 333, Dellaria Salon, Hair Cuttery, Hair's Karen, Naz Kupelian Salon, Mario Russo, Philip Ciampi, Kenzo, Tradewinds Hair Salon, Emily's Hair, Floyd's, Supercuts,Avantes, Paul Kenneth Salon, Blow Out Bar, NVY, Silvestro Barber Shop

A cosmetologist, commonly referred to as a hairdresser, provides a variety of beauty services, which are related to the care of hair, skin, and nail. The course includes all technical areas such as shampooing, haircutting, permanent waving, creative coloring, high styling, manicuring and many more beauty treatments including make-up application.

The program consists of three major elements of the learning process. The core, adaptive, and creative levels of curriculum are the basis of the cosmetology program. The teachers hold the students to a high standard of learning expectations.

All cosmetology students receive 1,000 earned hours of instruction, which is required to qualify for the state of Massachusetts licensing examination and employment as a cosmetologist. A portion of the course includes theory and entrepreneurship skills. The students will work on clients and acquire interpersonal skills, communication and client consultations. Our students are also taught computerized salon software, which will assist them in becoming familiar with the responsibilities of salon receptionist duties.

Upon completion of the program and successfully passing the state board exam, students have many opportunities and career choices.

Culinary Arts



Skills you will learn:

- Food handling, preparation and presentation
- Problem solving
- Function and event management
- Entrepreneurial skills
- Customer service
- Meeting manager
- Event planning
- Hotel operations
- Catering and sales

Culinary Arts students learn the principles and techniques of food preparation, handling, food service and restaurant management. The study of nutrition, sanitary codes, and inventory control are included in the competency-based curriculum. Bistro 489, a student-operated public restaurant opening in fall 2017, provides the students with the opportunity to gain firsthand experience in the areas of safety, food handling, food preparation, institutional cooking, short order cooking, computer skills, and customer service. In addition, culinary arts skills are reinforced through related studies in the classroom.

Upon graduation, job opportunities include: line cook, prep cook, shortcook, chef, butcher, baker, host/hostess, pas-try chef, caterer, dining room manager, and restaurant manager.

Graduates may seek employment in resorts, hotels, full-service restaurants, conference centers, and function facilities.

Early Childhood Education (ECE)



Skills you will learn:

- Safety practices according to the EEC and OSHA regulations
- Creating and implementing age appropriate curriculum
- How to conduct small and large groups
- Classroom management
- How to communicate with young children effectively

Articulation Agreements: Roxbury Community College Bunker Hill Community College

Licenses, Certifications, and Affiliations Early

Education and Care Teaching

Certificate First Aid and

CPR,

SkillsUSA, OSHA 10 Hour General Industry Safety Card

Industry Partners:

Kids' Corner, Creative Corner, Graceworks after school care, Westside Preschool, St. Raphael School, Six Acres Nursery School, Bright Horizons Daycare, Kid Connection

Students enrolled in the Early Childhood & Care program participate in the "Make Way for Kids" preschool and other daycare programs. The children serviced are 3 to 5 years of age. Through hands-on experience in the preschool, students learn, develop, and perform skills as an assistant teacher under the guidance of the teacher. Students have the opportunity to create and implement age-appropriate, theme-based curriculum to the children. All students rotate through the age levels in order to experience a variety of ages and stages as well as different teaching styles. The competency-based curriculum includes child growth and development studies and practical experiences working with young children. Upon graduation, the students will receive a personal certificate of proficiency with documentation of child contact hours. The certificate can be used to apply for a preschool teaching certificate from the Early Education and Care (EEC). This application is the responsibility of the student and is not guaranteed.

A graduate from the program may obtain an entry-level position in a child care center, a nanny position, or a preschool teacher in an Early Childhood program approved by the Early Education and Care office of Massachusetts. Other opportunities include childcare center owner or director, teacher, early intervention specialist, family services worker, or continuing to post-secondary education.

Electrical



Skills you will learn:

- Electrical hazards and safety
- Low voltage signal wiring
- Residential non-metallic cable
- Armored cable
- Proper and safe use of tools
- Electrical metallic tubing
- Rigid metal conduit
- Troubleshooting
- Commercial lighting
- Surface metal raceway
- Fire alarm systems

Through a competency-based curriculum the Electrical program prepares students with the basic skills needed for an advanced-level position in the electrical field. The students gain a thorough knowledge of materials, terminology, and safety skills that are necessary to become a licensed electrician, a licensed systems technician, or a telecommunications technician. Students will become proficient in a variety of electrical projects in compliance with the National Electric Code, Massachusetts Electrical Code, and NFPA(National Fire Protection Association) Safety Code, and all other codes relegated to the electrical industry.

The related classroom curriculum stresses mathematics, science, and understanding of the national electrical code. Emphasis is placed on the mastery of fundamentals, concepts, and principles, as well as the ability to solve practical problems.

Upon graduation students will receive a high school diploma and a vocational certificate. In addition, students may be awarded up to 1800 working hours and 180 classroom hours to apply towards the requirements of the State of Massachusetts Electrical Board for the Electrical License Examination.

Graduation provides the following career opportunities: electrical apprentice, journeyman electrician, residential electrician, commercial electrician, industrial electrician, maintenance electrician, Master electrician, electrical contractor, telecommunications technician, systems technician (burglar and fire) or electrical material sales.

Engineering & Robotics



Skills you will learn:

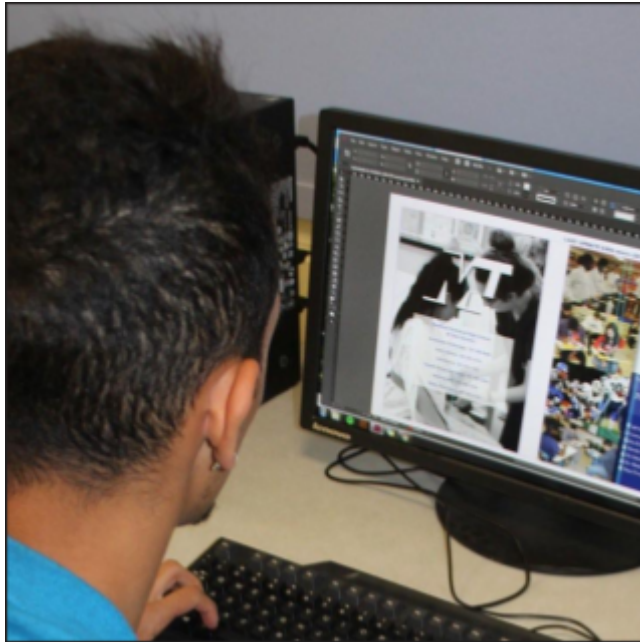
- Autodesk Inventor software
- CNC manufacturing
- Fabrication techniques
- Engineering design process
- CAD / CAM
- Problem solving
- Motor feedback control
- Embedded programming (Python, C++)
- Circuit board design
- Electronics and electronics design
- Pneumatics

Robotics and Engineering is a Chapter 74 Certified program for students who are interested in designing and building things. Students in this program will learn to design and build mechanical and electrical devices ranging from an electronic circuit used to control a matrix of LEDs (light emitting diodes), to a fully functional custom-built robot. In addition to physically building devices, students will learn to write code, the instructions that run everything from Facebook to your refrigerator.

In this program students primarily learn about the fields of electrical, mechanical, computer, and robotic engineering. Students are expected to develop a good working knowledge of each of these fields. Students will learn how to design complex mechanical parts using our industry-standard Computer-Aided Design (CAD) software. They will be able to print parts using our high-end 3D printer and directly manufacture parts using precision metal working tools. Students will learn to design electronic circuits on breadboards, create electronic schematics and print their own custom printed circuit board (PCBs). Students will also learn to write C, a computer language used to program the work of micro-computers found in most electronic devices from your car's fuel injection system to a cell phone. In addition, students will learn higher level programming languages such as Javascript and Python.

Freshman and sophomore students will focus on learning the fundamentals of engineering and robotics through hands-on projects. Junior and senior students will be expected to design and develop independent projects with an emphasis on real-world projects that solve the needs of the community. For example, one of our students has already been featured in the Boston Globe for creating a tele-presence robot that enabled a teacher to participate in the classroom while out on medical leave.

Graphic Design



Skills you will learn:

- Color Theory
- Composition, Layout and Design
- Illustration and Typography
- Client Communication
- Creative Process and Problem Solving
- Advertising and Marketing
- T-Shirt Design

Graphic Design & Visual Communications prepares students for careers working in digital technology, printing, publishing, and new media ventures. Classroom experiences and laboratory time provide students with the knowledge and experience to gain an entry-level position working on the technical side of a printing press or media development center. Digital design and production involves primarily the Adobe Creative Suite applications. Classes are focused on using the software to design graphics and layouts, create graphics and images, and manipulate and enhance images. Projects are prepared from concept to production. Students take prepress and production coursework, in which they learn to prepare projects for an offset lithographic press using digital prepress techniques, develop Internet sites, devise electronic page layout and work with digital media sources. Basic Business management and entrepreneurial skills for the graphic industry are also taught.

Graduates will have learned the technical skills behind publishing newspapers, magazines, newsletters and other forms of mass graphic communications. Though job skills and responsibilities will depend on the place of employment, graduates of this graphic communications program may find a job as a digital prepress operator, digital media developer, press operator, finisher, page layout technician, output technician, typesetter, proofreader, copy center technician, and print/media salesperson. Graduates work in advertising agencies, newspapers, magazines, printing companies, in-house corporations, the music industry, and multimedia production.

Health Assisting



Skills you will learn:

- Physical assessment
- Patient care in a variety of settings
- Proper use of medical equipment
- Medical office employability skills, including professionalism, time management, communication, active listening, team work, and presentation skills

Articulation Agreement:

Statewide Articulation Agreement with Community College

Industry Partners:

Community Family, Inc., Adult Day Health Center, Army ROTC, Little Sisters of the Poor, Winchester Nursing and Rehabilitation, Lawrence Memorial Hospital, Courtyard Nursing Care Center, Greater Medford VNA, ABC Home Care Agency, Massachusetts Eye and Ear Infirmary, Bear Hill Nursing Facility, Winchester Hospital, Mass General Hospital, Walnut Street Center, Armstrong Ambulance, Axiom

Licenses and Certifications

Commonwealth of Massachusetts
Certified Nursing Assistant (CNA)
Licensure, Certifications in First Aid for infants, children, and adults, Blood Borne Pathogens, CPR, Healthcare Provider CPR, AED & ChokeSave, Home Health Aide, Dementia Care (8 hour), Emergency Medical Technician, American Heart Association, SkillsUSA, OSHA 10 Hour General Industry Safety Card

The Health Assisting Program is an excellent choice for students interested in entering the high-demand field of health care and human services. Students are exposed to a wide variety of health careers through classroom lessons, guest speakers, job shadows, and externships. Theory and computer technology lessons are provided using the most up-to-date technology in the classroom. Authentic practical training is provided in our realistic health suite using professional equipment, medical mannequins, and "patient-actors". Training continues in long term care and rehabilitation centers, assisted living facilities, senior centers, therapeutic animal farms, and acute care hospitals.

Course instruction includes: Social Skills for Professional Success, Growth and Development, Wellness and Disease Pathology, Dementia Care, Medical Terminology, Introductory and Advanced Patient Care, Introduction to Electrocardiography, Introduction to Phlebotomy, Microsoft PowerPoint and Microsoft Word, and Introduction to Medical Office Assistant.

Upon graduation, students are prepared for post-secondary education in a variety of health careers and employment as nursing assistants in acute and long term care facilities.

Media Technology



Skills you will learn:

- Filmmaking & Cinematography
- Audio Engineering
- Lighting
- Nonlinear Editing
- Scriptwriting & Storyboarding
- Reading a Teleprompter
- Interviewing and Acting
- Directing & Producing
- Problem Solving, Critical Thinking, Communication

Articulation Agreements:

Bunker Hill Community College

Licenses, Certifications, and Affiliations

Adobe Certified Associate in Premiere and AfterEffects, Society of Broadcast Engineers, SkillsUSA, OSHA 10 Hour General Industry Safety Card

Industry Partners:

Brookline Interactive Group, Strategic Social Consulting, NESN, Comcast, Greater Media Boston, McGoldrick Marketing, WROR, Lasell College, WGBH, Teleprompters of Boston, Filmmakers Collaborative

The media technology program is designed for students interested in pursuing employment and postsecondary education in the fields of television and radio broadcasting and media technology. The curriculum integrates academic and technical content for a variety of media outlets. Hands-on activities include the production of actual television cablecast programs at Medford's new state-of-the-art public access television station. Students learn all aspects of television and radio broadcasting, including writing scripts and treatments, cinematography techniques, nonlinear editing, lighting, audio engineering, field and live studio productions, and remote news gathering.

Students completing this course of study can pursue additional education in two and four-year college communications-related programs.

Metal Fabrication & Welding



Skills you will learn:

- Drafting and layout
- Blueprint reading
- Safety procedures
- Use of hand and power tools
- Use of manual equipment
- Related math
- On-the-job experience

Students learn to create products for the metal manufacturing industry using sheet metal and welding techniques. From precision sheet metal work to welding manufacturing and construction, students gain a solid background in a high demand industry.

Students will learn basic and advanced layout techniques, such as parallel line development, and radial line development through hands-on projects and activities. A wide range of skills surrounding welding and sheet metal are presented which may lead to AWS certification. Joint design, material and alloy selection and machine maintenance are also included in the curriculum.

Programming & Web Development



Skills you will learn:

- In-depth web development
- HTML, CSS, JavaScript
- Software development
- Object-oriented programming
- App development
- Game development
- Databases
- Networks
- Computer science principles
- 3D design using scripting

Articulation Agreements:

Bunker Hill Community College

Industry Partners:

Amazon Corporation, TERC, TEALS Organization, Microsoft Corp.

Licenses, Certifications, and Affiliations:

SkillsUSA
OSHA 10 Hour General Industry
Safety Card Advanced Placement
Computer Science Principles
Advanced Placement Computer
Science A

The Programming and Web Development program combines computer systems administration, computer programming, and website development in order to prepare students for careers in the computer science industry. The program is designed to enable students to succeed in a highly technical, global environment. Students create and understand the technical details of apps for mobile devices, computer software, websites, databases, and networks. Creating programs and applications and building interactive web pages are just examples of the myriad of projects that students complete in this program.

Students become proficient with popular software packages and development environments to develop computer programs and create websites. Computer science and the software design process are taught using languages such as Java and Python. Website development, including design, creation and maintenance, is taught using Java Script, HTML and CSS. Additional content areas include app development, game development, networks and relational databases.

Possible career pathways for Programming and Web Development students include computer programming, software engineering, website design, web development, systems administration, game development, computer support, network administration, database management, computer maintenance and computer sales.

The Programming and Web Development Program prepares students for continuing their education in this field at 2-year and/or 4-year college degree level and assists students with the college selection process.