



Lowell High School
2025- 2026
Program of Studies

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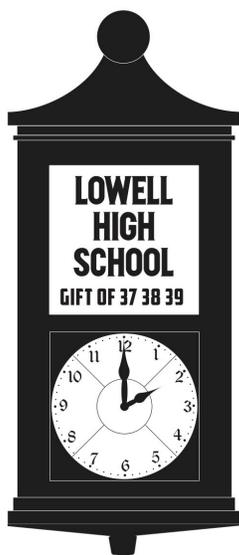
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LOWELL HIGH SCHOOL
50 Father Morissette Boulevard
Lowell, Massachusetts 01852



INTRODUCTION

Lowell High School is a teaching and learning community that strives to inspire, educate, and prepare our students for the 21st century through holistic and innovative curriculum, a deep sense of responsibility, diversity of thought, and the development of critical skills for life after high school. We are dedicated to providing high-quality education and multiple post-high school pathways for the purpose of achieving equitable outcomes.

At Lowell, we view student success as a joint responsibility between Lowell faculty and staff, the student's primary support network, and community members. Operating with this interconnectedness and shared focus is essential to building and sustaining a high-quality high school culture at Lowell High School that disrupts inequitable systems and enables all students to thrive.

We provide students with the opportunities and resources to freely embrace plans for life after graduation. We understand the power of future-focused, side-by-side guidance for high school students; and to that end, we help each Lowell student navigate their own educational journey and start to think ahead.

WELCOME MESSAGE FROM HEAD OF SCHOOL

Welcome to the Lowell High School Program of Studies!

We are excited to introduce you to the wide variety of courses and opportunities available at Lowell High. Our offerings are designed to be both engaging and challenging, ensuring that every student has the chance to grow, explore, and achieve their academic and personal goals. Whether you are looking to pursue your interests or challenge yourself with advanced coursework, Lowell High has something for you.

Our course offerings and programs are designed with the Lowell Public Schools Portrait of a Graduate elements in mind:

- MIND – Excel in a Complex and Ever-Changing World
- HEART – Demonstrate Self-Knowledge and Value Diversity
- SPIRIT – Persist in School and Life
- SKILL – Develop and Apply Real-World Skills
- NETWORK – Communicate, Collaborate, and Follow Through
- LEADERSHIP – Engage, Empower, and Achieve Positive Change

These core values guide our curriculum and extracurricular offerings, ensuring that you not only succeed academically but also grow as a well-rounded individual who is ready to tackle the challenges of the future.

This Program of Studies serves as a valuable resource to help you understand the full scope of what Lowell High has to offer. We encourage you to use it to plan your courses, explore new subjects, and make informed decisions about your educational path. Your teachers and school counselors are always available to provide guidance, offer recommendations, and help you select courses that align with your interests, strengths, and future aspirations.

We are here to support you every step of the way, ensuring that your high school experience is both fulfilling and rewarding. Take advantage of the opportunities ahead and let this guide serve as a tool to help you succeed!



Mike Fiato
Head of School

EQUAL EDUCATIONAL OPPORTUNITY STATEMENT

In recognition of the School Committee's policy against discrimination, the School Committee and all staff of Lowell Public Schools will make every effort to comply with the letter and spirit of the Massachusetts Equal Educational Opportunities Law that prohibits discrimination in public school admissions and programs and all implementing provisions issued by the Massachusetts Department of Elementary and Secondary Education will be followed. It is the policy of the Lowell Public Schools not to exclude or discriminate against a student in the admission to school in Lowell, or in obtaining the advantages, privileges and course study within Lowell Public Schools on the basis of race, color, religion, ancestry, national origin, sex, socioeconomic status, homelessness, gender identity or expression, pregnancy or pregnancy related condition, parenting status, sexual orientation, disability or by association with a person who has or is perceived to have one or other of these characteristics in our educational programs, activities, as envisioned by Title IX of the 1972 Education Amendments and Chapter 622 of the Acts of 1971, in addition to Massachusetts General Laws Chapter 76 section 5, and 603 CMR 26.00, and 603 CMR 28.00. This also means that every student will be given equal access/opportunity in school admission, admissions to courses, course content, guidance, scholarship, prizes, awards, and extracurricular and athletic activities.

LOWELL HIGH SCHOOL INSTRUCTIONAL VISION

Excellent instruction should meet the needs of every student in accordance with grade-level standards and develop the additional skills and competencies needed for graduates to excel after high school in their preferred postsecondary pathway. Students should be actively engaged with the content (**Mind**) and each other (**Heart**), with a focus on student-led conversations (**Network, Leadership**), productive struggle (**Spirit**), and inquiry-based learning (**Skill**). Students will have opportunities to engage in and demonstrate their learning in different ways. Gaps in learning will be identified and addressed through frequent formative assessment and tiered supports that allow students to access the grade-level material. At LHS, our mission is to create a learning environment where all students, regardless of their race, ethnicity, or disability, or any other part of their identity, achieve at high levels. This Instructional Vision is aligned with Lowell Public Schools Portrait of a Graduate.

STUDENT SUPPORT SERVICES

Starting with the Class of 2026

To obtain a diploma of graduation from Lowell High School, each student in the class of 2026 and beyond must satisfy the following requirements:

- Fulfill the standard requirement of earning at least 90 credits.
- Pass the MCAS exams in ELA, Mathematics, and Science or meet Local Competency Determination***

Content Area	Number of Credits Each semester course is 2.5 credits
English **	20 credits
Social Studies** <ul style="list-style-type: none"> • World History (2 semesters) • U.S. History (4 semesters, one of which must include American Civics) 	15 credits 5 credits 10 credits
Mathematics (Algebra I A/B, Geometry A/B)	15 credits
Science	15 credits
Wellness <ul style="list-style-type: none"> • Physical Education • Health (A and B) • PE/Health Equivalent <ul style="list-style-type: none"> ○ AFROTC ○ Band ○ Show Choir ○ Dance 	15 credits 10 credits 5 credits

*Physical Education and Health Equivalent Courses listed below:
 ROTC, Band , Show Choir & Dance

** No more than two core US History courses may be taken during a semester without the approval of the Social Studies Department Chair.

** No more than two core English courses may be taken during a semester without the approval of the English Department Chair.

MASSCORE*

What is MassCore?

MassCore is a state-recommended, rigorous program of study that aligns high school coursework with college and workforce expectations.

Why MassCore?

Challenging Courses equals

- Preparation for College Success
 - It's not just about getting in – it is about finishing.
- What Employers Want
 - Employers expect you to arrive with essential workplace skills, including speaking and writing clearly, analyzing information, conducting research, and solving complex problems.
- More Career Options
 - Good jobs require education beyond high school. MassCore gives you more options and more opportunities to find a career with a real future.
- Big Financial Rewards
 - Graduates of four-year colleges earn an average of \$1.4 million more over a lifetime than high school dropouts.

* Massachusetts DESE Office of College and Career Technical Education Parent Resource guide

The recommended MassCore program of studies includes:

Subject	Credit Requirements
English	4 Years
Mathematics	4 Years including Algebra 2 (Algebra 1, Algebra 2 and Geometry or Trigonometry, or comparable coursework.) Mathematics is recommended during the final year of high school
Science	3 Years (from Natural Science and/or Physical Science and/or Technology/Engineering), including 3 courses with laboratory work
Social Studies	3 years including U.S. History and World History
Foreign Language	2 years of the same language
Physical Education	1 class each year as required by law
Arts	1 Year
Electives	10 classes years from the above subjects or from the Arts, Business or Computer Sciences or additional classes from above

*It is recommended that students interested in attending a 4 year college follow MassCore.
School Counselors will assist students in tracking progress towards MassCore.*

UNDERGRADUATE ADMISSIONS STANDARDS FOR THE COMMUNITY COLLEGES OF MASSACHUSETTS

The fifteen Community Colleges offer open access to high quality, affordable and no-cost academic programs, including associate degree and certificate programs. They are committed to excellence in teaching and learning and provide academic preparation for transfer to four-year institutions, career preparation for entry into high demand occupational fields, developmental coursework, and lifelong learning opportunities.

To enroll in a Massachusetts Community College, students must have a high school diploma or the equivalent. There are prerequisite requirements to enter select programs, especially in the healthcare field. Check each college for their individual requirements.

UNDERGRADUATE ADMISSIONS STANDARDS FOR THE MASSACHUSETTS STATE UNIVERSITY SYSTEM AND THE UNIVERSITY OF MASSACHUSETTS

The admissions standards for the state colleges and universities emphasize a strong academic high school background so that students enter college ready to learn. These standards represent minimum requirements; meeting them does not guarantee admission, since campus officials consider a wide range of factors in admissions decisions. Students must have fulfilled all requirements for the high school diploma or its equivalent upon enrollment. It is important to note that admissions standards for the state's community colleges differ. Community colleges may admit any high school graduate or GED recipient.

Subject	Requirements for Entering College Freshman
English	4 Years
Mathematics	4 courses (Algebra I & II and Geometry or Trigonometry, or comparable coursework) including mathematics during the final year of high school
Sciences	3 courses (from Natural Science and/or Physical Science and/or Technology/ Engineering), including 3 courses with laboratory work
Social Sciences	2 courses (including 1 course in U.S. History)
Foreign Language	2 years (in a single language) Note: American Sign Language (ASL) is a foreign language.
Electives	2 years (from the above subjects or from the Arts & Humanities or Computer Sciences)

COURSE INFORMATION

COURSE LEVELS

These are general criteria for leveling used by each department. Levels differ in coverage and intensity in order to meet the ability, achievement, and needs of all students.

There are five different levels of courses at Lowell High School:

- A- Advanced
 - AP – Advanced Placement
 - EC – Early College
 - DE - Dual Enrollment
- HH – High Honors
- H – Honors
- C – College
- N – Non-Weighted

The level at which a course is offered will affect the class rank achieved by the student, but not placement on the Honor Roll. The student is expected to participate in course work at the highest level of her/his/their ability. It is essential for you to read about each course in the “Course Description” in each academic department listing of this catalog so that you understand not only what a course is all about, but also what levels are offered for each course.

Advanced (Advanced Placement, Dual Enrollment, and Early College) level courses are the most intense academic level. They are the maximum challenge for the most intellectually curious students.

High Honors level courses are the highest level in academic rigor when Advanced Placement is not available. Courses in this level are very demanding, competitive, and specifically designed for the highly motivated student who has an outstanding ability and anticipates attendance at a four-year college. Courses are designed to prepare the student for future involvement in college studies.

Honors level courses present academic rigor and require strong student performance. Courses are designed to prepare students for success at four-year colleges and universities. Students must be well motivated and be prepared for the demands of the curriculum in each discipline.

College level courses present challenging standards-based curriculum material and require high-order thinking skills with scaffolded support. Students will be expected to strengthen their independent learning and academic skills.

Non-weighted courses are designed for students of all skill levels. In these courses, students of different abilities are grouped together.

PREREQUISITE GUIDELINES FOR CONTINUING COURSES

The following guidelines can be utilized by students when selecting continuing courses.

Cumulative Grade Requirements to Select the Following Year of a Continuing Course:

• COLLEGE to HONORS	85
• HONORS to HONORS	70
• HONORS to HIGH HONORS	90
• HONORS to AP	95
• HIGH HONORS to AP	90
• AP to AP	80

GUIDELINES FOR SELECTING COURSES

Planning an educational program is an ongoing process and involves the student, family, teachers, and school counselors.

During the second semester, students and parents will be able to refer to the Program of Studies available online on the LHS webpage. Teachers, counselors, and administration will be available for consultation.

The faculty make specific recommendations about student placement in required and sequential courses. In scheduling a student's program, the school will attempt to meet the immediate and future objectives of each student.

The following factors are used to determine individual achievement levels: an evaluation of previous academic performance as indicated by teachers and the recommendation of teachers.

Actions Steps for Students:

- Review your transcript to make sure you are meeting graduation requirements.
- Consider your future plans and select electives that are related to the field you may wish to pursue or required by the college/university you wish to attend.
- Explore the possibility of enrolling in a pathway
- Choose the electives that you are interested in taking (make sure to select alternates)
- Consult with your individual teachers about course recommendations
- Attend your individual meeting with your school counselor

Please understand that not all student choices can be accommodated due to scheduling constraints and school placement policies. It is highly recommended that students identify alternatives for elective selections in order of preference.

English Department

Suzanne Keefe, Department Chair

The Lowell High School English Department is committed to supporting and encouraging students to become independent, life-long learners. All English courses are designed to build skills in effective reading, writing, speaking and listening. Through a sequential program of core courses, students are supported to read critically from a wide range of literary and informational texts, write effectively for a variety of audiences and purposes, and speak effectively in informal and formal situations. We recognize that mastering these complex communication skills is essential for successfully meeting the challenges of the 21st Century.

A Lowell High School student must earn 20 credits in sequential, core English courses to qualify for a diploma. Students must enroll in a minimum of one English course per semester. Students must also take the state's Grade 10 ELA MCAS test. All courses offered in the English Department are aligned with and fulfill the content requirements of the Massachusetts State Curriculum Frameworks.

	9th Grade	10th Grade	11th Grade	12th Grade
Core Courses	<i>English 1 C</i> <i>English 1 H</i> <i>English 1 HH</i>	<i>English 2 C</i> <i>English 2 H</i> <i>English 2 HH</i>	English 3 C English 3 H English Composition, EC	<i>Students must enroll in one ELA course per semester and may choose from:</i> <i>English 4C</i> <i>English Composition, EC</i> <i>Creative Writing (C/H)</i> <i>Expository Writing (C/H)</i> <i>Graphic Novel (C)</i> <i>British Traditions (H)</i> <i>Gender in Literature (H)</i> <i>Literature of the Holocaust (H)</i> <i>Other Worlds (H)</i> <i>Race, Ethnicity, and the Written Word (H)</i> <i>Short Fiction and Poetry (H)</i> <i>Social Justice and Modern Media (H)</i> <i>Sports in Literature (H)</i> <i>Write, Camera, Action (H)</i> <i>African American Literature (EC)</i> <i>Graphic Novel (EC)</i> <i>Intro to Film Studies (EC)</i> <i>Literature of the Holocaust (EC)</i> <i>Modern American Literature (EC)</i> <i>Public Speaking (EC)</i>

	<i>9th Grade</i>	<i>10th Grade</i>	<i>11th Grade</i>	<i>12th Grade</i>
<i>Elective Courses</i>		<i>Grade 11 & 12 electives with permission from Dept. Chair</i>	<p><i>Grade 11 and 12 students may take any topics course for elective credit. Topics courses are listed in the 12th grade column above.</i></p> <p><i>To enroll in an Early College (EC) elective, students must have taken and earned credit in English Composition 1 and 2.</i></p>	
<i>Support Courses</i>	<i>Balanced Literacy</i>	<i>Balanced Literacy</i>	<i>Reading and Writing in the 21st Century</i>	

Notes:

Course placement into College, Honors, High Honors, Advanced, or Advanced-AP/EC/DE depends on a student's performance in their ELA class during the previous year and the recommendation of their ELA teacher. Students may appeal to the ELA Department Chair to take a course for which they have not been recommended or for which they have not met the stated prerequisites.

Grade 9-11 Courses

English I

Level: College/Honors/High Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Placement is based on a combination of middle school grades, a student's iReady and MCAS scores, and teacher recommendations. Enrollment in high honors requires the completion of a summer assignment.

Grade Level: 9

Fulfills: ELA Graduation Requirement

This course is designed to help students successfully transition to high school by building essential, foundational communication skills. The course provides strategies and routines to help students become active readers, stronger writers, and confident speakers and listeners. Students read a range of text-types, with diverse points of view, and learn to interact with these texts in order to make meaningful personal connections. Particular emphasis is placed on the writing process as students practice narrative, informational and argument writing.

English II

Level: College/Honors/High Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Placement is based on English I grades and teacher recommendation. Enrollment in high honors requires the completion of a summer assignment.

Grade Level: 10

Fulfills: ELA Graduation Requirement

This course explores the universal nature of storytelling and its unique ability to capture our imaginations, propel us into action, and compel us to observe and engage with the world around us. Students will read a broad range of texts and digital resources that tell stories from diverse perspectives. Through critical reading and discussion of these texts, students will closely examine the varied methods authors use to connect with their audience and bring their stories to life. Students will analyze texts for the use of perspective, diction, rhetoric, and purpose. Writing practice will focus on students utilizing these same methods to craft thoughtful and impactful narrative, expository, and persuasive responses. This course places a strong emphasis on MCAS preparation, as students take this exam in the spring of their sophomore year.

English III

Level: College/Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Placement is based on English II grades and teacher recommendation.

Grade Level: 11

Fulfills: ELA Graduation Requirement

This course focuses on reading, writing and thinking skills in the context of American Literature. Students study selected works by notable American authors as a means of exploring the American experience through diverse voices and over time. Continued emphasis is placed on the writing process, with special attention paid to the development of logical argument and the use of persuasive techniques. Emphasis is placed on increasing levels of competence in mechanics, content, organization and style in various types of writing situations. Students will complete a research-based project that demonstrates effective evaluation of sources, careful analysis of information, clear topic development and increasingly sophisticated use of diction and style.

English Composition I and II - MCC
Level: Post-Secondary
Credits: 2.5 LHS/3 MCC per semester

Grade Level: 11, 12
Fulfills: ELA Graduation Requirement

Prerequisites: Successful completion of English 2A/2B and 3A/3B, with a minimum grade of 80 in high honors, 85 in honors and 90 in college level course AND ELA teacher recommendation. A grade of 70 or better in English Composition I is required to continue in English Composition II. This course requires the completion of a summer assignment. Failure to complete the summer assignment will result in removal from the course.

English Composition focuses on developing students' academic writing, close reading, and critical thinking skills. Using a writing process that includes pre-writing, drafting, instructor and peer feedback, and revision, students will produce written essays with arguable thesis statements and appropriate use of standard English. Students will produce a total of 18-24 pages of formal polished writing in three or more source-based essays.

During the second semester, students continue to build on skills learned in English Composition I. Students will sharpen their academic writing, close reading, and critical thinking skills, as well as develop research skills. Students will produce thesis-driven, evidence-based essays that employ appropriate rhetorical strategies. In English Composition 2, students will be introduced to at least two documentation styles and will produce a total of 18-24 pages of polished formal writing in three or more source-based essays. Students who successfully complete this course will receive both LHS English graduation credit and MCC credit.

Department Support Courses

Balanced Literacy
Level: Support
Credits: 2.5 per semester/5 per year

Grade Level: 9, 10
Fulfills: Elective credit and credit recovery

Prerequisites: Placement is based on a combination of middle school grades, a student's iReady and MCAS scores, and teacher recommendations.

Balanced Literacy is designed to support students who are reading below grade level. The program directly addresses individual student needs through adaptive instructional software, high-interest fiction and non-fiction, and direct instruction in reading and writing skills. **This course is designed to be a complement to English 1 and English 2.**

Reading and Writing in the 21st Century
Level: College
Credits: 2.5 per semester/5 per year
Prerequisites: English 1, 2, or 3

Grade Level: 11, 12
Fulfills: ELA Graduation Requirement

Reading and Writing in the 21st Century supports students to strengthen reading and writing skills with a specific focus on engaging with contemporary texts. Students will explore how modern voices echo the literary traditions of the past while also representing the ideas and experiences of today. Students will write to explain, to argue, and to express personal connections to the texts. **This course is designed to support students working to recover graduation credits.**

Grade 12 Courses and Department Electives

English IV
Level: College
Credits: 2.5 per semester/5 per year
Prerequisites: English III

Grade Level: 12
Fulfills: ELA Graduation Requirement

This course explores the art of storytelling with an emphasis on personal narratives, as students work to fine-tune their voices and share their own stories with the world. Students read and analyze a variety of storytelling platforms, paying particular attention to form, style, and purpose. Through guided reflection and regular writing assignments, students explore significant moments, challenges, triumphs and turning points in their lives. The writing, discussion, and inquiry protocols emphasized in this course assist students to confidently analyze the stories they encounter. These practices will also prepare students to share themselves with the larger, post-high school world.

British Traditions
Level: Honors
Credits: 2.5 per semester/5 per year.
Prerequisites: Grade of 70 in honors English 3 or 80 in college-prep English 3

Grade Level: 11, 12
Fulfills: Grade 12 ELA Graduation Requirement

This survey course challenges students through an intensive critical analysis of representative masterpieces of British Literature from the Anglo- Saxon Period forward, students will examine the intellectual, philosophical and social forces that have shaped English society and its literary works. A variety of World Literature selections complement this study. This challenging course will place an emphasis on improving the skills of interpretation and critical analysis of readings. Students are expected to contribute to the oral dialogue of the class, write original analytical and creative papers, and to read extensively outside of class. Particular attention is paid to writing mastery, improving the content, form, variety and style of student writing.

Other Worlds
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Grade of 70 in honors English 3 or 80 in college-prep English 3

Grade Level: 11, 12
Fulfills: Grade 12 ELA Graduation Requirement

Other Worlds explores the dark, strange, and disturbingly familiar worlds of dystopian literature. We will examine the twisted realities of literary works such as *Fahrenheit 451* and *The Handmaid's Tale*, as well as other notable texts from the genre. Students will consider how these imagined worlds represent universal ideas that are rooted in reality. The writing, discussion, and inquiry protocols emphasized in this course reinforce grade-level content standards as outlined by the Massachusetts State ELA Curriculum Frameworks.

Sports Literature and Writing
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Grade of 70 in honors English 3 or 80 in college-prep English 3

Grade Level: 11, 12
Fulfills: Grade 12 ELA Graduation Requirement

Sports Literature and Writing explores literature that reflects the unique relationship between sports and society. Students will read and respond to a wide range of literary and informational texts that pay special attention to universal sports-related themes such as gender equity, racism, perseverance, determination, and integrity. The writing, discussion, and inquiry protocols emphasized in this course reinforce grade-level content standards as outlined by the Massachusetts State ELA Curriculum Frameworks.

Race and Ethnicity in Literature**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: Grade of 70 in honors English 3 or 80 in college-prep English 3****Grade Level: 11, 12****Fulfills: Grade 12 ELA Graduation Requirement**

Race and Ethnicity in Literature explores issues related to race and ethnicity in American society. These issues include: the meaning of race and ethnicity; the extent of racial and ethnic inequality in the U.S., the nature of racism, discrimination, and racial stereotyping; and the development of racial identity. Students will engage with a wide range of genres aimed at supporting students to think critically about their own racial and ethnic identity, and to understand how this identity reflects and shapes life experiences. The writing, discussion, and inquiry protocols emphasized in this course reinforce grade-level content standards as outlined by the Massachusetts State ELA Curriculum Frameworks.

Literature of the Holocaust**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: Grade of 70 in honors English 3 or 80 in college-prep English 3****Grade Level: 11, 12****Fulfills: Grade 12 ELA Graduation Requirement**

Literature of the Holocaust explores literature with the Holocaust as its central theme. Students will read and respond to a variety of genres including fiction, nonfiction, poetry, graphic novel, and film. Students will engage in discussions, writing assignments, and creative projects related to the readings. Topics covered include: the history of anti-Semitism, the rise of the Nazi Party in Germany, bearing witness and survivor testimony, stories of resistance, stories of rescue and heroism, the second generation, and response and reflection to catastrophe with a strong emphasis on survivor perseverance. A great deal of time will also be spent discussing current events as they relate to the Holocaust. The writing, discussion, and inquiry protocols emphasized in this course reinforce grade-level content standards as outlined by the Massachusetts State ELA Curriculum Frameworks.

Diverse Voices in Literature**Level: College-prep****Credits: 2.5 per semester/5 per year.****Prerequisites: Grade of 70 in honors English 3 or 80 in college-prep English 3****Grade Level: 11, 12****Fulfills: Grade 12 ELA Graduation Requirement**

Diverse Voices in Literature explores cultural diversity through the reading and discussion of writings by Native American, Latin, Asian, African American, and Middle Eastern authors. The course is designed to bring awareness to various cultural issues and give 'voice' to authors and perspectives often underrepresented in literature classes. Students will be challenged to analyze their preconceived notions of the world around them, and to be critical and reflective on how everyone functions and cohabitates in the world. The course will examine a variety of sources including novels, short stories, poems, journal and newspaper articles, and various digital media. The writing, discussion, and inquiry protocols emphasized in this course reinforce grade-level content standards as outlined by the Massachusetts State ELA Curriculum Frameworks.

The Graphic Novel**Level: College-prep****Credits: 2.5 per semester/5 per year****Prerequisites: Grade of 70 in honors English 3 or 80 in college-prep English 3 to enroll in Honors****Grade Level: 11, 12****Fulfills: Grade 12 ELA Graduation Requirement**

Students will develop their capacity to read, analyze, and talk about graphic narratives. Students will acquire and apply the basic vocabulary of graphic storytelling as they develop the skills needed for visual and textual analysis. The course will introduce a range of text, such as Maus I, Persepolis, and American Born Chinese. These works will be read with special attention paid to the cultural perspectives they offer. Students will learn how to develop written analysis of this genre, and the characteristics specific to it, through application of the writing process. The writing, discussion, and inquiry protocols emphasized in this course reinforce grade-level content standards as outlined by the Massachusetts State ELA Curriculum Frameworks.

Short Fiction and Poetry**Level: Honors****Credits: 2.5 per semester****Prerequisites: Grade of 70 in honors English 3 or 80 in college-prep English 3****Grade Level: 11, 12****Fulfills: Grade 12 ELA Graduation Requirement**

Short Fiction and Poetry explores how short fiction and poetry offer powerful lessons about our common human experiences. Students will read a wide variety of short stories and poetry to improve close reading skills, and strengthen analysis of text, while building an understanding of universal truths. Students will develop their own voices as writers, creating and sharing their work through a variety of communication platforms. The writing, discussion, and inquiry protocols emphasized in this course reinforce grade-level content standards as outlined by the Massachusetts State ELA Curriculum Frameworks.

Creative Writing**Level: College, Honors****Credits: 2.5 per semester****Prerequisites: Grade of 70 in honors English 3 or 80 in college-prep English 3 to enroll in Honors****Grade Level: 11, 12****Fulfills: Grade 12 ELA Graduation Requirement**

Creative Writing provides students with experience in developing many different forms of writing, including drama, poetry, fiction, and essays. The inter-relationship of writing and reading is emphasized throughout the course. By examining the work of professional writers, students will gain valuable insights into the art and craft of writing. All students in this course will be expected to share their work through a variety of publishing platforms. The writing, discussion, and inquiry protocols emphasized in this course reinforce grade-level content standards as outlined by the Massachusetts State ELA Curriculum Frameworks. It is recommended that this course be paired with **Expository Writing**.

Expository Writing**Level: College, Honors****Credits: 2.5 per semester****Prerequisites: Grade of 70 in honors English 3 or 80 in college-prep English 3 to enroll in Honors****Grade Level: 11, 12****Fulfills: Grade 12 ELA Graduation Requirement**

Expository Writing teaches practical and effective strategies for preparing for the demands of post-high school writing. Students will learn about the conventions of writing in a range of academic disciplines and in different types of papers, such as close readings of texts, reflective responses, and research-based arguments. Through intensive in-class writing, and discussion of thought-provoking articles, students will develop their critical thinking skills and learn to communicate their ideas clearly and persuasively. The writing, discussion, and inquiry protocols emphasized in this course reinforce grade-level content standards as outlined by the Massachusetts State ELA Curriculum Frameworks. It is recommended that this course be paired with **Creative Writing**.

Gender in Literature**Level: Honors****Credits: 2.5 per semester****Prerequisites: Grade of 70 in honors English 3 or 80 in college-prep English 3****Grade Level: 10, 11, 12****Fulfills: Grade 12 ELA Graduation Requirement,**

Gender and Identity looks at gender from multiple aspects. Starting with ancient myths and views around gender and moving to modern texts which explore the social construct of gender. The course will include literature, music, religious texts, folklore, and theoretical readings that reflect differing attitudes toward what gender is and how different genders should contribute to society. This course fulfills the program requirements of the Education Pathway. This course fulfills program requirements of the Education Pathway.

Social Justice and Modern Media**Level: Honors****Credits: 2.5 per semester****Prerequisites: Grade of 70 in honors English 3 or 80 in college-prep English 3****Grade Level: 10, 11, 12****Fulfills: Grade 12 ELA Graduation Requirement**

Social Justice and Modern Media is a project-based course where collaborative groups will work together using traditional mass media and modern social media to examine issues of current social importance. Student groups will work to identify, research, describe, and highlight possible solutions for the social problems they identify. A project management process used by professionals in communications media will be taught to students, who will be responsible for creating storyboards, voice-over narratives, short stories, short social media, and longer documentary videos. Basic standards of videography and broadcast writing, along with ethical journalism, will be applied. Speaking and interpersonal abilities are integral to this class for interviews and appearances on camera. This course will address the hands-on use of related technologies, including work in a professional multi-media center. Students will develop a topic of interest to them and present a positive solution and potential outcome to a local, state, national or global issue.

Write, Camera, Action**Level: Honors****Credits: 2.5 per semester****Prerequisites: Grade of 70 in honors English 3 or 80 in college-prep English 3****Grade Level: 10, 11, 12****Fulfills: Grade 12 ELA Graduation Requirement**

This course explores the power of storytelling and the craft of filmmaking. Students learn to write scripts and dialogue, and produce, direct, and act in their own scenes and short films. Students will analyze iconic scenes in film and television, create scripts with a focus on character development, and learn about voice, presence and on-camera techniques to create believable characters on film. Students will develop directorial and post-production skills for a final film project. The writing, discussion, and inquiry protocols emphasized in this course reinforce grade-level content standards as outlined by the Massachusetts State ELA Curriculum Frameworks.

AP Courses

AP Literature and Composition**Level: AP****Credits: 2.5 per semester/5 per year****Prerequisites: Successful completion of English 3, with a minimum grade of 80 in high honors, 85 in honors, and 90 in college level course, and the recommendation of the student's English 3 teacher. This course requires the completion of a summer assignment. Failure to complete the summer assignment will result in removal from the course.****Grade Level: Grade 12****Fulfills: ELA Graduation Requirement**

AP Literature and Composition is designed to give self-motivated students a college experience in the areas of literature and composition prior to their graduation from high school. This course is demanding in the amount and variety of assigned readings and the expectation for close literary analysis. Through intensive study of major literary works, students sharpen their ability to think critically and communicate effectively. Writing assignments emphasize the precise use of language and the effective selection and organization of materials for critical responses. For the qualified student, this course offers the unique advantage of allowing him or her to apply a successful grade on the Advanced Placement Test of the College Entrance Board toward the freshman English requirement at most colleges.

Dual Enrollment Courses

English Composition I and II - MCC

Level: Early College

Credits: 2.5 LHS/3 MCC per semester

Prerequisites: Successful completion of English 2A/2B and 3A/3B, with a minimum grade of 80 in high honors, 85 in honors and 90 in college level course AND ELA teacher recommendation. A grade of 70 or better in English Composition I is required to continue in English Composition II. This course requires the completion of a summer assignment. Failure to complete the summer assignment will result in removal from the course.

Grade Level: 11, 12

Fulfills: ELA Graduation Requirement

English Composition focuses on developing students' academic writing, close reading, and critical thinking skills. Using a writing process that includes pre-writing, drafting, instructor and peer feedback, and revision, students will produce written essays with arguable thesis statements and appropriate use of standard English. Students will produce a total of 18-24 pages of formal polished writing in three or more source-based essays.

During the second semester, students continue to build on skills learned in English Composition I. Students will sharpen their academic writing, close reading, and critical thinking skills, as well as develop research skills. Students will produce thesis-driven, evidence-based essays that employ appropriate rhetorical strategies. In English Composition 2, students will be introduced to at least two documentation styles and will produce a total of 18-24 pages of polished formal writing in three or more source-based essays. Students who successfully complete this course will receive both LHS English graduation credit and MCC credit.

Public Speaking - MCC

Level: Early College

Credits: 2.5 LHS/3 MCC

Prerequisites: Successful completion of, or concurrent enrollment in, English Composition - MCC

Grade Level: 11, 12

Fulfills: Grade 12 ELA Graduation Requirement

Public Speaking, Persuasion, and Presentations analyzes a variety of speeches, focusing on the power of persuasion. Emphasis will be placed on modern technology as a tool for research, preparation and creation of persuasive, informative and narrative speeches. Students will also learn and practice the speaking, listening and interpersonal skills necessary to be effective communicators in academic settings, the workplace and the community.

African American Literature - MCC

Level: Early College

Credits: 2.5 LHS/3 MCC

Prerequisites: Successful completion of, or concurrent enrollment in, English Composition - MCC

Grade Level: 11, 12

Fulfills: Grade 12 ELA Graduation Requirement

Students will explore the work of African American writers past and present. The course is designed to give students an understanding and appreciation of African American Literature, including some or all of the following forms from earlier periods to contemporary Black literature: early poetry, spirituals, essays, oratory, and fiction. Students will explore the multi-faceted traditions of African American Literature as a means of exploring the culture of those people of African descent to better understand their socio-political origins, traditions, customs and contributions in the shaping and development of popular culture.

Introduction to Film Studies & Analysis - MCC
Level: Early College
Credits: 2.5 LHS/3 MCC
Prerequisites: Successful completion of, or concurrent enrollment in, English Composition - MCC

Grade Level: 11, 12
Fulfills: Grade 12 ELA Graduation Requirement

This course introduces students to the language of film analysis (mise-en-scene, cinematography, editing, and sound), as well as the elements of film form and narrative structure. Additionally, students are exposed to a broad overview of the historical developments and social implications of the medium.

The Graphic Novel - MCC
Level: Early College
Credits: 2.5 LHS/3 MCC
Prerequisites: Successful completion of, or concurrent enrollment in, English Composition - MCC.

Grade Level: 11, 12
Fulfills: Grade 12 ELA Graduation Requirement

This course offers a study of graphic narratives, including the conventions unique to this genre. Students have the opportunity to examine a range of stories told through this unique, vital medium. The focus is on graphic novels, but will also explore other graphic narratives such as comics and digital comics.

Literature of the Holocaust - MCC
Level: Early College
Credits: 2.5 LHS/3 MCC
Prerequisites: Successful completion of, or concurrent enrollment in, English Composition - MCC

Grade Level: 11, 12
Fulfills: Grade 12 ELA Graduation Requirement

In this course, students will explore literature with the Holocaust as its central theme. Students will read and respond to a variety of genres including fiction, nonfiction, poetry, the graphic novel, and film. Topics covered include: the history of anti-Semitism, bearing witness and survivor testimony, stories of resistance, stories of rescue and heroism, the second generation, and response and reflection to catastrophe with a strong emphasis on survivor perseverance.

Modern American Literature - MCC
Level: Early College
Credits: 2.5 LHS/3 MCC
Prerequisites: Successful completion of, or concurrent enrollment in, English Composition - MCC

Grade Level: 11, 12
Fulfills: Grade 12 ELA Graduation Requirement

This course introduces students to representative American authors from the mid-19th century to the present day. Selections vary and may include Whitman, Twain, Dickinson, Hughes, Hansberry, Steinbeck, Kerouac, O'Brien, Angelou, Orange, and others

English Courses Quick Reference

0023/0024	C-Balanced Literacy	Grade 9
0131/0132	C-English 1	Grade 9
0141/0142	H-English 1	Grade 9
0151/0152	HH-English 1	Grade 9
0023/0024	C-Balanced Literacy	Grade 10
0231/0232	C-English 2	Grade 10
0241/0242	H-English 2	Grade 10
0251/0252	HH-English 2	Grade 10
0331/0332	C-English 3	Grade 11
0341/0342	H-English 3	Grade 11
0606/0607	HH-English Composition	Grade 11,12
0431/0432	C-English 4	Grade 12
0441/0442	H-British Traditions	Grade 11,12
0466/0467	C-Reading and Writing in the 21st Century	Grade 11,12
0519/0520	H-Other Worlds	Grade 11,12
0528/0529	H-Sports Literature and Writing	Grade 11,12
0552/0553	H-Race and Ethnicity in Literature	Grade 11,12
0555/0556	H-Literature of The Holocaust	Grade 11,12
0561/0562	C-Diverse Voices in Literature	Grade 11,12
0661/0662	AP-Literature and Composition	Grade 12
0526	H-Short Fiction and Poetry	Grade 11,12
0531	C-Creative Writing	Grade 11,12
0533	H-Creative Writing	Grade 11,12
0537	C-Expository Writing	Grade 11,12
0538	H-Expository Writing	Grade 11,12
0567	H-Gender in Literature	Grade 12
0580	H-Social Justice and Modern Media	Grade 10,11,12
0585	H-Write, Camera, Action	Grade 10,11,12
0601	EC-Public Speaking	Grade 11,12
0603	EC-African American Literature	Grade 11,12
0605	EC-Intro to Film Studies and Analysis	Grade 11,12
0609	EC-The Graphic Novel	Grade 11,12
0557	Literature of the Holocaust	Grade 11,12
0587	EC-Modern American Literature	Grade 11,12

SOCIAL STUDIES

Dr. Amy Gerade, Department Chair

The Social Studies Department offers a four-year course of study in history and the social sciences. The content, reading materials, instructional activities, and assessments are designed to: promote higher-level analytic, evaluative, and communication skills; prepare students for college and career; and nurture active, productive, and responsible civic engagement. The graduation requirement and all courses in history and social science at Lowell High School adhere to relevant requirements and standards set by Commonwealth of Massachusetts law, the 2018 Massachusetts History and Social Science Framework, requirements set by the Lowell School Committee, and the Common Core State Standards, with additional reference to the C3 Standards of the National Council for the Social Studies.

Each student must pass five (5) credits in World History and ten (10) credits in U.S. History to graduate from LHS. Some Social Studies department courses are also linked with the Education Pathway. Most elective courses have prerequisites that are listed in their course description. *Exceptions to any prerequisites require written permission from the Social Studies Department Chair.*

	9th Grade	10th Grade	11th Grade	12th Grade
Core Courses	Survey of World History (CP, H, HH)	United State History 1 (CP, H) AP US 1 AP European History (Lyceum) Topics in World History (CP)	United States History 2 (CP, H) HH US 1 AP US 2	AP US 2
Possible Electives		Teaching in an Inclusive Classroom (DE-UML)	Introduction to Global Studies (H) Education in America (H) Constitutional Law (H) The Age of Jim Crow (H) The Cold War & Global War on Terror (H) American History Through Our Eyes (H) History of Sport (H) Intro to Sociology (H) Child and Adolescent Psychology (H) Human Migration Through History (CP) America & the World Wars (CP) Lowell: Immigration and Industrialization (CP) Intro to Criminal Justice (CP) AP African American Studies AP US Government and Politics AP European History Teaching in an Inclusive Classroom (DE-UML) Discover Teaching (DE-MCC) Intro to Sociology (DE-MCC) Intro to Psychology (DE-MCC) Intro to Philosophy (DE-MCC)	

Course placement into College, Honors, High Honors, Advanced, or Advanced-AP/EC/DE depends on the recommendation of a prior-year Social Studies teacher. Students may appeal to the Department Chair for Social Studies to take a course for which they have not been recommended or for which they have not met the stated prerequisites

Required Courses

Survey of World History A and B
Level: College/Honors/High Honors
Credits: 2.5 per semester/5 per year
Prerequisites: None

Grade Level: 9
Fulfills: History Graduation Requirement

Survey of World History begins with an introduction to the study of the world, and then looks at how world history shapes what we see today, focusing on world religions, regional history, patterns of interaction among different parts of the world, the development of ideas of law and rights, and other topics found in the Massachusetts Curriculum Framework for History and Social Science, and the Common Core State Standards. It integrates global studies, world history, geography, economics, religion, demographics, and government. It emphasizes the development of a rich historical vocabulary, primary source analysis, and research techniques. Students will engage in a wide variety of enriching learning activities and assessments as they increase their knowledge of the global community.

Specific sections of this course will be designed specifically for students who are in the early stages of English language acquisition, with an ACCESS score of 1.0-1.9 and who have been in the U.S. for one year or less.

Topics in World History A and B
Level: College/Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Non-Completion of Survey of World History

Grade Level: 9, 10
Fulfills: History Graduation Requirement

Topics of World History is an available course for students who did not successfully pass Survey of World History A or B. This course will focus on skill development by walking through major historical world events from ancient times until the 1700s. Students will be able to examine diverse perspectives through the use of primary and secondary sources with an emphasis on reading comprehension and writing output.

United States History 1 A and B
Level: College/Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Completion of Survey of World History

Grade Level: 10
Fulfills: History Graduation Requirement

This course represents a political, sociocultural, and economic study of the United States from 1400 - 1918. Students will explore identity in the context of the developing American landscape as they engage with themes of culture, colonization, government, and resistance. Students will be empowered to be critical thinkers, equity advocates, and engaged citizens as they analyze US History through different lenses. Through this process, students will examine diverse experiences and perspectives, and reflect on the ways in which power is used, maintained, and challenged through the early 20th century. The curriculum focuses on change and continuity over time to gain the historical skills of evaluation and comparison from multiple narratives.

Specific sections of this course will be designed specifically for students who are in the early stages of English language acquisition, with an ACCESS score of 1.0-1.9 and who have been in the U.S. for one year or less.

United States History 2 A and B
Level: College/Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Completion of US 1

Grade Level: 11
Fulfills: History Graduation Requirement

This course represents a political, sociocultural, and economic study of the United States from 1920 to the present. Topics include immigration patterns, the changing role of government, and shifts in foreign policy. Students will be empowered to be critical thinkers, equity advocates, and engaged citizens as they analyze US History through different lenses. Through this process, students will examine diverse experiences and perspectives, and reflect on the ways in which power is used, maintained, and challenged in modern US history. Particular emphasis will be placed on persuasive writing, historical analysis, and interpersonal communication skills. This course includes student engagement in a Civics project.

Specific sections of this course will be designed specifically for students who are in the early stages of English language acquisition, with an ACCESS score of 1.0-1.9 and who have been in the U.S. for one year or less.

AP Courses

United States History 1
Level: High Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Completion of World History and Eng 1 as well as teacher recommendation

Grade Level: 10, 11, 12
Fulfills: History Graduation Requirement

Advanced prepares students to take the Advanced Placement exam in U.S. History, taken during the spring semester of 4362 AP US History 2 - Advanced. Beginning with European colonization and ending at the close of the Civil War and Reconstruction, it provides in-depth knowledge and inquiry in every major aspect of U.S. History. The course builds skills in working with primary and secondary sources as well as assessments developed with College Board AP standards. The course is reading and writing intensive. *NOTE: This course is required for students enrolled in the Latin Lyceum during their junior year. Students who take U.S. History 1 - Advanced are expected to take AP U.S. History 2 - Advanced to complete their US History graduation requirement.*

AP United States History 2
Level: AP
Credits: 2.5 per semester/5 per year
Prerequisites: AP United States History 1

Grade Level: 10, 11, 12
Fulfills: History Graduation Requirement

Advanced analyzes the development of the United States from Reconstruction through the present day. This course stresses political history as well as examining economic development, diplomatic, intellectual, social, urban, and ethnic history. The AP course in U.S. History is designed to meet the standards of the College Board's Advanced Placement program as well as the Massachusetts Curriculum Frameworks. The course builds skills in working with primary and secondary sources as well as assessments developed using College Board AP standards. The course is reading and writing intensive. This course is required for students enrolled in the Latin Lyceum. *Transfer into AP U.S. History 2 from any other course is reviewed on a case-by-case basis by the Department Chair for approval.*

AP European History**Level: AP****Credits: 2.5 per semester/5 per year****Prerequisites: Completion of World History (HH) OR AP US 2 OR Teacher Recommendation****Grade Level: 10, 11, 12****Fulfills: History Graduation Requirement**

European History is for students who wish to develop a broader base in university-level history. The course begins with the Renaissance and the religious upheavals that marked the emergence of early modern Europe and continues up to the present day. It follows a thematic as well as a chronological sequence to acquaint students with all major religious, political, social, economic, and artistic movements leading to the formation of the major nation states. Students are required to master a series of outside reading assignments and to demonstrate advanced analytical and writing skills.

AP Government and Politics**Level: AP****Credits: 2.5 per semester/5 per year****Prerequisites: Completion of US I OR US 2 and teacher recommendation****Grade Level: 11, 12****Fulfills: History Graduation Requirement**

U.S. Government and Politics focuses on the study of the United States Constitution, public policy, political behavior, political and government institutions, civil liberties, and in-depth case studies of landmark Supreme Court decisions. This rigorous AP U.S. Government and Politics course has been designed to meet the standards of the College Board's Advanced Placement program. All students enrolled in this full year course must take the AP College Board subject test.

AP African American Studies**Level: AP****Credits: 2.5 per semester/5 per year****Prerequisites: Completion of US I or US 2 and teacher recommendation****Grade Level: 11, 12****Fulfills: History Graduation Requirement**

AP African American Studies is an interdisciplinary course that examines the diversity of African American experiences through direct encounters with authentic and varied sources. Students explore key topics that extend from early African kingdoms to the ongoing challenges and achievements of the contemporary moment. Given the interdisciplinary character of African American studies, students in the course will develop skills across multiple fields, with an emphasis on developing historical, literary, visual, and data analysis skills. This course foregrounds a study of the diversity of Black communities in the United States within the broader context of Africa and the African diaspora.

AP Psychology**Level: AP****Credits: 2.5 per semester/5 per year****Prerequisites: Completion of US I OR US 2 and teacher recommendation****Grade Level: 11, 12****Fulfills: History Graduation Requirement**

The Psychology AP course introduces students to the study of the behavior and mental processes of human beings. Topics explored include: Scientific Inquiry, Biopsychology, Development and Learning, Socio-cultural Context, Cognition, Individual Variation, and Applications of Psychological Science. Students investigate the facts, principles, and phenomena associated with each of the major domains within psychology. This AP Psychology course has been designed to meet the standards of the College Board's Advanced Placement program. All students enrolled in the AP Psychology course must take the College Board AP Psychology exam to complete the course in good standing.

Early College Courses

Intro To Sociology - MCC
Level: Early College
Credits: 2.5 LHS/3 MCC
Prerequisites: None

Grade Level: 11,12
Fulfills: Credit towards Graduation

This course is an introduction to the study of society and social behavior. Topics covered include sociological theory, research methods, culture, socialization, deviance, social institutions, social stratification, global inequalities, gender, race, ethnicity, social movements and social change.

Intro To Psychology - MCC
Level: Early College
Credits: 2.5 LHS/3 MCC
Prerequisites: None

Grade Level: 11,12
Fulfills: Credit towards Graduation

This course introduces students to the scientific study of the mind and behavior and to the applications of psychological theory to life. Topics include: research methods; biopsychology; lifespan development; memory; learning; social psychology; personality; and psychological health and disorders. This course will establish a foundation for subsequent study in psychology.

Intro To Philosophy - MCC
Level: Early College
Credits: 2.5 LHS/3 MCC
Prerequisites: None

Grade Level: 12
Fulfills: Credit towards Graduation

An introductory study of traditional and contemporary philosophies and an analysis of how their ideas apply to living today. Students in the course explore such issues as: the meaning and purpose of life, the nature of religious belief, the justification of moral values, and the meaning of human freedom.

Discover Teaching - MCC
Level: Early College
Credits: 2.5 LHS/3 MCC
Prerequisites: None

Grade Level: 11, 12
Fulfills: Credit towards Graduation

This course will explore major aspects of teaching and learning. Intended to help students decide if they wish to pursue a career in K-12 education, the course integrates readings, class discussions, and other media to explore the world of education. Course topics provide an overview of the historical and theoretical foundations of education with an examination of issues related to educators and students involved in K-12 education. Included will be discussions around diversity, equity, socioeconomics, gender, race, ethnicity, special education distinctions, the changing standards for future educators, ethics, and technology.

Dual Enrollment Courses

Teaching in the Inclusive Classroom - UML
Level: Post-Secondary
Credits: 2.5 LHS/3 UML
Prerequisites: None

Grade Level: 10, 11, 12
Fulfills: Credit towards Graduation

This course introduces students to what it means to teach in an inclusive elementary classroom, that values the diversity that all students bring to the classroom and operates from the lens of anti-racism and social justice. You will be introduced to designing standards-based lesson plans with measurable learning outcomes. Additionally, you will begin to learn the importance of both formative and summative assessments. You'll be introduced to classroom management techniques to create a safe and effective learning community. You will also be introduced to effective strategies for differentiation of instruction to make learning accessible to all students. Google Classroom will be used as a platform throughout the course, for online discussions, submission of all assignments, and sharing of all course information.

Elective Courses

Lowell Immigration and Industrialization
Level: College
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

Lowell: Immigration and Industrialization studies our city from multiple angles: history, sociology, demographics, urban geography, and urban anthropology. A major theme in this course is the way in which Lowell reflects America's experience of industrialization and immigration. Course projects will look both at the history and the present of Lowell. Students will participate in the collection and curation of an oral history collection, and in the Generation Citizen program. This course is provided in cooperation with the Tsongas Industrial History Center and UML.

Intro to Criminal Justice
Level: College
Credits: 2.5 per semester

Grade Level: 10, 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

This elective course is designed to give students an overview of the Criminal Justice system as an introduction to our Criminal Justice Pathway. Over the course of the semester, students will be introduced to the structures, systems and stakeholders that make up both the adult and juvenile justice systems. They will investigate the impact of crime on both society at large as well as rights afforded the victims, the accused and the convicted. This course will count towards the Criminal Justice Pathway designation.

America and the World Wars
Level: College
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

WWI was known as the "Great War" and WWII came to be known as the "Good War." America was fundamentally changed by both wars. WWI saw a reluctant United States involve itself in a European war for the first time; WWI led to the Roaring Twenties and a new American view of itself and the affairs of the world. WWII thrust America into the role of a world leader — a role that continues to the current day. It also set the groundwork for the Cold War and many of America's current alliances. America and The World Wars traces the cause, course, and outcomes of America's involvement in each of these wars.

Human Migration Throughout History
Level: College
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

The global movement of human beings is older than recorded history. Using an interdisciplinary approach that includes history, archeology, linguistics, and comparative culture studies, Human Migration seeks to place many contemporary issues surrounding immigration and emigration into a comprehensible framework. We will also study current migration patterns and laws in different countries worldwide. Students will participate in a capstone Model UN simulation within the classroom.

Constitutional Law
Level: Honors
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

With the U.S. Constitution and the 27 Constitutional Amendments at its core, U.S. Government and Constitutional Law challenges students to think critically about the function of civil rights in our everyday lives. The course begins by examining the way in which our government is structured, giving particular attention to our justice system and the reason and purpose of the Bill of Rights and other Constitutional Amendments. The course then turns its attention to a history of the U.S. Judicial System and the processes inherited from Ancient Societies, Great Britain and early colonial tradition. Next, we examine the most important Supreme Court cases in American History and how they play a role in our everyday lives. Finally, through an action civics program inspired by Generation Citizen, U.S. Government and Constitutional Law challenges students to be active, productive, and responsible participants in the civic life of Lowell, Massachusetts, and the United States. This one-semester course covers the founding principles and governmental structures of the United States and Commonwealth of Massachusetts, protocols around governance, citizen engagement, voting, and symbols of the Commonwealth and nation, all through the lens of important Supreme Court cases. This course can count towards the Criminal Justice Pathway designation.

Education in America
Level: Honors
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

In the United States of America, education is required for all youth up to age 16 to 18 years of age. It is the single most important common experience of all Americans. Most people, however, do not have a full understanding of how education in America evolved into the system we have today or what it means to be a teacher in today's rapidly changing environment. The Education in America course introduces students to the historical foundations of U.S. education, including the major movements that shaped American education. It will explore what it means to be a public education teacher. The course will include required readings, projects, research, presentations, and, as a capstone of the course, the opportunity to explore the role of teaching by planning and implementing a lesson in an LHS classroom. Education in America is especially recommended for any student who is interested in education as a future career. It is a required course within the Education Pathway.

The Age of Jim Crow
Level: Honors
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

The Age of Jim Crow first answers the question "what is Jim Crow?" and why the term is at the center of much of America's history around race relations. The course looks at the ways in which Jim Crow laws were conceived, constructed, and enacted, paying special attention to the ways in which they limited the freedoms of Black Americans and other minorities. *The Age of Jim Crow* brings issues raised in American history up to the present, examining both current legacies of Jim Crow and the ways in which different American communities view Jim Crow today, including the Black Lives Matter movement and opposing views.

The Cold War & Global War On Terror
Level: Honors
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

The Cold War arose out of WWII, as the West's response to Soviet hegemony in Eastern and Central Europe as well as the rise of Communist China. The Cold War & Global War on Terror examines the history of the Cold War and the rise of the Nuclear Age; the relationship of the United States, the Soviet Union, and the People's Republic of China; the rise of the American security state; American international relations and military responses to perceived Communist threats; the concept of blowback; the dissolution of the Soviet Union and the end of the Cold War; and the influence of all these historical trends on the present "Global War on Terror" that has arisen in the aftermath of 9/11.

American History Through Our Eyes
Level: Honors
Credits: 2.5 per semester/5 per year

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of Eng US I OR US 2

During this year-long course, the lived experiences of Black, Hispanic, Indigenous, Asian, Pacific Islander, and LGBTQ+ people take center stage, focusing on these groups' contributions to our shared History and the challenges they continue to face as Americans. An inquiry-based approach will focus on a wide variety of primary sources and students' own lived experiences. American History through Our Eyes aims to broaden our perspective of American History so our collective voices are heard in all their diversity. The course also includes a civics action project focusing on a Social Justice issue.

Introduction to Global Studies
Level: Honors
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US 1 OR US 2

Introduction to Global Studies analyzes worldwide current issues from an interdisciplinary framework that includes demographics, geography, economic resources, religion, political/governmental structures, civil society, human rights, and conflict. Contemporary issues are taken from all of the major regions of the world, with an emphasis on those regions from which families have immigrated to Lowell over the years. Through using knowledge gained in interdisciplinary inquiry and skill building in deep analysis, students work to understand the present world and predict likely future outcomes from issues confronting it. Students will participate in a capstone Model UN simulation within the classroom.

History of Sport
Level: Honors
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I

From the dawn of man to the present day, sport has shaped our society in both positive and negative ways. This course is designed to delve into the role sports have played in society from the colonial era until today. It will investigate how unorganized games turned into multimillion dollar leagues and how those decisions influence collegiate athletics. Students will learn how sports serve as a vehicle for political statements and social justice movements. Topics in this course will include but not limited to the ways in which sports reflected and informed issues of race, class, gender, ethnicity and international politics, amateurism and the rise of athletic clubs; women's sports; racial segregation in sports; athletic rivalries during the Cold War; and the globalization of American sports.

Intro to Economics and Finance
Level: Honors
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I

Intro to Economics & Finance introduces the study of Microeconomics, the analysis of the smaller, individual pieces of larger economic structures, and Macroeconomics, the analysis of the economic behavior of states and governments. This course begins with a survey of basic economic concepts, and then applies these concepts to personal, institutional, and social economic decisions. Students look at how decisions to buy and sell affect prices, output, and employment. Students also study the various factors that influence individual economic decisions and how the market reacts to the decisions of individuals. Students analyze the impact of price changes on supply and demand and the relationship between consumers and producers; and students analyze different market structures. In the macroeconomic realm, students survey and apply basic macroeconomic concepts relating to institutional, governmental, and social decision-making. The focus of this part of the course is on how decisions to buy, sell, lend, and regulate effect output, employment, income distribution, and the balance of trade. Students examine the factors that determine national income, employment, and prices. Students analyze patterns of consumption and saving, private investment, government policy, business fluctuations, and the interaction between money and national income. The last part of the course looks at international economics including exchange rates, markets, and monetary systems.

Intro to Sociology
Level: Honors
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

This one-semester course is designed to introduce students to sociology as a discipline, a science, and a way of examining the social world. Students will learn the analytical tools and concepts of sociology by engaging in a purposeful survey of the discipline, as well as a more focused study of selected topics. This course will emphasize a sociological perspective on structural and cultural inequalities, particularly those of race, class, and gender. Students will also learn to become knowledgeable consumers of sociological data as presented in the media and academic sources. This course is offered both semesters. **Students may take 4435 EC-MCC Intro to Sociology after taking this course.**

Intro to Psychology
Level: Honors
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

This course is an introduction to the study of society and social behavior. Topics covered include sociological theory, research methods, culture, socialization, deviance, social institutions, social stratification, global inequalities, gender, race, ethnicity, social movements and social change. **Students may take AP Psychology after taking this course.**

Psychology and American Culture
Level: Honors
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

In Psychology & American Culture, psychology concepts will be examined through the lens of American popular culture. The focus of the course is on analysis and writing to synthesize traditional psychological theories and the relevance of those theories to contemporary culture. This course will enable students to become more accomplished critical thinkers and develop the conceptual abilities and analytical skills needed to apply psychological thinking to their own experiences of thinking, feeling, and taking action. Students will recognize how understanding psychology can form a framework for an approach to living and a reflective attitude toward every aspect of life.

Child and Adolescent Development
Level: Honors
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

This one-semester course explores the physical, cognitive, and social development of children from the prenatal stage through adolescence. Exploring important theories of development, the objective of this course is for students to comprehend the different ways that children and adolescents can be understood through the use of different psychological domains. This course is especially relevant for students interested in going into education as their profession. ***Students may take AP or EC-MCC Psychology after taking this course.***

Philosophy and American Culture
Level: Honors
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

In Philosophy & American Culture, philosophy concepts will be examined through the lens of American popular culture. The focus of the course is on analysis and writing to synthesize classical philosophy — including the philosophical texts of Plato, Aristotle, Kant, Kierkegaard, Sartre, Hume, and Locke — and the appearance of those concepts in modern popular culture. This course will enable students to become more accomplished critical thinkers and develop the conceptual abilities and analytical skills needed to think philosophically about such issues as morality, personal freedom, and the nature of reality and human existence. Students will recognize how philosophical ideas can form a framework for an approach to living and a reflective attitude toward every aspect of life.

Cambodia: Culture and Conflict
Level: Honors
Credits: 2.5 per semester

Grade Level: 11, 12
Fulfills: Credits Towards Graduation
Prerequisites: Completion of US I OR US 2

Cambodia: Culture and Conflict explores the history and culture of Cambodia from its earliest beginnings, as a protectorate of France, and as a modern independent nation. Students will also examine the causes, events, and aftermath of the Cambodian Genocide. The incorporation of primary source materials, oral histories, and guest speakers will be instrumental in this course. Students will be required to complete an in-depth research project incorporating technological, written, and presentation components.

Social Studies Course Quick Reference

4183/4184	C-Topics in World History	Grade 9,10
4185/4186	H-Topics in World History	Grade 9,10
4181/4182	HH-Survey of World History	Grade 9
4225/4226	C-US History 1	Grade 10
4227/4228	H-US History 1	Grade 10
4261/4262	HH-US History 1	Grade 10
4333/4334	C-US History 2	Grade 11
4335/4336	H-US History 2	Grade 11
4361/4362	AP-US History 2	Grade 10,11,12
4371	H-Education In America	Grade 11,12
4375	C-Lowell: Immigration and Industrialization	Grade 11,12
4380	C-America and The World Wars	Grade 11,12
4383	H-The Age of Jim Crow	Grade 11,12
4385	H-The Cold War and the Global War on Terror	Grade 11,12
4386/4387	H-American History Through Our Eyes	Grade 11,12
4390	H-Introduction to Global Studies	Grade 11,12
4392	C-Human Migration Throughout History	Grade 11,12
4431	H-Introduction to Sociology	Grade 11,12
4435	EC-Intro To Sociology	Grade 11,12
4443	H-Intro to Psychology	Grade 11,12
4445/4446	AP-Psychology	Grade 11,12
4447	EC-Intro to Psychology	Grade 11,12
4449	H-Psychology and American Culture	Grade 11,12
4451	H-Child & Adolescent Development	Grade 11,12
4473	Philosophy and American Culture	Grade 11,12
4475	EC -Intro To Philosophy	Grade 12
4524	H-Cambodia: Culture & Conflict	Grade 11,12
4551	C-Intro to Criminal Justice	Grade 10,11,12
4561/4562	AP-European History	Grade 10,11,12
4661/4662	AP-Government and Politics	Grade 11,12
4663/4664	AP-African American Studies	Grade 11,12
4367	H-History of Sport	Grade 11,12
4369	H-Constitutional Law	Grade 11,12
4701	DE-Teaching In The Inclusive Classroom	Grade 10,11,12
4703	EC-Discover Teaching	Grade 11,12
4801	H-Economics and Finance	Grade 11,12

Mathematics Department

Timothy Patterson, Department Chair

To function in today's society, mathematical literacy is as essential as verbal literacy. These two kinds of literacy, although different, are not unrelated. Without the ability to read and understand, no one can become mathematically literate. Increasingly, the reverse is also true: without the ability to understand basic mathematical ideas, one cannot fully comprehend the world around them. Therefore, a primary goal of the Mathematics Department is for all students to achieve mathematical literacy. However, mathematical literacy includes more than students being able to do arithmetic and to solve routine mathematical problems. Mathematical literacy requires students to reason and prove, to solve real mathematical problems, to make connections, to use multiple representations of numerical information, and to communicate mathematical information to other people. All of the courses in the Mathematics Department operate with these learning goals in mind.

Lowell High School's graduation requirement is the passing of 15 credits in Mathematics (5 credits of Algebra, 5 credits of Geometry, and 5 additional credits in mathematics).

	<i>9th Grade</i>	<i>10th Grade</i>	<i>11th Grade</i>	<i>12th Grade</i>
<i>Core Courses</i>	<i>Algebra 1C Algebra 1H Algebra 1HH</i>	<i>Geometry C Geometry H Geometry/Analytic Geometry HH Algebra IIC Algebra IIH Algebra II/Trigonometry HH</i>	<i>Algebra IIC Algebra IIH Algebra II/Trigonometry HH Precalculus C Precalculus H Advanced Precalculus/Calculus HH</i>	<i>Precalculus C Precalculus H Advanced Precalculus/Calculus HH Calculus H Calculus AP AB Calculus AP BC</i>
<i>Possible Electives</i>	<i>Transitions to Algebra Exploring Computer Science C</i>	<i>Exploring Computer Science C Mobile Computer Science Principles H Web Development H Computer Science A H Computer Science A AP</i>	<i>Math 3C Math 4C Financial Algebra C Statistics C Statistics H Statistics AP SAT Prep Advanced Quantitative Reasoning C Advanced Quantitative Reasoning H</i>	

Notes: Course placement into College, Honors, High Honors, Advanced, or Advanced-AP/EC/DE depends on the recommendation of a prior-year subject teacher. Students may appeal to the Department Chair to take a course for which they have not been recommended or for which they have not met the stated prerequisites.

Required Courses

Algebra 1

Level: College/Honors/High Honors

Credits: 2.5 per semester/5 per year

Prerequisites: (Honors) *Eligibility for this course is established by teacher recommendation, placement test scores, and a grade of at least 85 in eighth grade mathematics or 75 through 85 in a full year eighth grade Algebra 1 class. For Students in the Freshman Academy (High Honors) Eligibility for this course is established by teacher recommendation, placement test scores, and a grade of at least 90 in eighth grade mathematics or 80 or above in a full year eighth grade Algebra 1 class. For Students in the Freshman Academy*

Grade Level: 9, 10

Fulfills: Algebra Graduation Requirement

Algebra 1 develops reasoning skills in a way that will help students in their future courses and careers. The topics of Algebra 1 allow students to deepen and extend their understanding and engage in methods for analyzing and solving in these critical focus areas: expressions, equations in one variable, relations and functions, linear and nonlinear functions, creating linear equations, linear inequalities, systems of linear equations and inequalities, exponents and roots, exponential functions, polynomials, and quadratic functions.

Specific sections of this course will be designed specifically for students who are in the early stages of English language acquisition, with an ACCESS score of 1.0-1.9 and who have been in the U.S. for one year or less.

Transitions to Algebra/Algebra 1A

Level: College

Requirement

Credits: 2.5 per semester/5 per year

Prerequisites: Approval of Department Head

Grade Level: 9

Fulfills: 2nd Semester Algebra Graduation

Transition To Algebra solidifies Algebra skills and concepts from grades 6, 7, and 8. Students can expect to develop an understanding of operations with rational numbers and working with expressions and linear equations during the first semester. Parts of the course will be tailored to a student's individual needs to fill the gaps in their mathematical learning.

Math Seminar

Level: Non-Weighted

Credits: 2.5 per semester/5 per year

Prerequisites: Co-requisite with Transitions to Algebra

Grade Level: 9

Fulfills: Graduation Elective

Math Seminar aims to give students the mathematical knowledge, skills, and confidence needed to succeed in a standard first year Algebra class. Students will be placed in this course based on their MCAS scores or by recommendation of their 8-th grade math teacher.

Geometry
Level: College/Honors/High Honors
Credits: 2.5 per semester/5 per year
Prerequisites: None

Grade Level: 10
Fulfills: Geometry Graduation Requirement

Geometry develops a view of logical thinking and applied Algebra as well as its applications to the physical world. Properties of lines, angles and triangles are examined and in some cases deduced from other properties. The idea of congruence is introduced and the classical postulates and theorems are introduced and discussed. Properties of polygons are included. Transformations are studied. **(Honors)** There is much greater emphasis on geometry as a postulate based and deductive system. Patterns of inference and other aspects of logical thinking and Applied Algebra are discussed and results are obtained by proof. (High Honors) Geometry and Analytic Geometry (Pre-Calculus A) is a fast paced in-depth course that places emphasis on Geometry as a postulate based and deductive system and includes Coordinate and Analytic Geometry and 3-Dimensional figures.

Specific sections of this course will be designed specifically for students who are in the early stages of English language acquisition, with an ACCESS score of 1.0-1.9 and who have been in the U.S. for one year or less.

Algebra 2
Level: College/Honors/High Honors
Credits: 2.5 per semester/5 per year

Grade Level: 10, 11, 12
Fulfills: Algebra Graduation Requirement

Prerequisites: Successful completion of Algebra 1 with teacher recommendation is required. This course may be taken concurrently with Geometry & Analytical Geometry by students with at least 90 in Algebra 1 - Honors and a score of meeting expectations in the MCAS test.

Algebra 2 includes how various properties of numbers are derived from Postulates for the real number system. Topics include relations and functions, linear equations, inequalities, and systems, quadratic functions, inverses and radical functions, exponential functions, logarithmic functions, rational functions, trigonometric functions, trigonometric identities and equations. (High Honors) Algebra 2 & Trigonometry combines the three semesters of courses Algebra 2 and Pre-Calculus (Trigonometry) into two semesters.

Precalculus
Level: College/Honors
Credits: 2.5 per semester/5 per year

Grade Level: 11, 12
Fulfills: Graduation Requirement

Prerequisites: (Honors) Successful completion of Geometry and Algebra 2 - Honors with a minimum grade of 80 and a score of at least meeting expectations in the MCAS math test, (College) Successful completion of course Geometry and Algebra 2. Students must attain at least a 70 in both Geometry and Algebra 2 and a score of at least meeting expectations in the MCAS math test.

Pre-Calculus - Honors provides a deeper detail of Analytic Geometry using rectangular coordinates with special attention given to the second-degree equations that describe the conic sections, exposure to the properties of parabolas, hyperbolas, circles and ellipses, and includes further study of functions, rational functions, logarithmic and exponential functions. Also provided is an introduction to concepts of limits and continuity of functions, which are further examined in calculus. Trigonometric functions are defined and discussed, trigonometric identities are studied, and a variety of standard problems involving the use of trigonometric functions are solved. A deeper understanding of angles is pursued.

Advanced Precalculus/Calculus A
Level: High-Honors
Credits: 2.5 per semester/5 per year

Grade Level: 11, 12
Fulfills: Graduation Requirement

Prerequisites: Successful completion of Geometry /Analytic Geometry and Algebra 2 - Honors with a minimum grade of 85 and a score of at least meeting expectations in the MCAS math test.

Advanced Pre-Calculus/Calculus A includes further study of functions, especially logarithmic and exponential, and an introduction to concepts of limits and continuity of functions, which are further examined in Calculus. The trigonometric functions are defined and discussed, trigonometric identities are studied, and a variety of standard problems involving the use of trigonometric functions are solved. This course satisfies a mathematics graduation requirement.

Calculus**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: Successful completion of Pre-Calculus; Recommendation of Pre-Calculus teacher and successful completion of a diagnostic exam.****Grade Level: 12****Fulfills: Graduation Requirement**

Fundamentals of Calculus explores graphs, limits and topics of differential and integral calculus are covered. There is more emphasis on problem solving than on theory. This course satisfies a mathematics graduation requirement.

Statistics**Level: College/Honors****Credits: 2.5 per semester/5 per year****Prerequisites: (Honors) Successful completion of Algebra 2 - Honors with a minimum grade of 75/College with a minimum grade of 90. (College) Successful completion of Algebra 2 - College with a minimum grade of 70.****Grade Level: 11, 12****Fulfills: Graduation Requirement**

Statistics introduces the students to statistical analysis through problems, simulations and projects. Topics include probability, random variables, and measures of central tendency, variance, discrete and continuous probability distributions, sampling theory and hypothesis testing.

SAT MATH PREPARATION**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: None****Grade Level: 11, 12****Fulfills: Graduation Requirement**

SAT Preparation Math is a one semester course that is recommended for students wishing to increase their PSAT/SAT math scores. The KHAN Academy website on SAT math problems along with test taking strategies and SAT math tests will be used throughout the entire course.

Advanced Quantitative Reasoning**Level: College/Honors****Credits: 2.5 per semester/5 per year****Prerequisites: Successful completion of Algebra 1 and Algebra 2.****Grade Level: 12****Fulfills: Graduation Requirement**

Advanced Quantitative Reasoning prepares students to use Algebra, Geometry, and Trigonometry and Discrete mathematics to model a range of situations and solve problems in a variety of ways. Topics include analyzing numerical data, using recursion and functions in models and decision making, networking, and graphing. Particular emphasis is given to statistics and financial applications. The course is project-based, and students will use all of the above to model real-life problems. This is a fast-paced, fun course - students get a chance to look at old topics in a new way! **PREREQUISITE: Successful completion of Algebra 1 and Algebra 2.**

Math 3**Level: College****Credits: 2.5 per semester/5 per year****Prerequisites: None****Grade Level: 11, 12****Fulfills: Algebra Graduation Requirement**

Math 3 will reinforce algebraic problem-solving skills by working with Systems of Linear Equations and Inequalities, Exponents and Roots, Exponential Functions, Polynomials, Quadratic Functions, Relations and Functions, Linear Equations, Linear Inequalities, and Linear Systems.

Math 4**Level: College****Credits: 2.5 per semester/5 per year****Prerequisites: None****Grade Level: 12****Fulfills: Algebra Graduation Requirement**

Math 4 will reinforce algebraic problem-solving skills by working with Relations and Functions, Linear Equations, Linear Inequalities, and Linear Systems, Quadratic Functions, Polynomials and Polynomial Functions, Polynomial Equations, Inverses and Radical Functions (time permitting).

Financial Algebra**Level: College****Credits: 2.5 per semester/5 per year****Prerequisites: Successful completion of Algebra 1 and Geometry.****Grade Level: 12****Fulfills: Graduation Requirement**

Financial Algebra is an algebra-based, applications oriented, technology dependent course that requires Algebra 1 and Geometry. The course addresses college preparatory mathematics topics such as Algebra 2, Statistics, Probability and Pre-Calculus under seven financial umbrellas: Banking, Investing and modeling a business, Employment and Income taxes, Automobile ownership, independent living, and retirement Planning and Household Budgeting. Students use a variety of problem-solving skills and strategies in real-world contexts.

Exploring Computer Science**Level: College****Credits: 2.5 per semester/5 per year****Prerequisites: None****Grade Level: 9, 10, 11, 12****Fulfills: Graduation Requirement**

Exploring Computer Science provides students with a comprehensive, hands-on, inquiry-based overview of the vast area of study that is computer science, and is intended for students who have little to no computer science experience. Students will begin the year by studying the societal impact of computing as well as the influence that technology has had on our world and the workforce. Students will then gradually begin to explore more complex topics, such as problem-solving strategies, algorithms, Scratch programming, data analysis, and robotics. The course is designed to provide an equitable, justice-based approach to the study of computer science. By the end of the course, students will be able to effectively use computers not only to solve problems but also for self-expression and social good, and students will come to understand and appreciate not only that computer science has impacted virtually every aspect of today's world, but also that computer science is for everyone, regardless of race, gender, socioeconomic status, or any other aspect of one's identity and/or background.

Mobile Computer Science Principles**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: None****Grade Level: 10, 11, 12****Fulfills: Graduation Requirement**

Mobile Computer Science Principles introduces fundamental computer science concepts in an accelerated environment that emphasizes the societal impact of computers and the development of socially useful mobile apps. Students will design and evaluate solutions to problems, incorporate algorithms and abstraction into programs, and use data to discover new knowledge. Students will also explain how computing innovations and computing systems, including the Internet, work, explore their potential impacts, and contribute to a computing culture that is collaborative and ethical.

Web Development**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: Successful completion of Algebra 1, Exploring Computer Science, or Mobile Computer Science Principles.****Grade Level: 10, 11, 12****Fulfills: Graduation Requirement**

Web Development introduces students to the process of building their own web pages using the languages HTML and CSS. Students will use HTML to structure their pages so that the content is organized and easy to read and use CSS to style their pages so they are appealing and accessible to the viewer. By the end of the course, students will be able to explain how web pages are developed and viewed on the Internet, analyze and fix errors in existing websites, and create their very own multi page websites. Students will learn the foundations of user interface design, rapid prototyping and user testing, and will work together to create professional, mobile responsive websites. Students will also come to understand and appreciate that learning to design websites is an incredibly useful skill for any career path, since web pages are the most common medium for sharing ideas and information in today's world.

Computer Science A**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: Successful completion of Algebra 1, Exploring Computer Science, or Mobile Computer Science Principles.****Grade Level: 10, 11, 12****Fulfills: Graduation Requirement**

Introduces students to computer science through programming. Fundamental topics in this course include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object-oriented programming and design using the Java programming language.

AP Courses

AP Calculus AB**Level: AP****Credits: 2.5 per semester/5 per year****Prerequisites: Completion of Precalculus, Advanced Precalculus/Calculus A.**

Calculus AB gives the student a more thorough knowledge of differential and integral calculus. The topics covered are set forth in guidelines supplied by the AP Calculus Program of the College Board. In part A, the principal topics involve functions, limits, continuity and derivatives. In part B, integrals and anti-derivatives are the main topics.

Grade Level: 11, 12**Fulfills: Graduation Requirement****AP Calculus BC****Level: AP****Credits: 2.5 per semester/5 per year****Prerequisites: Completion of AP Calculus AB or Calculus.**

Calculus BC gives the student a more thorough knowledge of differential and integral calculus. Topics covered in part C, include parametric, polar, and vector functions, their derivatives and integrals; slope fields and solution curves; convergence and divergence; L'Hospital's rule; Euler's method; and Taylor series. The student is required to take the College Board AP Calculus BC exam, administered in May of senior year. Successful completion of this exam may enable the student to receive credit for first year calculus from colleges throughout the country. Students are required to obtain a graphing calculator, which is necessary for the AP exam. This course satisfies a mathematics graduation requirement.

Grade Level: 12**Fulfills: Graduation Requirement****AP Statistics****Level: AP****Credits: 2.5 per semester/5 per year****Prerequisites: Successful completion of Geometry - Honors with a minimum grade of 80, successful completion of Algebra 2 - Honors with a minimum grade of 80 and successful completion of the entrance exam.****Grade Level: 12****Fulfills: Graduation Requirement**

Statistics AP will cover the AP Statistics syllabus prepared by the Advanced Placement committee of the College Board. Students will take the AP exam in Statistics. This course satisfies a mathematics graduation requirement.

AP Computer Science A

Level: AP

Credits: 2.5 per semester/5 per year

Prerequisites: *Successful completion of Algebra 1, Exploring Computer Science, or Mobile Computer Science Principles.*

Grade Level: 11, 12

Fulfills: Graduation Requirement

Introduces students to computer science through programming. Fundamental topics in this course include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object-oriented programming and design using the Java programming language.

Math Courses Quick Reference

MATHEMATICS CORE COURSES

1131/1132	C-Algebra 1	Grade 9
1141/1142	H-Algebra 1	Grade 9
1151/1152	HH-Algebra 1	Grade 9
1101/1131	C-Transition to Algebra/Algebra 1A	Grade 9
1231/1232	C-Geometry	Grade 10, 11, 12
1241/1242	H-Geometry	Grade 10, 11
1251/1252	HH-Geometry & Analytic Geometry	Grade 9, 10
1331/1332	C-Algebra 2	Grade 10, 11, 12
1341/1342	H-Algebra 2	Grade 10, 11
1351/1352	HH-Algebra 2 & Trigonometry	Grade 10, 11
1431/1432	C-Pre-Calculus	Grade 11, 12
1441/1442	H-Pre-Calculus	Grade 11, 12
1445/1446	HH-Advanced Pre-Calculus / Calculus A	Grade 11, 12
1443/1444	H-Calculus	Grade 12
1475/1476	AP-Calculus AB	Grade 11, 12
1477/1478	AP-Calculus BC	Grade 12
1465/1466	C-Statistics	Grade 11, 12
1467/1468	H-Statistics	Grade 11, 12
1469/1470	AP-Statistics	Grade 11, 12

MATHEMATICS SUPPORT & ELECTIVE COURSES

1062	C-SAT Math Preparation	Grade 11, 12
1081/1082	N-Math Seminar	Grade 9 (FA)
1425/1426	C-Advanced Quantitative Reasoning	Grade 11, 12
1427/1428	H-Advanced Quantitative Reasoning	Grade 11, 12
1355/1356	C-Math 3	Grade 11
1429/1430	C-Math 4	Grade 12
1353/1354	C-Financial Algebra	Grade 11, 12

COMPUTER SCIENCE

1611/1612	H-Exploring Computer Science	Grade 9, 10, 11, 12
1615/1616	H-Mobile Computer Science Principles	Grade 10, 11, 12
1631/1632	H-Web Development	Grade 10, 11, 12
1641/1642	H-Computer Science A	Grade 10, 11, 12
1643/1644	AP-Computer Science A	Grade 10, 11, 12

Science Department

Dr. Stephanie Selvaggio, Department Chair

The Science Department is dedicated to fostering curiosity, critical thinking, and a deep understanding of the natural world through engaging, hands-on learning experiences aligned with the Massachusetts Science and Engineering/Technology Frameworks. Our curriculum emphasizes inquiry, collaboration, and the application of scientific principles to real-world challenges. Students develop essential skills such as analyzing and interpreting data, constructing evidence-based explanations, and designing innovative solutions to complex problems.

To meet graduation requirements, students must earn 15 lab science credits, beginning in Grade 9 with Integrated Science & Engineering, a foundational course that introduces core scientific concepts and the engineering design process. All students must also complete or be concurrently enrolled in Biology to ensure a comprehensive understanding of life science. Science elective courses explore advanced topics and allow students to tailor their learning to their interests while continuing to develop critical skills in scientific investigation and engineering practices. The Department's rigorous yet supportive approach prepares students to excel in higher education and contribute meaningfully to a scientifically informed society.

	9th Grade	10th Grade	11th Grade	12th Grade
<i>Core Courses</i>	<i>Integrated Science & Engineering CP</i> <i>Integrated Science & Engineering H</i> <i>Integrated Science & Engineering HH</i>	<i>Biology CP</i> <i>Biology H</i>		
<i>Possible Electives</i>		<i>Chemistry H (From HH ISE only)</i> <i>Nutrition & Disease H</i> <i>Careers In Health & Bioscience H</i> <i>Intro to Engineering Design (PLTW) H</i> <i>Robotics H</i> <i>Architectural Design H</i>	<i>Life Science I & II (DE-UML) P</i> <i>General Biology 1 (EC-MCC) P</i> <i>Microbiology H</i> <i>Conceptual Chemistry CP</i> <i>Chemistry H</i> <i>Chemistry (DE-UML) P</i> <i>Chemistry Lab (DE-UML) P</i> <i>Physics H</i> <i>Physics 1 AP (GRADE 12 ONLY) A</i> <i>ESS: Geology C</i> <i>ESS: Meteorology C</i> <i>ESS: Oceanography C</i> <i>ESS: Astronomy C</i>	

Possible Electives (continued)			<i>Intro to Human Anatomy H</i> <i>Anatomy & Physiology H</i> <i>Genetics H</i> <i>Forensic Science H (GRADE 12 ONLY)</i> <i>Environmental Science H **</i> <i>Environmental Sustainability H **</i> <i>Environmental Studies (EC-MCC) P **</i> <i>Nutrition & Disease H **</i> <i>Medical Terminology & Body Systems H **</i> <i>Principles of Biomedical Science (PLTW) H**</i> <i>Careers in Health & Bioscience H **</i> <i>Medical Law & Current Health Issues H **</i> (GRADE 12 ONLY) <i>Intro to Engineering Design (PLTW) H **</i> <i>Principles of Engineering (PLTW) H **</i> <i>Robotics H **</i> <i>Architectural Design H **</i> <i>Intro to Engineering (EC-MCC) P **</i>
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Notes:

- ** Courses in the Environmental Pathway
- ** Courses in the Biotechnology Pathway
- ** Courses in the Engineering Pathway

Course placement into College, Honors, High Honors, Advanced, or Advanced-AP/EC/DE depends on the recommendation of a prior-year Subject teacher. Students may appeal to the Department Chair for Subject to take a course for which they have not been recommended or for which they have not met the stated prerequisites.

Required Courses

Integrated Science & Engineering
Level: College/Honors/High Honors
Credits: 2.5 per semester/5 per year

Grade Level: 9
Fulfills: Graduation Requirement

Prerequisites: Placement is based on a combination of middle school grades, a student's iReady and MCAS scores, and teacher recommendations

Integrated Science & Engineering provides a foundation in the study of Introductory Physical Science, Chemistry, Biology, and Engineering. Students will be expected to develop a qualitative understanding of fundamental course concepts through teacher-guided inquiry that includes hands-on activities, laboratory investigations, and teacher demonstrations.

Specific sections of this course will be designed specifically for students who are in the early stages of English language acquisition, with an ACCESS score of 1.0-1.9 and who have been in the U.S. for one year or less.

Biology
Level: College/Honors
Credits: 2.5 per semester/5 per year

Grade Level: 10
Fulfills: Graduation Requirement

Prerequisites: H-Bio prerequisites: 80 or above in Honors Integrated Science & Engineering, 90 or above in College Integrated Science & Engineering

Biology provides students with the opportunity to investigate complex phenomena related to genetics, the functioning of organisms, and interrelationships between organisms, populations, and the environment. Students will explore four core ideas of biology: 1) *From molecules to organisms: structures and processes*, 2) *Ecosystems: interactions, energy, and dynamics*, 3) *Heredity: inheritance and variation of traits*; and 4) *Biological evolution: unity and diversity*. Students will develop their fluency with science and engineering practices throughout the course, which include developing and using models; constructing explanations; engaging in argumentation from evidence; and obtaining, evaluating, and communicating information.

Specific sections of this course will be designed specifically for students who are in the early stages of English language acquisition, with an ACCESS score of 1.0-1.9 and who have been in the U.S. for one year or less.

AP Courses

Physics 1
Level: AP
Credits: 2.5/2/5

Grade Level: 12
Fulfills: Graduation Requirement

Prerequisites: This course requires a strong background in Algebra. Students must have had an 85 or above in Honors Algebra II or 95 or above in College Algebra II

AP Physics 1 explores principles of Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and fluid dynamics. The course is based on six Big Ideas, which encompass core scientific principles, theories, and processes that cut across traditional boundaries and provide a broad way of thinking about the physical world.

Dual Enrollment Courses

Life Science I & II - UML

Level: Dual Enrollment

Credits: 2.5/2.5 LHS/3/3 UML

Prerequisites: 85 or above in H-Biology; 90 or above in C-Biology

Grade Level: 11, 12

Fulfills: Elective

This course presents environmental and organismal structural interrelationships and relates these to the chemical evolutionary basis of life.

Chemistry - UML*

Level: Dual Enrollment

Credits: 4/4 LHS/3/3 UML

Prerequisites: 85 or above in H-Chemistry

Grade Level: 11, 12

Fulfills: Graduation Requirement

Dual Enrollment Chemistry is an advanced weighted University of Massachusetts course introducing the basic principles of chemistry and includes laboratory work. Topics include chemical calculations, atomic structure, the periodic table, basic bonding theory, solutions, liquids and gases, and thermodynamics. Students selecting this course may be required to take exams and/or do labs at the UML campus. UML Chemistry Lab runs simultaneously with this course (two class periods).

** The UML course and the UML lab must be taken concurrently*

Chemistry Lab - UML*

Level: Dual Enrollment

Credits: 1/1 LHS/1/1 UML

Prerequisites: 85 or above in H-Chemistry

Grade Level: 11, 12

Fulfills: Graduation Requirement

Dual Enrollment Chemistry is an advanced weighted University of Massachusetts course introducing the basic principles of chemistry and includes laboratory work. Topics include chemical calculations, atomic structure, the periodic table, basic bonding theory, solutions, liquids and gases, and thermodynamics. Students selecting this course may be required to take exams and/or do labs at the UML campus. UML Chemistry Lab runs simultaneously with this course (two class periods).

** The UML course and the UML lab must be taken concurrently*

General Biology 1 - MCC

Level: Early College

Credits: 2.5 LHS/4 MCC

Prerequisites: 85 or above in H-Biology

Grade Level: 11, 12

Fulfills: Elective

General Biology studies the cell, the fundamental unit of biological structure and function. An introductory section on bioenergetics and biochemistry lay the groundwork for the consideration of the cell through a modern interdisciplinary approach. The course examines the ultrastructure of the cell and of the most universal cell functions: transport, cellular respiration, photosynthesis, cellular reproduction, and protein synthesis. Lecture themes are illustrated in the laboratory.

Environmental Studies - MCC
Level: Early College
Credits: 2.5 LHS/3 MCC
Prerequisites: 80 or above in H-Biology; 85 or above in C-Biology

Grade Level: 11, 12
Fulfills: Elective

Students will develop an understanding and awareness of our environment, how the environment can change and the effects of such change. The course explores the role which humans play in causing environmental change and the underlying values and ethical judgments involved in making choices. Includes the study of the structure and function of ecosystems, thermodynamics, and an examination of selected environmental problems. **MANDATORY:** Students will participate in a capstone project using the engineering design process (EDP) to produce a working solution to an environmental pollution scenario.

Introduction to Engineering - MCC
Level: Early College
Credits: 2.5 LHS/3 MCC
Prerequisites: Juniors should have already taken or be concurrently enrolled in Calculus or Trigonometry.

Grade Level: 11, 12
Fulfills: Elective

Principles and methods of engineering for students planning to transfer to a baccalaureate engineering program will be examined in depth. The course will introduce the student to engineering design methods and tools, and their application in solving engineering problems from various engineering disciplines. Skills required for career success such as teamwork, written and oral communication, and problem solving will be emphasized.

Content Elective Courses

3783 Microbiology
Level: Honors
Credits: 2.5
Prerequisites: 85 or above in Honors Biology.

Grade Level: 11, 12
Fulfills: Graduation Requirement

Microbiology is the study of microscopic organisms, including bacteria, protozoa, fungi, parasitic worms, and viruses with emphasis on the role of these organisms in health and disease. This course is an intensive Laboratory Science that will demonstrate aseptic laboratory techniques, varied cultivation methods, and standard Biotechnology Diagnostic Procedures. **Prerequisites:** 85 or above in Honors Biology.

Conceptual Chemistry
Level: College
Prerequisites: 75 or above in College Biology; 75 or above in College Algebra 1

Grade Level: 11, 12
Fulfills: Graduation Requirement

Conceptual Chemistry is a course designed for students who will most likely be pursuing Humanities based majors in college. This inquiry-based course develops qualitative understanding of fundamental chemistry concepts such as atomic theory, kinetic molecular theory, and properties of solutions through teacher guided inquiry that includes hands-on class activities, laboratory investigations, and demonstrations.

Chemistry**Level: Honors****Credits: 2.5/2.5****Prerequisites: 75 or above in Honors or High Honors Algebra 1; 80 or above in or concurrently enrolled in Honors Biology, 85 or above in HH ISE****Grade Level: 11, 12****Fulfills: Graduation Requirement**

Honors Chemistry is a course designed to prepare students for STEM-based majors in college. This is a mathematically based course with topics that include properties of matter, atomic structure, periodicity, and chemical bonding, chemical reactions and stoichiometry, gases and kinetic molecular theory, properties of solutions, acids and bases, and equilibrium and kinetics.

Physics**Level: Honors****Credits: 2.5/2.5****Prerequisites: 85 or higher in Honors Geometry; 95 or above in College Geometry; concurrently enrolled in Algebra II****Grade Level: 11, 12****Fulfills: Graduation Requirement**

Honors Physics is an introduction to classical mechanics covering kinematics, Newton's laws, conservation laws, elasticity, oscillations, wave mechanics, sound phenomena, gravitation, electricity, magnetism, and electric circuits.

Geology**Level: College****Prerequisites: None****Grade Level: 11, 12****Fulfills: Graduation Requirement**

This course introduces students to Earth's geological materials, systems, and processes, as well as human use of Earth's resources. Topics include the formation of rocks and geological features through tectonic and surface processes; the categorization of rocks by chemical composition and physical properties; the determination of rock ages by relative and absolute dating methods; the sustainability of wetlands and nuclear energy. Students will be able to model the cycling of energy and matter throughout Earth's layers; model the relationship between plate tectonics and geological features; explain the age of sedimentary strata by applying scientific laws and principles.

Meteorology**Level: College****Credits: 2.5****Prerequisites: None****Grade Level: 11, 12****Fulfills: Graduation Requirement**

This course introduces students to Earth's hydrosphere and atmospheric systems and processes. Topics include early studies of weather and climate; layers of the atmosphere; the movement of energy and water throughout Earth's atmosphere; the formation of weather and storms; the long term behavior of Earth's climate; the effects of human activities on Earth's atmospheric systems. Students will be able to model the feedback systems of energy flowing into and out of Earth's systems; model the relationship between Earth's regional surface properties and local weather and climate patterns; explain why different combinations of temperature, pressure, and humidity lead to different weather and cloud patterns; the sustainability of wind energy.

Oceanography
Level: College
Credits: 2.5
Prerequisites: None

Grade Level: 11, 12
Fulfills: Graduation Requirement

This course introduces students to Earth's hydrological and hydrogeological systems, surface and deep ocean processes, as well as human use of Earth's oceans and water. Topics include early ocean exploration; oceanic crust and ocean topography; chemical and physical properties of water; ocean movements and circulation; the hydrologic and carbon cycles; the sustainability of human activities and plastic pollution; marine biology. Students will be able to model the transport of water, energy, and nutrients throughout Earth's oceans; model the formation and destruction of Earth's water systems, such as rivers, lakes, and wetlands; explain the sustainability of plastics and hydroelectric power.

Astronomy
Level: College
Credits: 2.5
Prerequisites: None

Grade Level: 11, 12
Fulfills: Graduation Requirement

This course introduces students to the components that make up our universe. Topics include the history of astronomy, big bang theory, the origin of our solar system; constellations; the lives and deaths of stars; telescopes and the nature of light; the structure and composition of our moon, planets, stars, solar systems and galaxies; the history, future, and sustainability of human space exploration and solar energy. Students will be able to model the motion of celestial objects, model the lives of stars, and explain Earth's place in the universe.

Introduction To Human Anatomy
Level: Honors
Credits: 2.5
Prerequisites: 80 or above in College Biology

Grade Level: 11, 12
Fulfills: Graduation Requirement

Introduction to Human Anatomy is a preparatory program for students who are interested in pursuing careers in the Allied Health fields. The course is designed for students who want an introduction to the structures and functions of the human body. Students will participate in class discussions, lectures, projects, and laboratory activities.

Human Anatomy & Physiology
Level: Honors
Credits: 2.5/2.5
Prerequisites: 75 or above in Honors Biology; 85 or above in College Biology

Grade Level: 11, 12
Fulfills: Graduation Requirement

Human Anatomy & Physiology offers a systematic exploration of each of the major systems of the human body including both its structure (anatomy) and function (physiology) Anatomy and Physiology. Topics studied include: Human Body Overview and Terminology, Biochemistry, Tissue Structure and Function, The Integumentary System, The Skeletal System, The Muscular System, and The Nervous System. Students will participate in class discussions, lectures, projects, and laboratory activities. Meets Lab Science Standards, Meets Lab Science standards **Prerequisite:** 75 or above in Honors Biology; 85 or above in College Biology

Genetics
Level: Honors
Credits: 2.5
Prerequisites: 75 or above in Honors Biology; 85 or above in College Biology

Grade Level: 11, 12
Fulfills: Graduation Requirement

Genetics covers basic concepts of inheritance, variation and evolution in plants and animals, including a survey of Mendelian, molecular, cellular, and population genetics. Students will learn about recent advances in biotechnology that have genetic implications, including the Human Genome Project and advances in genetic engineering technology.

Forensic Science
Level: Honors
Credits: 2.5

Grade Level: 12
Fulfills: Graduation Requirement
Prerequisites: None

Forensic Science offers an engaging exploration of the biological aspects of forensic science through hands-on lab activities. Students will learn to process crime scenes, collect and analyze trace evidence, and conduct mock investigations. The curriculum includes microscopy, fingerprint investigation, toxicology studies, and the role of entomology in determining time of death. Emphasizing lab safety and critical thinking, students will evaluate real-world case studies, gaining practical skills and insights into how biological sciences aid criminal investigations. ***This course is highly recommended for students with an interest in the field of criminal justice.***

Topics in Biology A
Level: College
Credits: 2.5
Prerequisites: None

Grade Level: 11, 12
Fulfills: Graduation Requirement

Topics in Biology provides students with the opportunity to investigate various topics in biology including the functioning of organisms, and interrelationships between organisms, populations, and the environment. Students will explore four core ideas of biology: 1) *From molecules to organisms: structures and processes*, 2) *Ecosystems: interactions, energy, and dynamics*, 3) *Heredity: inheritance and variation of traits*; and 4) *Biological evolution: unity and diversity*. Students will develop their fluency with science and engineering practices throughout the course, which include developing and using models; constructing explanations; engaging in argumentation from evidence; and obtaining, evaluating, and communicating information.

Survey in Biology B
Level: College
Credits: 2.5
Prerequisites: None

Grade Level: 11, 12
Fulfills: Graduation Requirement

Topics in Biology provides students with the opportunity to investigate various topics in biology including the functioning of organisms, and interrelationships between organisms, populations, and the environment. Students will explore four core ideas of biology: 1) *From molecules to organisms: structures and processes*, 2) *Ecosystems: interactions, energy, and dynamics*, 3) *Heredity: inheritance and variation of traits*; and 4) *Biological evolution: unity and diversity*. Students will develop their fluency with science and engineering practices throughout the course, which include developing and using models; constructing explanations; engaging in argumentation from evidence; and obtaining, evaluating, and communicating information.

Environmental Science Electives

Environmental Science
Level: Honors
Credits: 2.5
Prerequisites: 75 or above in Honors Biology; 85 or above in College Biology

Grade Level: 11, 12
Fulfills: Graduation Requirement

Environmental Science is a multifaceted course in ecological/environmental education designed to develop an understanding and awareness of our environment, how the environment can change, and the effects of such change. The course explores the role which humans play in causing environmental change and the underlying values and ethical judgments involved in making choices. This class includes the study of the structure and function of ecosystems, thermodynamics, and an examination of selected environmental problems and will lay the foundation for students to further their understanding of the world we live in. Students will be required to complete necessary readings, participate in group discussions, and offer written opinions on a regular basis.

Environmental Sustainability:
Level: Honors
Credits: 2.5
Prerequisites: None

Grade Level: 11, 12
Fulfills: Graduation Requirement

Students engage in a semester-long class where they research information about fossil fuels, renewable resources, pollution, and sustainability initiatives. The final product of the course will be a student presentation where they share their vision and plan with their peers and community partners. Throughout the course, students will explore topics related to energy usage, climate change, and water availability by engaging in inquiry-based experiments that will inform their plan for a more sustainable Lowell. Students will keep a portfolio of their work that will be used for assessment.

Bioscience Electives

Medical Terminology & Body Systems
Level: Honors
Credits: 2.5
Prerequisites: 80 or above in Honors Biology

Grade Level: 11, 12
Fulfills: Graduation Requirement

This course explores the universal language of medicine-medical terminology, through the study of each body system, pathologies, diagnostic and therapeutic procedures, and pharmacology. Students are taught the fundamental word elements including prefixes, suffixes, roots and combining forms of medical terms, system by system. Once mastered, students build and break these word parts down to analyze and interpret medical records such as consults, X-ray/MRI/CT reports, pre-/post-operative reports and Emergency Department visit summaries. This is a LHS Health and Bioscience Pathway course. It is designed to prepare students to understand and interpret the language used in all medical or allied health career pathways. They will obtain a strong foundation and background knowledge of the medical language before taking any related college level courses. This course is for any student interested in careers such as physician/PA, nursing-all levels, dental, radiology, athletic training, physical therapy/PTA, occupational therapy/COTA, respiratory therapy, speech pathology, audiology, EMT, medical technology, medical assisting, health informatics, exercise science, nutrition/dietetics and more.

Nutrition & Disease
Level: Honors
Credits: 2.5
Prerequisites: 85 or above in C-Integrated Science and Engineering, or 80 or above in H-Integrated Science and Engineering

Grade Level: 10, 11, 12
Fulfills: Graduation Requirement

This course explores the relationship between nutrition and health, focusing on how food choices can influence the development and prevention of diseases. Students will gain an understanding of the digestive system, its functions, and how it processes essential nutrients. The course covers both macronutrients (proteins, carbohydrates, fats) and micronutrients (vitamins, minerals), including their roles in the body, food sources, and the health implications of deficiencies or excesses.

Medical Law & Current Health Issues**Level: Honors****Credits: 2.5****Prerequisites: 80 or above in Honors Biology, 80 or above or concurrently enrolled in Honors Anatomy & Physiology****Grade Level: 12****Fulfills: Graduation Requirement**

This course examines the legal, ethical, and social aspects of the medical and bioscience fields. Students will take an in-depth look at law, ethics, and healthcare practices, gaining a deeper understanding of the responsibilities professionals face in the rapidly evolving healthcare and biotechnology fields. In addition, the course addresses the legal frameworks that govern medical and bioscience industries, including issues related to patient rights, medical malpractice, healthcare policies, biotechnology regulations, and bioethics. Through lectures, class discussions, assigned readings and reflections, and research using the Internet to access updated information, students will gain knowledge of the influence these issues have on the world today. This course is for students who have taken at least two other Bioscience courses.

Principles Of Biomedical Science (PLTW)**Level: Honors****Credits: 2.5/2.5****Prerequisites: None****Grade Level: 11, 12****Fulfills: Graduation Requirement**

In the introductory course of the PLTW Biomedical Science program, students explore concepts of biology and medicine to determine factors that led to the death of a fictional person. While investigating the case, students examine autopsy reports, investigate medical history, and explore medical treatments that might have prolonged the person's life. The activities and projects introduce students to human physiology, basic biology, medicine, and research processes while allowing them to design their own experiments to solve problems.

Careers In Health & Bioscience**Level: Honors****Credits: 2.5****Prerequisites: None****Grade Level: 10, 11, 12****Fulfills: Graduation Requirement**

Careers in Health & Bioscience introduces students to various career pathways in healthcare and bioscience, including allied health, medical support services, and medical technology. Through lectures, discussions, research projects, field trips, and guest speakers, students will explore careers in pharmacology, rehabilitation, dental, nutrition, health education, medical genetics, mental health, public health, and emergency medical services. The course also covers medical support services such as managed care, medical assisting, and office management. Additionally, students will learn about roles in physician/nurse careers (e.g., MD, RN, LPN, PA, CNA) and medical technology (e.g., radiology, respiratory, laboratory, orthopedic, and vision technicians).

Engineering Electives

Introduction To Engineering Design (PLTW)

Level: Honors

Credits: 2.5/2.5

Prerequisites: 85 or above in College level Freshman Math course or 75 or above in Honors level Freshman Math course to enter as a sophomore.

Grade Level: 10, 11, 12

Fulfills: Graduation Requirement

Introduction to Engineering Design (IED) is a high school level course that is appropriate for students who are interested in design and engineering. The major focus of the IED course is to expose students to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. IED gives students the opportunity to develop skills and understanding of course concepts through activity-, project-, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB-learning challenges students to continually hone their interpersonal skills, creative abilities and understanding of the design process. It also allows students to develop strategies to enable and direct their own learning, which is the ultimate goal of education. Introduction to Engineering Design is the first of three foundation courses in the Project Lead The Way (PLTW) high school pre-engineering program. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology. Meets Lab Science standards.

Principles Of Engineering (PLTW)

Level: Honors

Credits: 2.5/2.5

Prerequisites: 80 or above in Introduction to Engineering Design (PLTW)

Grade Level: 11, 12

Fulfills: Graduation Requirement

Principles Of Engineering (POE) is a high school-level survey course of engineering. The course exposes students to some of the major concepts that they will encounter in a postsecondary engineering course of study. Students have an opportunity to investigate engineering and high tech careers. POE gives students the opportunity to develop skills and understanding of course concepts through activity-, project-, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB learning challenges students to continually hone their interpersonal skills, creative abilities, and problem solving skills based upon engineering concepts. It also allows students to develop strategies to enable and direct their own learning, which is the ultimate goal of education. Principles of Engineering is the second of three foundation courses in the Project Lead The Way high school engineering program.

Introduction To Engineering - (EC - MCC)

Level: Post-Secondary

Credits: 2.5 LHS/3 MCC

Prerequisites: Teacher recommendation from their Engineering, Architecture, or Robotics teacher. Juniors should have already taken or be concurrently enrolled in Calculus or Trigonometry.

Grade Level: 11,12

Fulfills: Graduation Requirement

Principles and methods of engineering for students planning to transfer to a baccalaureate engineering program will be examined in depth. The course will introduce the student to engineering design methods and tools, and their application in solving engineering problems from various engineering disciplines. Skills required for career success such as teamwork, written and oral communication, and problem solving will be emphasized. **Prerequisites:** EC-MCC: EGR 101 Introduction to Engineering (3 Credits)

Robotics
Level: Honors
Credits: 2.5
Prerequisites: None

Grade Level: 10, 11, 12
Fulfills: Graduation Requirement

Robotics is a hands-on environment designed to help students understand and master the fundamentals of robotics and the related principles of science. Students start out learning the basics of robotics, electricity and progress to controller/programmable robot platforms. Students also develop an understanding of robot applications from research projects, videos, class visits from academic and industry representatives and visits to companies specializing in the design or use of robots.

Architectural Design
Level: Honors
Credits: 2.5
Prerequisites: None

Grade Level: 10, 11, 12
Fulfills: Graduation Requirement

Architectural Design introduces students to several concentration areas including regional and period architectural styles, interior and exterior design factors, environmental considerations, floor plan layout and site plan requirements. Sketching and modeling will be follow-on activities during the second semester designed to improve skills of capturing images for redesign and translating ideas and drawings into 3D models.

Science Courses Quick Reference

Science Core Courses

3131/3132	C-Integrated Science & Engineering	Grade 9
3141/3142	H-Integrated Science & Engineering	Grade 9
3151/3152	HH-Integrated Science & Engineering	Grade 9
3231/3232	C-Biology	Grade 10
3241/3242	H-Biology	Grade 10

Science Elective Courses

3731/3732	DE-Life Science I & II - (DE-UML)	Grade 11,12
3250	EC-General Biology 1	Grade 11,12
3783	H-Microbiology - Honors	Grade 11,12
3331/3332	C-Conceptual Chemistry	Grade 11,12
3341/3342	H-Chemistry	Grade 10, 11,12
3721/3722	DE-Chemistry	Grade 11,12
3723/3724	DE-Chemistry Lab	Grade 11,12
3441/3442	H-Physics	Grade 11,12
3461/3462	AP-Physics 1	Grade 11,12
3525	C-Geology	Grade 11,12
3526	C-Meteorology	Grade 11,12
3527	C-Oceanography	Grade 11,12
3528	C-Astronomy	Grade 11,12
3541	H-Introduction to Human Anatomy	Grade 11,12
3543/3544	H-Human Anatomy & Physiology	Grade 11,12
3548	H-Genetics	Grade 11,12
3560	H-Forensics Science	Grade 12
3233	C-Survey In Biology A	Grade 11,12
3234	C-Survey in Biology B	Grade 11,12

Environmental Science Electives

3735	EC-Environmental Studies	Grade 11,12
3733	H-Environmental Science	Grade 11,12
3785	H-Environmental Sustainability	Grade 11,12

Bioscience Electives

3601	H-Medical Terminology & Body Systems	Grade 11,12
3605	H-Nutrition & Disease	Grade 10, 11,12
3607	H-Medical Law & Current Health Issues	Grade 12
3611/3612	H-Principles of Biomedical Science (PLTW)	Grade 11,12
3618	H-Careers in Health and Bioscience	Grade 11,12

Engineering Electives

3911/3912	H-Introduction to Engineering Design (PLTW)	Grade 10,11,12
3921/3922	H-Principles of Engineering (PLTW)	Grade 11,12
3953	H-Robotics	Grade 10,11,12
3945	H-Architectural Design	Grade 10,11,12
3971	EC-Introduction to Engineering	Grade 11,12

World Languages Department

Stephen L. Gervais Jr., Department Chair

It is the goal of the World Language Department that every student achieves an ability to understand, speak, read, and write in the target language, while at the same time developing global awareness and knowledge of different cultures. The completion of two years of the same world language satisfies the minimal high school foreign language prerequisite for entrance to most four-year colleges. It should be noted that many institutions of higher learning require three or four years of foreign language study at the high school level. This shows a level of commitment and sense of purpose that developing greater proficiency in more languages means you can use your language and communication skills for travel, work and for further study.

It is strongly recommended that all students select one (1) World Language course. Parents and students should give careful consideration to which language they choose, as the students will not likely be able to change languages after the initial scheduling process. They may choose from a World Language offered at Advanced Placement, Honors, College, and Heritage Language Speaker level. A student may generally not elect a beginning level language class after the first two weeks of school unless there are extenuating circumstances. Students are advised to take the two years of a language consecutively, as leaving a gap between courses may jeopardize students' chances of passing. Students who choose to begin their language study at Lowell High School at the second or third year level should contact the Department Chair for an interview or a placement exam. Heritage Language speakers will also take a placement exam to determine proper scheduling. During the 2025-2026 academic year, Latin will have Honors and Advanced sections; Spanish will have separate sections for most levels; and French, Khmer and Portuguese will have the Honors level. We hope that many World Languages and MLE students will qualify for the State Seal of Biliteracy based on demonstration of language skills in reading, writing, speaking and listening.

LATIN

Latin 1

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: None

Grade Level: 9, 10,11,12

Fulfills: Elective

Latin 1 Honors is an accelerated course for students who have demonstrated honors level work. Students will read stories in Latin about life in the ancient city of Pompeii and the Roman provinces of Britain and Egypt. Students will learn about Roman culture, history, and classical mythology through these stories. Thorough training is given in the basic vocabulary, forms and elementary grammar of the language along with practice in sight reading. Students will explore Latin roots in English, and learn ways to figure out English words based on their Latin elements. This course prepares students to take the level 1 National Latin Exam in March.

Latin 2

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Latin 1 or Department Chair approval

Grade Level: 10, 11,12

Fulfills: Elective

Latin 2 Honors begins with an accelerated review of the material covered in Latin I, and the story line continues as our characters move from Egypt to Greece, and back to Britain. In this course, the greedy Roman official, Salvius, tries to control the British tribes. Sometimes he is successful, and sometimes his plans backfire. There is plenty of drama to accompany our studies of more advanced grammatical concepts, such as participles and subjunctive mood. Students will further expand their knowledge of Latin vocabulary and Latin derivatives in English. Students will read and analyze Latin at an intermediate level, and learn more about Roman culture in the provinces. Students will also learn about life in the thriving city of Rome in the first century CE. In addition, students will learn about the gods and heroes of Greece and Rome. This course prepares students to take the level 2 National Latin Exam.

Latin Prose

Level: High Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Latin 2 or Department Chair approval

Grade Level: 11, 12

Fulfills: Elective

Advanced Latin Prose is a survey of selected prose authors, and their writings on Roman culture and history. The underlying goal of the course is to develop an understanding of Latin literature through the words of Roman writers Tacitus, Caesar, Pliny the Elder, Pliny the Younger, and Cicero. As we learn about the history and culture of the ancient Roman civilization, we will recognize and appreciate the connections between Roman and modern political and social developments. History does repeat itself. Note: This course is offered in alternating years with Advanced Latin Poetry. (Odd years)

Latin Poetry

Level: High-Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Latin 2 or Department Chair approval

Grade Level: 11, 12

Fulfills: Elective

Advanced Latin Poetry is a survey of selected Roman poets, and their writings on life and love in the ancient world. The underlying goal of this course is to develop an understanding of Latin literature through the reading and study of Martial, Catullus, Vergil, Ovid, and Phaedrus. We will learn about the life and culture of the ancient Romans, and recognize and appreciate the connections between Roman and modern social development. We will marvel that the Romans of the first century dealt with the same issues we do in the 21st century. Note: This course is offered in alternating years with Advanced Latin Prose. (Even years)

PORTUGUESE

Portuguese 1

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: None

Grade Level: 9, 10, 11, 12

Fulfills: Elective

Portuguese 1 - Honors is an accelerated course for students with no previous knowledge of Portuguese who are doing honors level work. Grammatical and idiomatic structures, reading, correct pronunciation, oral practice, listening comprehension, and customs and traditions of Portuguese speaking countries are introduced. Note: This is not generally an appropriate course for native speakers of Portuguese.

Portuguese 2

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Portuguese 1 or Department Chair approval

Grade Level: 9, 10, 11, 12

Fulfills: Elective

Portuguese 2 - Honors continues the study of grammar, speaking, reading, listening, and writing are all strengthened. Since most students are highly motivated and college-bound, this class proceeds as rapidly as possible to meet the standards of college entrance requirements.

Portuguese 3

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Portuguese 2 or Department Chair approval

Grade Level: 9, 10, 11, 12

Fulfills: Elective

Portuguese 3 - Portuguese 3 emphasizes grammar and the finer points and idiomatic usage of the language. The skills in writing, reading, aural comprehension and oral expression are strengthened with an introduction to Portuguese literature.

Portuguese 4

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Portuguese 3 or Department Chair approval

Grade Level: 10, 11, 12

Fulfills: Elective

Portuguese 4 - Portuguese 4 is for the student who wishes to further his/her knowledge of the Portuguese language, and to help fulfill college graduation requirements while still in high school. This course will emphasize the practical use of Portuguese in everyday situations as well as strengthen the four language skills of reading, writing, listening and speaking.

Portuguese 1 Heritage Speaker

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Placement or Department Chair approval

Grade Level: 10, 11, 12

Fulfills: Elective

Portuguese 1 - Heritage Speaker is for students who have native listening/speaking skills in Portuguese, and who seek to meet college entrance requirements. This course emphasizes correct pronunciation, formal grammar (verb tenses, pronouns, etc.), listening comprehension, reading and writing in the foreign language, and a study of the customs and traditions of the Portuguese-speaking people. It will initially move at a quicker pace than Portuguese 1 - Honors, and will have a different emphasis, - more on reading and writing structure, with a rapid review of basic vocabulary.

Portuguese 2 Heritage Speaker**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: Placement or Department Chair approval****Grade Level: 9, 10, 11, 12****Fulfills: Elective**

This course is designed for successful learning of the Portuguese (Luso) world language and cultures. It includes fundamentals of the Portuguese Language: a) speaking, b) reading, c) writing d) listening (and variations). Regardless of their experience, in addition to grammar, learners will be exposed to the cultural and linguistic heritage of Portuguese-speaking people

The model will be a combination of traditional and nontraditional (experiential-based) and all participants will be exposed to proven language learning strategies. .

FRENCH

French 1**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: None****Grade Level: 9, 10, 11, 12****Fulfills: Elective**

French 1 - Honors is an accelerated course offered to students with no previous knowledge of French. Grammatical and idiomatic structures, reading, correct pronunciation, oral practice, listening comprehension, and customs and traditions of French-speaking countries are introduced at a quicker pace. Note: This is not generally an appropriate course for native speakers of French.

French 2**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: French 1 or Department Chair approval****Grade Level: 9, 10, 11, 12****Fulfills: Elective**

French 2 - Honors provides a more detailed oral-aural continuation of speaking and listening skills, fundamental grammar and progressively greater emphasis on reading and writing skills. Since most students are highly motivated and college-bound, this class proceeds as rapidly as possible to meet the highest standards of college entrance requirements for many colleges and universities. (Many competitive colleges and universities require 3 years of a world language, just for admission. For students who want to major in French, some require 4 or 5 years of French)

French 3**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: French 2 or Department Chair approval****Grade Level: 9, 10, 11, 12****Fulfills: Elective**

French 3 - Honors entails written and oral work, based on analysis of texts. A total picture of grammar is presented with special emphasis on expanded idiom study. The student is required to do an adequate amount of reading both intensive and comprehensive.

French 4**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: French 3 or Department Chair approval****Grade Level: 10, 11, 12****Fulfills: Elective**

French 4 - Honors encompasses an introduction to French literature through the reading of selected excerpts of masterpieces of the major genres and philosophies. Reading and analysis of text used as a basis for conversation including the study of the finer points of grammar and written expression.

French Text Film and Media**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: French 3 or Department Chair approval****Grade Level: 10, 11, 12****Fulfills: Elective**

This course presents a study of the contemporary language and culture of France and the Francophone world through authentic materials including the French press, the internet, television, literature and film. At the end of this course students should have attained a more sophisticated level of communication in French, the ability to use their skills in French for a variety of purposes including research in other disciplines, and a full appreciation of the intellectual challenge of learning a foreign language and its cultures

SPANISH

Spanish 1**Level: College****Credits: 2.5 per semester/5 per year****Prerequisites: None****Grade Level: 9, 10, 11, 12****Fulfills: Elective**

A course for students who seem to meet college requirements, and for those who are following a college preparatory program. This course introduces the basics of a world language with an emphasis on correct pronunciation, formal grammar (verb tenses, pronouns, etc.) , listening comprehension, reading and writing in a world language, and the study of the customs and traditions of the Spanish-speaking people. Note: This is not generally an appropriate course for native speakers of Spanish

Spanish 1**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: Generally, an Honors schedule****Grade Level: 9, 10, 11, 12****Fulfills: Elective**

Spanish 1 - Honors is an accelerated course focusing on grammatical and idiomatic structures, reading, correct pronunciations, oral practice, aural comprehension, and customs and traditions of Spanish-speaking countries are introduced at a quicker pace than Spanish 1 - College. Note: This is not generally an appropriate course for native speakers of Spanish.

Spanish 2**Level: College****Credits: 2.5 per semester/5 per year****Prerequisites: Spanish 1****Grade Level: 9, 10, 11, 12****Fulfills: Elective**

Reviews the work of Spanish 1 with an increased emphasis on the skills learned in the first year: speaking, listening comprehension, reading comprehension, writing in the world language, and more in-depth study of the history and geography of Spain and Latin America.

Spanish 2**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: Honors Spanish 1 (80) or Department Chair approval****Grade Level: 9, 10, 11, 12****Fulfills: Elective**

Spanish 2 - Honors continues the development of grammar, aural and reading comprehension, speaking and writing for enjoyment. This class proceeds as rapidly as possible to meet the standards of college entrance requirements.

Spanish 3 **Grade Level: 10, 11, 12**
Level: College **Fulfills: Elective**
Credits: 2.5 per semester/5 per year
Prerequisites: College Spanish 2 or Department Chair approval

Spanish 3 - College continues the work of Spanish 2 and introduces Spanish literature and art

Spanish 3 **Grade Level: 9, 10, 11, 12**
Level: Honors **Fulfills: Elective**
Credits: 2.5 per semester/5 per year
Prerequisites: Honors Spanish 2 (80) or Department Chair approval

Spanish 3 - Honors includes deeper work with grammar and emphasizes the finer points and idiomatic usage. The skills in writing, reading, and aural comprehension, together with oral expression are strengthened, and literature in Spanish is introduced.

Spanish 4 **Grade Level: 11, 12**
Level: College **Fulfills: Elective**
Credits: 2.5 per semester/5 per year
Prerequisites: Spanish 3

Spanish 4 - College is a continuation of work done in Spanish 3 - College with emphasis on vocabulary building through a study of idiomatic expressions and selected readings. Aural comprehension and oral expression skills are strengthened.

Spanish 4 **Grade Level: 11, 12**
Level: Honors **Fulfills: Elective**
Credits: 2.5 per semester/5 per year
Prerequisites: Honors Spanish 3 (80) or Department Chair approval

Spanish 4 - Honors is for those students who wish to perfect their skills in reading, writing and speaking Spanish. Literature is read and oral work is required. The finer points of grammar are studied.

Spanish 4 **Grade Level: 11, 1**
Level: Advanced **Fulfills: Elective**
Credits: 2.5 per semester/5 per year
Prerequisites: Honors Spanish 3 or Department Chair approval

Spanish 4 Advanced is designed to complete the preparation for taking the AP Spanish Language Exam. This course will use a variety of materials to strengthen all four language skills: listening, speaking, reading, and writing. This is the second of a two-year program.

Spanish Conversation **Grade Level: 11, 12**
Level: Honors **Fulfills: Elective**
Credits: 2.5 per semester/5 per year
Prerequisites: Honors Spanish 2 (70) or Department Chair approval

Spanish Conversation - Honors is an accelerated course offered to High Intermediate Limited Spanish proficient students who wish to express themselves on "everyday" topics. Students will utilize more advanced grammatical skills such as the subjunctive. This course is not a replacement for courses Spanish 3 or Spanish 4, although it may be selected in addition to them.

Spanish Literature**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: Honors Spanish 3 or Department Chair approval****Grade Level: 10, 11, 12****Fulfills: Elective**

Spanish Literature - Is for students who wish to further explore the rich literary heritage of Spain and the Spanish speaking world. Selected readings will provide the basis for stylistic and textual analysis and understanding of the structure of literary works and the cultures that produced them. Authors may include Lope de Vega, Miguel Cervantes, Isabel Allende, Gabriel Garcia Marquez, Jorge Luis Borges, and Carlos Fuentes among others.

Spanish 1 - Heritage Speaker**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: Placement or Department Chair approval****Grade Level: 9, 10, 11, 12****Fulfills: Elective**

Spanish 1 - Heritage Speaker is for students who have native listening/speaking skills in Spanish, and who seek to meet college entrance requirements. This course emphasizes correct pronunciation, formal grammar (verb tenses, pronouns, etc.), listening comprehension, reading and writing in the foreign language, and a study of the customs and traditions of the Spanish-speaking people. It will initially move at a quicker pace than Spanish 1 - Honors, and will have a different emphasis, - more on reading and writing structure, with a rapid review of basic vocabulary.

Spanish 2 - Heritage Speaker**Level: Honors****Credits: 2.5 per semester/5 per year****Prerequisites: Placement or Department Chair approval****Grade Level: 10, 11, 12****Fulfills: Elective**

Spanish 2 - Heritage Speaker is for students who have native listening/speaking skills in Spanish, and who seek to meet college entrance requirements. This course emphasizes correct pronunciation, formal grammar (verb tenses, pronouns, etc.), listening comprehension, reading and writing in the foreign language, and a study of the customs and traditions of the Spanish-speaking people. It will continue the work done in Spanish 1 - Heritage Speaker, and will have an increased emphasis on reading and writing structure, with additional vocabulary and cultural investigation.

KHMER

Khmer 1

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: None

Grade Level: 9, 10, 11, 12

Fulfills: Elective

Khmer 1 - Honors is an accelerated course offered to students who are doing honors level work. This course is an introduction to the Khmer language: basic grammar, conversation, reading, writing, and an introduction to the customs, traditions, and culture of Khmer-speaking people.

Khmer 2

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Khmer 1 or Department Chair approval

Grade Level: 9, 10, 11, 12

Fulfills: Elective

Khmer 2 - Honors reviews the work of Khmer 1 and continues with a more concentrated study of grammar and the alphabet, sounds and characters, reading and writing. Since most students are highly motivated and college-bound, this class proceeds as rapidly as possible to meet the standards of college entrance requirements.

Khmer 3

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Khmer 2 or Department Chair approval

Grade Level: 9, 10, 11, 12

Fulfills: Elective

Khmer 3 – Khmer 3 emphasizes grammar and the finer points and idiomatic usage of the language. The skills in writing, reading, aural comprehension and oral expression are strengthened with an introduction to Khmer literature.

Khmer 4

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Khmer 3 or Department Chair approval

Grade Level: 10, 11, 12

Fulfills: Elective

Khmer 4 - Khmer 4 is for the student who wishes to further his/her knowledge of the Khmer language, and to help fulfill college graduation requirements while still in high school. This course will emphasize the practical use of Khmer in everyday situations as well as strengthen the four language skills of reading, writing, listening and speaking.

World Language Courses Quick Reference

LATIN

2113/2114	H-Latin 1	Grade 9, 10, 11, 12
2123/2124	H-Latin 2	9, 10, 11, 12
2147/2148	H-Latin Prose	11, 12
2149/2150	H-Latin Poetry	11, 12

PORTUGUESE

2613/2614	H-Portuguese 1	9, 10, 11, 12
2623/2624	H-Portuguese 2	9, 10, 11, 12
2633/2634	H-Portuguese 3	10, 11, 12
2643/2644	H-Portuguese 4	11, 12
2651/2652	H-Heritage Portuguese 1	9, 10, 11, 12
2653/2654	H-Heritage Portuguese 2	10, 11, 12

FRENCH

2313/2314	H-French 1 - Honors	Grade 9, 10, 11, 12
2323/2324	H-French 2 - Honors	Grade 9, 10, 11, 12
2333/2334	H-French 3 - Honors	Grade 10, 11, 12
2343/2344	H-French 4 - Honors	Grade 11, 12
2361/2362	H-French Text, Film and Media	Grade 11, 12

SPANISH

2511/2512	C-Spanish 1	Grade 9, 10, 11, 12
2513/2514	H-Spanish 1	Grade 9, 10, 11, 12
2521/2522	C-Spanish 2	Grade 9, 10, 11, 12
2523/2524	H-Spanish 2	Grade 9, 10, 11, 12
2531/2532	C-Spanish 3	Grade 9, 10, 11, 12
2533/2534	H-Spanish 3	Grade 9, 10, 11, 12
2541/2542	C-Spanish 4	Grade 10, 11, 12
2543/2544	H-Spanish 4	Grade 10, 11, 12
2545/2546	AP-Spanish 4	Grade 11, 12
2553/2554	H-Spanish Conversation	Grade 10, 11, 12
2561/2562	H-Spanish Literature	Grade 10, 11, 12
2503/2504	H-Spanish 1 - Heritage Speaker	Grade 9, 10, 11, 12
2507/2508	H-Spanish 2 - Heritage Speaker	Grade 10, 11, 12

KHMER

2713/2714	H-Khmer 1	Grade 9, 10, 11, 12
2723/2724	H-Khmer 2	Grade 9, 10, 11, 12
2733/2734	H-Khmer 3	Grade 10, 11, 12
2743/2744	H-Khmer 4	Grade 11, 12

Business, Marketing, and Finance Department

Stephen L. Gervais Jr., Department Chair

The Business - Marketing & Finance Department offers a diverse range of electives that equip students with valuable, marketable skills in areas such as accounting, personal finance, marketing, entrepreneurship, and retail marketing customer service and sales. In addition, students have the opportunity to earn industry-recognized certifications in OSHA standards, National Retail Federation's Customer Service and Sales.

Students may engage with the Business Department through multiple pathways: Business Marketing and Finance local Pathways as well as a Chapter 74* Marketing program for rising Grade 10 students. These provide options for structured courses of study tailored to their specific interests and career goals. Alternatively, students may opt to enhance their education by selecting business-related courses as electives, allowing for a broader exploration of the business field.

Grade 9	Grade 10	Grade 11	Grade 12
Business Explorations C 6230	Business Explorations C 6230	Sports & Entertainment Marketing C 6350	Entrepreneurship H 6313
-AND-	-AND-	-AND-	-AND-
Marketing C 6309	Marketing C 6309	Digital Marketing C 6317	Retail Marketing* H 6315
	-OR-	-AND/OR-	-AND/OR- Personal Finance C 6141 H 6143
	Business Law C 6211/C6212 H 6213/6214	Accounting C 6111/6112 H 6113/6114	-AND-
	-OR-	-AND/OR-	Intro to Financial Services* H 6161
	Accounting C 6111/6112 H 6113/6114	Microsoft Office C 6015	

- Students may take other business courses as long as they meet the prerequisite requirements.
- *Denotes capstone class with strict prerequisites.

BUSINESS MARKETING & FINANCE COURSES

BUSINESS EXPLORATIONS

Business Explorations
Level: College
Credits: 2.5
Prerequisites: None

Grade Level: 9, 10, 11
Fulfills: Elective

This is the perfect opportunity to explore the world of business. This course provides students with an opportunity to learn about Business, Entrepreneurship, Marketing, Business Law, and Accounting. Students will formulate their own business by working cooperatively with other members of the class. This is an engaging experience where collaboration, creativity, and critical thinking are the keys to a growth mindset needed by every member of our economy. *This course is intended for students who have not yet taken a business course.*

ACCOUNTING

Accounting
Level: College, Honors
Credits: 2.5 per semester/5 per year
Prerequisites: None

Grade Level: 10, 11, 12
Fulfills: Elective

Whether you are going to work for a small business, work for a multi-million-dollar company, a small business or start your own, you will always use financial skills. Accounting provides financial information to users for making decisions. In this detailed-oriented class, you will develop problem-solving, critical thinking, and financial literacy skills through a step-by-step instructional approach utilizing an Internet-based accounting program. You will learn accounting principles and practical applications as you experience the challenges of operating an event-planning service business.

BUSINESS LAW

Business Law 1
Level: College, Honors
Credits: 2.5 (one semester)
Prerequisites: None

Grade Level: 10, 11, 12
Fulfills: Elective

You will enjoy this course if you have an interest in the law and how our legal system works. Over the semester, you will be introduced to both criminal and civil law along with the Bill of Rights. You will also learn about employment law and the various forms of business. Honors level classes will be participating in mock trials, allowing you to practice your courtroom skills.

Business Law 2
Level: College, Honors
Credits: 2.5 (one semester)
Prerequisites: *Business Law 1 College*

Grade Level: 10, 11, 12
Fulfills: Elective

This course will expand your legal knowledge base, providing you with an understanding of the laws that affect you every day. The focus of the course is contract law along with consumer law; sales contracts; consumer protection laws; Cyber law; Cybercrime and E-Commerce through Internet transactions. You will also receive industry certification by completing the OSHA 10-hour training course, which is designed to teach workplace safety. *OSHA CERTIFICATION OPPORTUNITY*

FINANCE

Personal Finance
Level: College, Honors
Credits: 2.5 (one semester)
Prerequisites: None

Grade Level: 11, 12
Fulfills: Elective

Personal Finance will enable you to take control of your financial destiny by educating yourself on how finances impact your daily life as well as your future. You will put into practice strategies to manage money responsibly, set financial goals, and make daily financial decisions that affect your life. Each week students will make decisions on how to spend their money such as how much they want to save, paying bills, using a credit card and buying class privileges or even points to help your grade!!! Your ability to manage money is going to be one of the biggest factors going forward, in this class you will have the opportunity to do just that. In the Honors level course you will do a deeper dive into Investing and retirement options.

Intro to Financial Services (JDCU)
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: *10 credits of Business Courses and Permission of Dept. Chair*

Grade Level: 12
Fulfills: Elective

Introduction to Financial Services will include the basic principles and practices of credit unions and the financial industry. You will be exposed to accounting, technology, clerical, and back-office tasks, as they develop confidence under the guidance of a credit union professional. Upon completion of this course, you will have a solid understanding of financial concepts and will possess employable skills including cash handling, member service interaction, organization, and teamwork. This authentic learning permits you to explore hands-on, real-life situations and problem-solving coupled with independent practice. **PREREQUISITE:** Successful completion of 10 CREDITS of business courses with a passing grade of 80 or above combined with good attendance and permission of the Department Chair or Branch Supervisor. *Denotes capstone class with strict prerequisites.

Marketing

Marketing
Level: College
Credits: 2.5 (one semester)
Prerequisites: None

Grade Level: 9, 10, 11, 12
Fulfills: Elective

This course introduces you to the field of marketing. Marketing is the process of planning, pricing, promoting, selling, and distributing ideas, goods, and services to create exchanges that satisfy customers and return profits to the business. You will be introduced to content marketing, which is a strategic approach that focuses on creating and distributing valuable, relevant, and consistent content to attract and retain a clearly defined audience. That content will focus on the basic marketing functions; finance, market research, sales, and promotions which includes social media. The course addresses areas of publicity, advertisement design, visual merchandising, infographics, branding, and the selling process.

Digital/Social Media Marketing
Level: Honors
Credits: 2.5 (one semester)
Prerequisites: None

Grade Level: 10, 11, 12
Fulfills: Elective

Digital/Social Media Marketing prepares you for this evolving world of technology by providing foundational skills in digital marketing, social network platforms, and analytics. Tweets and emoji are terms that did not exist even a decade ago and yet they are now part of everyday speech and will be replaced by the next best technology trend. While technology trends come and go, longstanding marketing principles are embedded throughout the course so you learn to successfully navigate a continually changing environment while applying tried-and-true marketing methods. You will also create content while working for a fictional company in a simulation. A large portion of your grade will be dependent on how much Income and Impressions your content creates within the Simulation that you will be taking part in.

Entrepreneurship
Level: Honors
Credits: 2.5 (one semester)
Prerequisites: None

Grade Level: 10, 11, 12
Fulfills: Elective

You will use your entrepreneurial skills and mindset to evolve a solution to a problem into a business opportunity. The classroom provides a fast-paced, engaging opportunity for you to work weekly in group investigations that require students to present to the class individually and in groups, knowledge explorations, and learning lab days to apply many of the 21st century soft skills needed by any future employee in our world. Towards the end of the semester, you will have opportunities to pitch your business opportunities to judges in local, regional, and national competitions. The course is run in partnership with the University of Massachusetts - Lowell.

Retail Marketing
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: 7.5 Business credits, Recommendation

Grade Level: 12
Fulfills: Elective

This specialized hands-on course enables you to refine your business skills in a realistic business setting. Your laboratory is The 1826 School Store in which you will engage in marketing, merchandising, and management as you work directly with the public operating a small store. Due to the unique structure of this course. *Students can only take this course once. PREREQUISITE: Successful completion of 7.5 CREDITS of business courses with a passing grade of 80 or above or permission of Department Chair. NATIONAL RETAIL FEDERATION INDUSTRY CERTIFICATION OPPORTUNITY *Denotes capstone class with strict prerequisites.*

Retail Marketing**Level: College****Credits: 2.5 (one semester)****Prerequisites: 7.5 Business credits and permission of Dept. Chair****Grade Level: 11, 12****Fulfills: Elective**

Retail Marketing combines students of all abilities to participate in developmentally appropriate, hands-on retail marketing activities. This course is designed for students interested in working with peers who have cognitive or physical disabilities in an engaging retail-oriented setting. Students will collaborate to build competence and confidence in various aspects of retail marketing, including customer service, product display, advertising, and sales. Serving as teaching assistants and role models, student partners will support peers with special needs in developing positive communication, social skills, teamwork, and strategic thinking in an inclusive and enriching environment. Through this cooperative learning experience, students will build skills and foster relationships that support lifelong learning and potential career pathways in retail. Prerequisite: A passing grade in at least three business-related courses. Enrollment requests will be reviewed by Retail Marketing Instructors and the Business Department Head to ensure alignment with course goals and student readiness.

Sports & Entertainment Marketing**Level: College****Credits: 2.5 (one semester)****Prerequisites: None****Grade Level: 10, 11, 12****Fulfills: Elective**

The focus of this course is the basic principles of marketing and how they relate specifically to the sports and entertainment industries. You will take part in a semester-long simulation where you are running a stadium, booking concerts, and setting ticket prices to maximize profits. You may also have a unique opportunity to create a marketing plan to present to a member of the New England Patriots Marketing staff as part of a field trip to Gillette Stadium.

*Denotes capstone class with strict prerequisites.

Chapter 74* CTE Marketing Program

Marketing uses images and words to create positive perceptions, grow a business, and build relationships with customers. Marketing programs teach key business concepts through analysis of existing product marketing and developing solutions to marketing challenges. Students develop an understanding of the relationship between finance, sales, marketing, merchandising, and customer service. Through hands-on projects and experiences, they learn to apply marketing best practices in supervised business settings located within the school or in the community. Some schools may emphasize retail sales and marketing, while others may emphasize customer service, or market and financial analysis.”

* Definition taken from DESE website. For more information, please go to:

<https://www.doe.mass.edu/ccte/cvte/cte-families/programs.html?section=40-190203>

The LHS Marketing Program is geared toward students interested in majoring in Business Administration in college and/or entering the workforce in the areas of Marketing, Accounting and Finance immediately upon high school graduation. This is a MA DESE CTE approved program and students are required to apply through the Business Department or their school counselor through the CTE Admissions process and commit to fulfilling all required coursework and meeting the program hours.

The Marketing Program offers students authentic learning opportunities in the 1826 School Store, the LHS branch of the Jeanne D'Arc Credit Union, and paid Cooperative Education employment in grade 12. Students also benefit from the opportunity to achieve Industry Recognized Credentials (IRCs) in OSHA General Industry and National Retail Federation Customer Service & Sales.

Students in this Pathway are eligible to join Business Professionals of America (BPA) a student organization which provides students with the opportunity for educational and leadership development, personal and professional growth, and career related competencies.

Required Program Courses

- CTE Marketing 10*
- CTE Marketing 11
- CTE Marketing Theory 11
- CTE Marketing 12
- CTE Marketing Theory 12

**Only CTE Marketing 10 will be offered in SY 25-26*

Course Name: CTE MARKETING 10

Level: College

Grade Level: 10

Credits: 2.5 per semester/5 per year

Fulfills: Chapter 74 requirement

This full-year course engages students in marketing as a means to promote a product or service. They will do so by using computer software to design promotional flyers, create advertisements, and participate in a group advertising project. Students will study the principles of marketing through the creation of a marketing plan to operate and manage a business. Students will learn to support the plan through consumer science, selling, advertising, and profit goals through cost management. In addition, students will explore the elements of supply chain management, distribution channels, and product and service pricing as a function of marketing.

“Massachusetts Career and Technical Education Programs (CTE) prepare students to graduate with skills and credentials that will provide them with advanced employment opportunities if they enter the workforce immediately upon graduation. These CTE programs also provide students with high quality learning experiences that enable them to see and understand their future career paths, including continued education. Signature components of these programs include at least 900 hours of immersive learning time, co-operative education in partnership with local employers, and opportunities to earn high-value industry recognized credentials.”

**Definition taken from DESE website. For more information, please go to: <https://www.doe.mass.edu/ccte/pathways/cte/default.html>*

Business Courses Quick Reference

6230	C-Business Explorations - College	Grade 9, 10, 11
6111/6112	C-Accounting - College	Grade 10, 11, 12
6113/6114	H-Accounting - Honors	Grade 10, 11, 12
6211	C-Business Law 1 - College	Grade 10, 11, 12
6212	C-Business Law 2 - College	Grade 10, 11, 12
6213	H-Business Law 1 - Honors	Grade 10, 11, 12
6214	H-Business Law 2 - Honors	Grade 10, 11, 12
6141	C-Personal Finance - College	Grade 11, 12
6143	H-Personal Finance - Honors	Grade 11, 12
6161	Intro to Financial Services (JDCU) - Honors*	Grade 12
6309	C-Marketing - College	Grade 9, 10, 11, 12
6317	H-Digital/Social Media Marketing - Honors	Grade 10, 11, 12
6321	H-Entrepreneurship - Honors	Grade 10, 11, 12
6315	H-Retail Marketing - Honors*	Grade 12
6313	C-Retail Marketing - College	Grade 11, 12
6350	C-Sports & Entertainment Marketing - College	Grade 10, 11, 12
6501/6502	C-CTE Marketing 10	Grade 10

Culinary Department

Stephen L. Gervais Jr., Department Chair

The Culinary Arts Program is for students interested in careers within the Food Service and/or Hospitality Industry. The Hospitality industry is one of the largest and fastest growing industries in the world. The Culinary Program is a three-year program that follows a rigorous academic curriculum, but it also provides “hands-on” training in a student-operated restaurant. Students are exposed to different cooking and baking techniques, a variety of table services, and customer relations. All students complete the program with a portfolio and enough experience to secure an entry-level position within the Food Service and/or Hospitality Industry, although many choose to further their careers via the gateway to higher education. Food Related Courses provide an overview of the underlying science of cooking, and the role food plays in our daily lives in regards to diet and regional preferences.

	<i>9th Grade</i>	<i>10th Grade</i>	<i>11th Grade</i>	<i>12th Grade</i>
<i>Culinary Electives</i>		<i>Culinary Arts -Beginner</i>	<i>Culinary Arts – Intermediate</i> <i>Culinary Arts -Beginner</i>	<i>Culinary Arts - Advanced</i> <i>Culinary Arts – Intermediate</i>
<i>Foods Electives</i>	<i>Science of Cooking/Nutrition and Dietary Choices</i>	<i>Science of Cooking/Nutrition and Dietary Choices</i> <i>Regional Cuisine/International Foods</i>	<i>Science of Cooking/Nutrition and Dietary Choices</i> <i>Regional Cuisine/International Foods</i>	<i>Science of Cooking/Nutrition and Dietary Choices</i> <i>Regional Cuisine/International Foods</i>

CULINARY

Culinary Arts - Beginner

Level: Honors

Credits: 5 per semester/10 per year

Prerequisites: *Approval of Department Head*

Grade Level: 10, 11

Fulfills: Elective

Culinary Arts - Beginner teaches students how to be successful restaurant employees. Students learn to prepare foods and bakery items sold in the student-operated Daniel P. Kane Courtyard Restaurant. Students learn cooking, baking, and dining room service according to guidelines produced by the Massachusetts Restaurant Association and the Massachusetts Board of Health. Students learn the theory behind the restaurant's operation. Good attendance is imperative. Students will produce a personal portfolio. NOTE: This class meets every day for two periods.

MCC Articulation Agreement: Completion of 5311/5312 Culinary Arts - Beginner Systems, 5313/5314 Culinary Arts- Intermediate, and 5315/5316 Culinary Arts - Advanced with a minimum grade of 80 in each class.

Culinary Arts - Intermediate

Level: Honors

Credits: 5 per semester/10 per year

Prerequisites: *Culinary Arts - Beginner*

Grade Level: 11, 12

Fulfills: Elective

Culinary Arts - Intermediate is a follow-up course to Culinary Arts Beginners. Students receive further instruction in food preparation for the Daniel P. Kane Courtyard Restaurant. Several college presentations will explore higher education opportunities in the culinary arts field. Students will update their personal portfolio and have the opportunity to become ServSafe certified, recognized by the National Restaurant Association. NOTE: This class meets every day for two periods.

MCC Articulation Agreement: Completion of 5311/5312 Culinary Arts - Beginner Systems, 5313/5314 Culinary Arts- Intermediate, and 5315/5316 Culinary Arts - Advanced with a minimum grade of 80 in each class.

Culinary Arts - Advanced

Level: Honors

Credits: 5 per semester/10 per year

Prerequisites: *Culinary Arts - Intermediate*

Grade Level: 12

Fulfills: Elective

Culinary Arts - Advanced for the third year Culinary Arts student. While working in the Daniel P. Kane Courtyard Restaurant, students will work independently on various tasks and projects. These students will also explore the many facets of onsite catering. NOTE: This class meets every day for two periods.

MCC Articulation Agreement: Completion of 5311/5312 Culinary Arts - Beginner Systems, 5313/5314 Culinary Arts- Intermediate, and 5315/5316 Culinary Arts - Advanced with a minimum grade of 80 in each class.

Internship
Level: Honors
Credits: 5 per semester
Prerequisites: *Approval of Department Chair*

Grade Level: 12
Fulfills:

High school internships allow students to explore their areas of interest, build skills, get prepared for college, and gain real-world work experience in a workplace environment. Students will be released from school to work with a company as they are exposed and participate in real world experiences in a business setting. Students will work with their counselors to find a proper fit and placement with a local company in their area of interest. NOTE: Coordinator and Parent approval needed to take this course. This is a 2-period course and runs Periods 6B & 7.

FOODS

The Science of Cooking
Level: College
Credits: 2.5 (one semester)

Grade Level: 9, 10, 11, 12
Fulfills: Elective
Prerequisites: *None*

The Science of Cooking encompasses a variety of food related subjects and offers basic cooking skills that are important for everyone to have. Take a heaping bowl of nutrition, sprinkle with science, and stir in a dash of writing. Blend in a pinch of mathematics and simmer. Serve with cooking techniques and culinary skills. Explore the relationship between food and a variety of subjects across the curriculum.

Nutrition and Dietary Choices
Level: College
Credits: 2.5 (one semester)

Grade Level: 9, 10, 11, 12
Fulfills: Elective
Prerequisites: *None*

In today's world people's food choices have a direct impact on their health and wellbeing along with an impact on their wallet. Take a peek into carnivore, herbivore, vegetarian and vegan lifestyles while exploring the new lifestyle of organic foods, farm-to-table diets, paleo diets, and other alternative diet choices. Let's explore the science of diets and how it can impact your lifestyle.

Regional Cuisines
Level: College
Credits: 2.5 (one semester)

Grade Level: 10, 11, 12
Fulfills: Graduation Requirement
Prerequisites: *None*

Travel our 50 states to find the best foods America has to offer. This course explores the awesome foods this country has to offer both now and throughout history. Learn about the regional foods of the United States geographically, historically and tastefully.

International Foods
Level: College
Credits: 2.5 (one semester)

Grade Level: 10, 11, 12
Fulfills: Elective
Prerequisites: *None*

Join us as we explore foreign foods from around the world both familiar and unique. We'll visit the four corners of the world learning about foods and cultures of countries in Europe, Asia, Africa and the Americas. Broaden your knowledge of geography, history, foreign customs and foods from our friends around the world.

Foods and Culinary Courses Quick Reference

CULINARY

5311/5312	Culinary Arts - Beginners - Honors	Grade 10, 11, 12
5313/5314	Culinary Arts - Intermediate - Honors	Grade 11, 12
5315/5316	Culinary Arts - Advanced - Honors	Grade 12
6802	Internship - Honors	Grade 12

Culinary Arts classes are block classes and run for 2 periods

FOODS

5101	The Science of Cooking - College	Grade 9, 10, 11, 12
5102	Nutrition and Dietary Choices - College	Grade 9, 10, 11, 12
5103	Regional Cuisine - College	Grade 10, 11, 12
5104	International Foods - College	Grade 10, 11, 12

Fine & Performing Arts

Jessica Daviso, Department Chair

The Fine and Performing Arts Department of Lowell Public Schools envisions a dynamic educational landscape where creativity, collaboration, and critical thinking converge to cultivate the artistic voices of every student. We are committed to fostering a transformative learning environment that emphasizes innovative practices and integrates the latest trends in education. Our curriculum is designed to enhance not only artistic skills and technical proficiency but also essential 21st-century competencies such as digital literacy, global awareness, and social-emotional development.

Recommended Course Sequences in Fine & Performing Arts

Students in any grade may begin a sequence in the arts.

	Year 1	Year 2	Year 3	Year 4
Choral Music	Show Choir Sound Impressions (mixed group) Show Choir Soundsations (female-only) Concert Chorus (mixed group)			
Band	Beginner Band	Intermediate Band		
Instrumental Music	Modern Music Piano & Music Theory Guitar & Music Theory Percussion Ensemble			Advanced Music Theory
General Music	Evolution of Hip Hop Music Exploration Music Technology & Engineering Music in Television & Film History of Broadway			Advanced Music Theory
Dance	Dance 1/2	Dance 3/4	Advanced Dance Unified Dance	Senior Dance Project Unified Dance
Studio Art	Art 1/2	Art 1/2 Intermediate Art 3/4: 2D Studio 3D Studio Digital Photo Mural Painting Visual Storytelling		Advanced Art 5/6
Digital Media	Digital Media 1/2		Digital Media 3/4	
Graphic Design	Graphic Design 1/2		Graphic Design 3: Intermediate Graphics Graphic Design 4: Dual Enrollment MCC	
Theater	Theater 1/2 Theater Design	Theater 1/2 Theater Design	Theater 5/6 Theater Design	

Music Courses

Concert & Marching Band - Beginner

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: none, placement based on ability

Grade Level: 9,10,11,12

Fulfills: Health & PE Requirement

Beginner and Intermediate sections of Concert/Marching Band include the same curriculum, but provide 2 levels of instruction targeted to students' needs. Any students looking to learn/perform on instruments traditionally found in a band are welcome to join. The LHS band performs at local community and regional competitive events. In this course, you will learn music theory, composition/arranging, and traditional band literature for the Winter Concert, Spring Concert, festival performance, and graduation. Student attendance for all in-school and out of school rehearsals and performances are MANDATORY course requirements. Meets the Health & PE Graduation Requirements.

Concert & Marching Band - Intermediate

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: none, placement based on ability

Grade Level: 9,10,11,12

Fulfills: Health & PE Requirement

Beginner and Intermediate sections of Concert/Marching Band include the same curriculum, but provide 2 levels of instruction targeted to students' needs. Any students looking to learn/perform on instruments traditionally found in a band are welcome to join. The LHS band performs at local community and regional competitive events. In this course, you will learn music theory, composition/arranging, and traditional band literature for the Winter Concert, Spring Concert, festival performance, and graduation. Student attendance for all in-school and out of school rehearsals and performances are MANDATORY course requirements. Meets the Health & PE Graduation Requirements.

Piano & Music Theory

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: none

Grade Level: 9,10,11,12

Fulfills: Graduation Requirement

In Piano & Music Theory, students will learn to play the piano in a lab setting. Each student will have access to a piano and will work at his/her own pace. Students will acquire basic music theory skills and knowledge to enhance their piano performance. This course is meant for students who have no piano and/or music theory experience. No prerequisites.

Guitar & Music Theory

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: none

Grade Level: 9,10,11,12

Fulfills: Graduation Requirement

In Guitar & Theory, students will learn to play the guitar in a lab setting. Each student will have access to a guitar and will work at his/her own pace. Students will also acquire basic music theory to enhance their guitar performance. This class is meant for students who have no guitar and/or music theory experience.

Percussion Ensemble
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: none

Grade Level: 9,10,11,12
Fulfills: Graduation Requirement

In Percussion Ensemble, students will learn various techniques of percussion instruments through performing in small or large group performances. While the class is primarily a concert percussion setting you will study hand drumming, pitched percussion, drum set, drum line, body percussion, etc. The styles of music we perform will range from Contemporary, Classical, Drum Circles, and arrangements of Modern songs adapted for percussion instruments. Student attendance for all out of school performances are MANDATORY course requirements.

Modern Music
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: successful completion of 1 other music class

Grade Level: 10,11,12
Fulfills: Graduation Requirement

Modern Music Class is an upper-level music elective. It is an opportunity to take your knowledge of an instrument/your voice to the next level by working in groups with classmates to learn songs and be exposed to a wide range of genres in modern music. Students will not only learn how to play in an ensemble setting, but how to arrange for a variety of instruments. Student attendance for all out of school performances are MANDATORY course requirements.

Show Choir Soundsations (female group)
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Audition

Grade Level: 9,10,11,12
Fulfills: Health & PE Requirement

Show Choir Soundsations is a female-only performance-based class where students learn to prepare and perform a range of musical styles. Students learn how to add choreography to songs, as well as text interpretation, facial and body expression, and many performance skills. This co-curricular class includes mandatory afterschool and evening rehearsals, a variety of performances, 4-5 competitions, and a festival each year. There is a financial commitment that must be met for this group through fundraising. Meets the Health & PE Graduation Requirements.

Show Choir Sound Impressions (mixed group)
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Audition

Grade Level: 9,10,11,12
Fulfills: Health & PE Requirement

Show Choir Sound Impressions is a performance-based class where students learn to prepare and perform a range of musical styles. Students learn how to add choreography to songs, as well as text interpretation, facial and body expression, and many performance skills. This co-curricular class includes mandatory afterschool and evening rehearsals, a variety of performances, 4-5 competitions, and a festival each year. This is an auditioned class. Students must perform independently or in small groups annually to determine placement in the group. There is a financial commitment that must be met for this group through fundraising. Meets the Health & PE Graduation Requirements.

Concert Chorus
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: None

Grade Level: 9,10,11,12
Fulfills: Graduation Requirement

Concert chorus is a mixed ensemble for all genders that performs music from various genres, time periods and languages. Students sing at the annual winter and spring concerts and other performance opportunities as they arise. There is no dance requirement for this ensemble and no prior experience is needed.

Music Exploration

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: none

Grade Level: 9,10,11,12

Fulfills: Graduation Requirement

Music Exploration is a cross-curricular, immersive and inclusive arts course. Students will have the opportunity to learn about how we hear music, how music affects our lives, and how learning music from different cultures and genres deepens our historical understanding of the world around us. This elective course includes performing on drums, singing, playing a variety of instruments, creating and presenting projects, and responding-to and connecting-with music in our lives.

Evolution of Hip Hop

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: none

Grade Level: 9,10,11,12

Fulfills: Graduation Requirement

Whether you're a fan of Tupac or Biggie, this course has something for everyone! Dive into the roots of rap music and explore its artistic, lyrical, and cultural impact on today's society. In this class, you'll transform your understanding of rap and Hip Hop, becoming an expert in the genre. Discover where rap began, explore graffiti art, learn about pioneering rap artists, DJs, and beatboxing, and experience The Evolution of Hip Hop like never before. Join us and embrace the rhythm, creativity, and legacy of one of the most influential music genres of our time!

Music Technology & Engineering

Level: Honors

per semester/5 per year

Prerequisites: none

Grade Level: 9,10,11,12

Fulfills: Graduation Requirement Credits: 2.5

Explore the intersection of music and technology in this hands-on course taught in a state-of-the-art digital piano lab. Students will learn the fundamentals of music production, sound engineering, and digital composition. Topics include MIDI sequencing, audio recording, editing, and mixing techniques, as well as creating original music using professional software and hardware. Whether you're a beginner or have prior music experience, this course will help you develop the technical and creative skills needed to bring your musical ideas to life.

Advanced Music Theory

Level: Honors

Credits: 2.5 per semester/5 per year

Prerequisites: Successful completion of 2 instrumental music classes and permission of the instructor

Grade Level: 11,12

Fulfills: Graduation Requirement

This course is designed to enhance your ability to recognize, understand, and describe the fundamental materials and processes of music, both aurally and visually. Through a blend of historical exploration and skill development, you will strengthen your aural skills, sight-singing, composition, and analytical abilities. Activities include listening, performing, writing, and creative exercises to deepen your understanding of music theory. You will master essential musical concepts, such as notating pitches, intervals, scales, keys, chords, meter, and rhythm, while improving your music reading and writing skills. Proficiency in reading and writing musical notation is critical for success, and it is highly recommended that students have basic performance experience with an instrument or voice.

Music in Television & Film
Level: Honors
per semester/5 per year
Prerequisites: none

Grade Level: 9,10,11,12
Fulfills: Graduation Requirement Credits: 2.5

Music is an integral part of any film or television show. It has the power to evoke emotion, set the tone for a scene, and even create a powerful connection with the audience. In this course, students will explore how music is used in film and television, from its role in enhancing the story to the different genres of music used. We will also explore how music can create a powerful connection between the audience and the characters.

History of Broadway
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: None

Grade Level: 9,10,11,12
Fulfills: Graduation Requirement

The Broadway musical is a uniquely American genre, incorporating contemporary literature, jazz, popular music, rock music, and dance. Students in this course will explore the History of Broadway by viewing and analyzing performances of American Musical Theater. Students will study the creative process: how a show evolves, why adjustments occur, and how artists make decisions; but we will also look beyond, exploring recurring sociological perspectives evident throughout 20th-century American Musical Theater history. This course provides a looking glass into our nation's shifting cultural attitudes, challenging societal issues, and individual and collective struggles and triumphs. Throughout the course, students will examine various musicals that deal with the complex issues of gender, race, prejudice, urban violence, ethical dilemmas, and more. Students' final projects will examine a musical of their choice and the questions it raises.

Dance Courses

Dance 1/2: Modern & Jazz Technique
Level: Honors
Credits: 5 per year
Prerequisites: None, must be taken in-sequence

Grade Level: 9,10,11,12
Fulfills: Health & PE Requirement

Modern & Jazz Technique introduces the fundamentals of modern and jazz dance. Content to be covered includes daily warm-up exercises, the study of technique, basic combinations, improvisation, and performance-based pieces. Students will also learn about the history of dance, other dance forms, and styles as well as the cultural and social aspects of the various forms. Projects and studio performance are part of the assessment criteria. Attendance at scheduled performances is mandatory. These are the first and second classes in a series of four core dance classes.
Meets the Health & PE Graduation Requirements.

Dance 3/4: Technique & Composition
Level: Honors
Credits: 5 per year
Prerequisites: Successful completion of Dance 1/2

Grade Level: 10,11,12
Fulfills: Health & PE Requirement

Technique and Composition is for those students who want to continue with the study of dance. Content will include more complex stretches and combinations as well as the continued study of improvisation, composition skills, dance history and theory. Projects and studio performances are part of the assessment.

Attendance at scheduled performances is mandatory. This is the third and fourth classes in a series of four core dance classes.
Meets the Health & PE Graduation Requirements.

Dance 5/6: Advanced Dance Studies

Level: Honors

Credits: 5 per year

Prerequisites: Successful completion of dance 3/4

Grade Level: 11,12

Fulfills: Health & PE Requirement

Advanced Dance Studies and Choreography offers the serious dancer a chance to continue with her/his study of dance at a more advanced level. Personal exploration through an in-depth study of improvisation as well as technique and choreography will be the main focus in this class. Assessments will include written work and on-going studio performances and exhibitions. Attendance at scheduled performances is mandatory.

Meets the Health & PE Graduation Requirements.

Dance 7/8: Senior Dance Project

Level: Honors

Credits: 5 per year

Prerequisites: Successful completion of dance 5/6

Grade Level: 12

Fulfills: Health & PE Requirement

Senior Dance Project will explore a personal movement style and at the same time investigate the styles of dance masters throughout history. Students will continue to study dance theory, abstract movement, improvisation, composition, and critical evaluation of dance and the arts.

Meets the Health & PE Graduation Requirements.

Dance Unified Dance

Level: Honors

Credits: 5 per year

Prerequisites: Teacher or Department Chair approval

Grade Level: 11,12

Fulfills: Graduation Requirement

Unified Dance combines students of all abilities to fully participate in developmentally appropriate dance oriented activities. Unified Dance is designed for students who are interested in working with students who have cognitive or physical disabilities in an active setting. Students will work together to increase competence and confidence in a variety of developmental activities.

Student partners will serve as teaching assistants and modeling peers for the students who have special needs. Students will work one-on-one and/or on small teams to support their special needs peers with developing and enhancing positive communication, social skills, fitness, game strategies, teamwork, & movement skills in a cooperative inclusive enriching environment to facilitate lifelong learning and relationships. The goal for interested students should be to provide a positive social & learning experience.

Studio Art Courses

Art 1/2: Introduction to Art
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: None

Grade Level: 9,10,11,12
Fulfills: Graduation Requirement

Art 1&2: Introduction to Art is the prerequisite art course that leads to all other courses in the visual arts pathway. Students will explore a variety of art mediums, tools, and techniques while developing foundational skills in drawing, painting, printmaking, and sculpture.

Art 3/4: Intermediate Studio Art 2D
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Art 1/2

Grade Level: 10,11,12
Fulfills: Graduation Requirement

This intermediate-level visual art class explores 2D media, like drawing, painting, printmaking, muralism, comic books, and fibers. In this course, students will explore various concepts and ideas from art history, create artworks in a variety of mediums, engage in critiques using the language of visual art, and build on their understanding of the Elements of Art & Principles of Design.

Art 3/4: Intermediate Studio Art 3D
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Art 1/2

Grade Level: 10,11,12
Fulfills: Graduation Requirement

This intermediate-level visual art class explores 3D forms of art making in clay, plaster, wire, wood, paper, and found objects. Students will create freestanding sculptures, reliefs, mobiles, stabiles, and constructions using both additive and subtractive sculptural processes. With an emphasis on studio production, this course is designed to develop technical skills through the creation of 3D artworks, build higher-level thinking skills through critique and self-assessment, grow an understanding of art history, and encourage the development of unique artistic voices.

Art 3/4: Digital Photo
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Art 1/2

Grade Level: 10,11,12
Fulfills: Graduation Requirement

This intermediate-level visual art class explores digital photography, photo manipulation, and editing. Students will explore the artistic qualities of modern digital photography, including the fundamentals of using a digital camera, computer, and printer to create unique images. Additionally, students will learn how to manipulate and transform their images using Adobe Photoshop and Lightroom. A study of professional digital photographers combines with hands-on projects to complement the technical coursework.

Art 3/4: Mural Painting
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Art 1/2

Grade Level: 10,11,12
Fulfills: Graduation Requirement

This intermediate-level visual art class explores the process of designing and creating large-scale mural art. Students will learn the fundamentals of mural painting, including surface preparation, scaling designs, color theory, and the use of various painting techniques to create impactful, public works of art. Through hands-on projects, students will collaborate on the creation of indoor and outdoor murals, developing skills in teamwork and community engagement. Additionally, students will study the history and cultural significance of mural art, examining the works of renowned muralists for inspiration.

Art 3/4: Visual Storytelling/Comics
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Art 1/2

Grade Level: 10,11,12
Fulfills: Graduation Requirement

This intermediate-level visual art class focuses on the art of storytelling through comics and graphic narratives. Students will explore the essential elements of visual storytelling, including character design, sequential art, panel composition, and the use of symbolism and visual metaphors. Using both traditional drawing techniques and other tools, students will develop their own unique stories, learning how to craft compelling narratives that blend text and visuals. A study of influential comic artists and graphic novelists complements hands-on projects, giving students insight into professional techniques and styles.

Art 5/6: Advanced Art
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Art 1/2 and 2 intermediate art courses

Grade Level: 11,12
Fulfills: Graduation Requirement

Advanced Art is an advanced-level course for junior and senior students who are applying to art school, interested in an art-related career, or whose desire for intensive study in the visual arts will provide the self-motivation necessary to be successful in this year-long course. Students in Advanced Art will develop a body of work that demonstrates a broad understanding of various art mediums while cultivating a depth of artistic vision and creativity. This is an intensive course and students must show a commitment to the production of artworks at a rigorous pace. Students will build from an assignment-based curriculum to set independent goals for each of their final artworks. Students will develop college-ready portfolios that accurately reflect their technical and aesthetic expertise and unique artistic voices.

TV/Film & Digital Media Courses

Digital Media 1/2: Introduction to Digital Media
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: none

Grade Level: 9,10,11,12
Fulfills: Graduation Requirement

This class is for students who want to explore the creation of film, animation, TV, podcasting and other forms of digital media through hands-on experience. Students will learn the basics of creating and editing video, images and audio recordings. Students will utilize the Adobe Suite applications such as Photoshop, Illustrator and Premiere Pro.

Digital Media 3/4: Intermediate Film
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Digital Media 1/2

Grade Level: 10,11,12
Fulfills: Graduation Requirement

This is an intermediate level class. In this class students will gain the skills necessary to create independent films. The course will cover both documentary and narrative filmmaking. Students will be trained to utilize high-end digital video cameras, lighting fixtures and sound equipment. Students will take part in multiple roles of production including director, cinematographer, editor, visual effects artist and audio technician. Students' work will be created with the goal of submission to local and national film festivals.

Graphic Design Courses

Graphic Design 1/2: Introduction to Graphic Design **Grade Level: 9,10,11,12**
Level: Honors **Fulfills: Graduation Requirement**
Credits: 2.5 per semester/5 per year
Prerequisites: None

Graphic Design 1&2 merges the strength of solid principles of art and design with the technology of today. In this course, students will learn to manipulate, create and produce digital art forms using Adobe Illustrator and understand how to use the computer as a drawing tool. Students will understand the entire design process and take an idea from the concept state to the finished product. Students will be encouraged to express themselves artistically while discovering the powerful tools of digital technology. In the second semester, students will learn how to use the program Adobe Photoshop and understand how to manipulate and alter photos using the computer. While developing the basic principles of layout design and will take an in-depth look at typography as an art form. Students will be encouraged to develop a creative approach to computers and software as well as a discerning eye towards the visual message.

Graphic Design 3: Intermediate Graphic Design **Grade Level: 10,11,12**
Level: Honors **Fulfills: Graduation Requirement**
Credits: 2.5 per semester
Prerequisites: Graphic Design 1/2

Graphic Design 3 uses the skills previously learned in Graphic Design 1&2 and challenges the student to create graphic solutions to an array of design problems. In addition to an in-depth look at the history of design and a study of the current professional practices, students will also be devising long-term design projects in the concentration of their choice that will cover every stage of the design process.

Graphic Design 4: Graphics 1 (EC-MCC) **Grade Level: 10,11,12**
Level: Early College **Fulfills: Graduation Requirement**
Credits: 2.5 per semester
Prerequisites: Graphic Design 3 with grade of 80% or higher, a score of 480 or better on the PSAT/SAT verbal test, and teacher recommendation

In partnership with MCC, this advanced-level course provides an introduction to the basic elements and concepts of graphic design. Emphasis is on developing an ability to create cohesive and expressive designs using graphic principles as a basis. Assigned projects will be produced for presentation and in-class discussion.

Theater Courses

Theater 1/2: Introduction to Theater **Grade Level: 9,10,11,12**
Level: Honors **Fulfills: Graduation Requirement**
Credits: 2.5 per semester/5 per year
Prerequisites: None

Theater 1/2 is an overview of the dramatic and theatrical arts. Students will learn the basic foundations and techniques of acting, improvisation, character analysis, script analysis, and movement, developing ensemble and individual performance skills. Students will be required to perform regularly during class. Actors will focus on enhancing their skills through acting games, improvisation, scene work, and monologues. There is no after school commitment.

Theater 3/4: Intermediate Theater
Level: Honors
Credits: 2.5 per semester/5 per year
Prerequisites: Theater 1/2

Grade Level: 9, 10,11,12
Fulfills: Graduation Requirement

Theater 3/4 is a performance-based course. Students will build upon basic foundations and techniques of acting, improvisation, character analysis, script analysis, and movement. Students will be required to perform regularly for the class. Actors will focus on enhancing their skills through rehearsing the school play/musical that will result in a performance at the end of the term. NOTE: Student attendance for all in-school and out of school rehearsals and performances are MANDATORY course requirements. This class prepares students for acting in the LHS drama and musical productions. Students wishing to appear in these events MUST be enrolled in Theater 3/4 or 5/6.

Theater 5/6: Advanced Theater
Level: Honors
Credits: 5 per year
Prerequisites: Theater 3/4

Grade Level: 10,11,12
Fulfills: Graduation Requirement

Theater 5/6 is a performance-based course where students prepare repertoire for inclusion in the Massachusetts High School Drama Festival/ This competitive program takes place in March, and typically includes 112 one-act plays produced by member high schools. The competition is organized across three levels – preliminary, semi-final and State Finals. Two schools chosen from the State Finalists will go on to represent Massachusetts in the New England Drama Festival, the regional showcase of secondary school theater. At the beginning of the school year we will choose an existing one act play, cut a play, or devise a play. Class time from September through March will be devoted to creating/rehearsing and performing our play. Once Drama Fest is completed, we will begin working on a play for young audiences that we can either bring to local elementary schools or invite young audiences to come to us. This is a full school year commitment. NOTE: Student attendance for all in-school and out of school rehearsals and performances are MANDATORY course requirements. This class prepares students for acting in the LHS drama and musical productions. Students wishing to appear in these events MUST be enrolled in Theater 3/4 or 5/6.

Theater Design
Level: Honors
Credits: 2.5 per semester/5 per year

Grade Level: 9, 10,11,12
Fulfills: Graduation Requirement
Prerequisites: none

Students in theater design will explore all aspects of theatrical lights, sound, scenic design, costuming, hair, and makeup. Through project based learning, students will learn to think like designers and gain creative and practical skills to carry out certain aspects of design. Some examples of projects and activities students will participate in are: special effects makeup design and application, how to draw the human form and face to effectively display costume and makeup design, the basics of how to operate a soundboard and light board, and collaborating with other students to create a fully realized design concept for a short play, which may be brought to life with actors from other theater classes. This class will give students the necessary skills to apply to be a designer or stage manager for the yearly school play and/or musical.

Fine Arts Courses Quick Reference

7141/7142	H-Concert & Marching Band - Beginner	Grade 9,10,11,12
7143/7144	H-Concert & Marching Band - Intermediate	Grade 9,10,11,12
7121	H-Piano & Music Theory	Grade 9,10,11,12
7131	H-guitar & Music Theory	Grade 9,10,11,12
7133	H-Percussion Ensemble	Grade 9,10,11,12
7151/7152	H-Modern Music	Grade 9,10,11,12
7297/7298	H-Show Choir Soundsations (all female)	Grade 9,10,11,12
7299/7300	H-Show Choir Sound Impressions (mixed)	Grade 9,10,11,12
7339/7340	H-Concert Chorus	Grade 9,10,11,12
7161	H-Music Exploration	Grade 9,10,11,12
7153	H-Evolution of Hip Hop	Grade 9,10,11,12
7361	H-Music Technology & Engineering	Grade 9,10,11,12
7421	H-History of Broadway	Grade 9,10,11,12
7357/7358	H-Advanced Music Theory	Grade 11,12
7163/7164	H-Music in Television and Film	Grade 9,10,11,12
7905/7906	H-Dance 1 & 2: Modern & Jazz Technique	Grade 9,10,11,12
7907/7908	H-Dance 3 & 4: Technique & Composition	Grade 10,11,12
7953/7954	H-Dance 5 & 6: Advanced Dance Studies	Grade 11,12
7983/7984	H-Dance 7 & 8: Senior Dance Project	Grade 12
7991/7992	N-Unified Dance	Grade 11,12
7513/7514	H-Art 1 & 2: Introduction to Studio Art	Grade 9,10,11,12
7521/7522	H-Art 3 & 4: Intermediate Studio Art 2D	Grade 10,11,12
7523/7524	H-Art 3 & 4: Intermediate Studio Art 3D	Grade 10,11,12
7529/7530	H-Art 3 & 4: Intermediate Digital Photo	Grade 10,11,12
7525/7526	H-Art 3 & 4: Mural Painting	Grade 10,11,12
7527/7528	H-Art 3 & 4: Visual Storytelling/Comics	Grade 10,11,12
7543/7544	H-Art 5 & 6: Advanced Art	Grade 11,12
7825/7826	H-Digital Media 1 & 2: Introduction to Digital Media	Grade 9,10,11,12
7827/7828	H-Digital Media 3 & 4: Intermediate Film	Grade 10,11,12
7747/7748	H-Graphic Design 1 & 2: Introduction to Graphic Design	Grade 9,10,11,12
7758	H-Graphic Design 3: Intermediate Graphic Design	Grade 10,11,12
7760	DE-Graphic Design 4: Graphics I	Grade 10,11,12
7411/7412	H-Theater 1 & 2: Introduction To Theater	Grade 9,10,11,12
7413/7414	H-Theater 3 & 4: Intermediate Theater	Grade 10,11,12
7415/7416	H-Theater 5 & 6: Advanced Theater Drama Fest Practicum	Grade 11,12
7425/7426	H-Theater Design	Grade 9,10,11,12

U. S. AIR FORCE JUNIOR ROTC AEROSPACE SCIENCE

Donald E. Felch, CMSgt, USAF (Retired)

The Air Force Junior ROTC Pathway is a four-year citizenship program designed to develop citizens of character dedicated to serving their nation and community. The objectives of AFJROTC are to educate and train high school cadets in citizenship, promote community service, instill responsibility, character, and self-discipline, and provide instruction in air and space fundamentals. The program is grounded in the Air Force core values of integrity first, service before self, and excellence in all we do. The curriculum emphasizes the Air Force heritage and traditions, the development of flight, applied flight sciences, military aerospace policies, and global awareness. Rigid academic courses in military science and leadership provide a solid foundation. The curriculum shows students how to reach their full potential while serving society through self-discipline, structure, followership, and leadership. Students are challenged by assuming various leadership positions throughout the Lowell High School Cadet Corps. Senior Cadets are responsible for organizing, planning, and coordinating all cadet operations and activities.

In addition to classroom curriculum, learning includes numerous extra-curricular activities including before/after school programs, field trips, and community service activities. These activities emphasize teamwork, discipline, and community engagement.

The AFJROTC program is offered to all Lowell High School students who meet the following requirements:

- Enrolled as a regular student in Lowell High School
- Physically fit. (Eligible to participate in Physical Education)
- Students must agree to meet AFJROTC grooming standards and to wear the uniform at least one day per week and on special occasions as required. (Uniforms are provided at no cost to the student; however, students are responsible for uniform cleaning as necessary.)

Note: There is no military commitment required to be involved in the program.

AFJROTC may be substituted each year for the Physical Education and Health graduation requirement. Students who successfully complete two years in the program receive a *Certificate of Training*, while those completing three or more years receive a *Certification of Completion*.

AEROSPACE SCIENCE (AFJROTC)

AFJROTC 1: Aviation History
Level: Honors
Credits: 2.5 credits Per Semester/5 Credits
Prerequisites: None

Grade Level: 9, 10, 11, 12
Fulfills: PE & Health Requirement

Aviation History introduces students to the AFJROTC program and focuses on Air Force heritage, organization, and traditions. Additionally, students learn customs and courtesies of the Air Force. Individual control through personal behavior and responsibility are taught. Students learn about citizenship and the US flag. Studies relate directly to the academic subject matter, with focus on study habits and time management. The Aerospace Science portion reviews the development of flight from ancient legends through the Persian Gulf War and beyond. Additionally, the role of the military throughout the history of the U.S. is identified. The second half of the course describes the makeup of the aerospace community and the United States Air Force. Wellness, health and fitness, as well as instruction in military drill and ceremonies round out the course content. *(Meets Physical Education and Health Requirements.)*

AFJROTC 2: Science of Flight
Level: Honors
Credits: 2.5 credits Per Semester/5 Credits
Prerequisites: AFJROTC 1

Grade Level: 10, 11, 12
Fulfills: PE & Health Requirement

Science of Flight Focuses on communication skills, writing, and public speaking. Cadets are further challenged in their leadership development through coursework in team building and follow leadership material. Cadet corps activities will encompass developmental skills for future positions of leadership. Responsibilities will include the planning, training and execution of cadet corps projects by becoming potential flight commanders. As part of the curriculum, education in financial management and budgeting is offered by the Hanscom Federal Credit Union. Aerospace Science curriculum focuses on the aerospace environment, principles of aircraft flight, navigation and human elements of flight. Cadets are eligible to participate on orientation flights when available through United States Air Force or Reserve units. Wellness, health and fitness, as well as further development in drill and ceremonies round out the course content. *(Meets Physical Education and Health Requirements.) PREREQUISITE: Successful completion of AFJROTC 1 - Aviation History.*

AFJROTC 3: Life Skills/Careers
Level: Honors
Credits: 2.5 credits Per Semester/5 Credits
Prerequisites: AFJROTC 2

Grade Level: 11, 12
Fulfills: PE

Life Skills and Careers is designed to prepare students for life after high school in the high-tech, globally oriented, and diverse workplace including charting a course for post-secondary education or entry into the workforce; job application, resume preparation and interviewing skills; military career opportunities and careers in public service; and career skill development. Aerospace Science curriculum, An Introduction to Global Awareness, introduces students to the study of world affairs, regional studies, and cultural awareness. It delves into history, geography, religions, languages, culture, political systems, economics, social issues, environmental concerns, and human rights. Visits are made to colleges, industry and military bases when available. Wellness, health and fitness round out the course content. *(Meets Physical Education and Health Requirements.) PREREQUISITE: Successful completion of AFJROTC 2 - Science of Flight*

AFJROTC 4 Principles of Management
Level: Honors
Credits: 2.5 credits Per Semester/5 Credits
Prerequisites: AFJROTC 3

Grade Level: 12
Fulfills: PE Requirement

Principles of Management is for Seniors who are not selected for the Management of the Cadet Corps but continue with AFJROTC for a 4th year. Leadership Education continues with an introduction to management principles, the historical roots of contemporary management practices, and the management environment. The course then continues with a discussion of planning to include the foundations of planning and decision making, as well as managing change, stress, and innovation. The course includes ethical dilemmas faced, case studies, and role play activities to give students the opportunity to practice what they learn. The Aerospace Science curriculum continues global awareness studies through the remainder of regions not previously covered in AS-III. Wellness, health and fitness round out the course content. *(Meets Physical Education and Health Requirements.) PREREQUISITE: Successful completion of AFJROTC 3 - Life Skills/Careers*

AFJROTC 4 Management/Cadet Corps
Level: Honors
Credits: 2.5 credits Per Semester/5 Credits
Prerequisites: AFJROTC 3

Grade Level: 12
Fulfills: PE Requirement

Management & the Cadet Corps continues with an introduction to management principles, the historical roots of contemporary management practice, and the management environment. The course then continues with a discussion of planning to include the foundations of planning and decision making, as well as managing change, stress, and innovation. The course includes ethical dilemmas faced, case studies, and role play activities to give students the opportunity to practice what they learn. Cadets then put these principles into practice by managing the entire corps during the fourth year. This hands-on experience affords the cadets the opportunity to put the theories of previous leadership courses into practice. All the planning, organizing, coordinating, directing, controlling, and decision-making will be done by the cadets. They practice their communication, decision-making, personal interaction, managerial, and organizational skills. Wellness, health and fitness round out the course content. *(Meets Physical Education and Health Requirements.) PREREQUISITE: Successful completion of AFJROTC 3 - Life Skills/Careers; Selection to, and completion of the Cadet Leadership Course.*

AFJROTC Flight Commander
Level: Honors
Credits: 2.5 credits Per Semester/5 Credits
Prerequisites: Dept Approval

Grade Level: 11,12
Fulfills: PE Requirement

Cadets will supervise other cadets in the classroom, write evaluations on their performance, conduct leadership, and promotion potential. They also call roll and report attendance, provide drill and ceremonies training, inspect the flight during inspection days and for special events. They reinforce cadet conduct and discipline during class and drill formation. They also recommend improvements to flight conduct and operations to the instructor. Wellness, health and fitness round out the course content. *(Meets Physical Education and Health Requirements. PREREQUISITE: Successful completion of Aerospace Science II; selection to, and completion of the Cadet Leadership Course.*

AFJROTC 4 Cadet Leadership
Level: Honors
Credits: 2.5 credits
Prerequisites: Department Approval

Grade Level: 12
Fulfills: PE Requirement

Students are hand selected to attend the Cadet Leadership Course by the cadre of instructors assigned to AFJROTC. This intense 72-hour curriculum is high impact. It focuses on teaching leadership and management principles to the top 10% of the selected ASIII and ASIV cadets. Students learn key fundamental skills necessary for organizing, coordinating, controlling, and planning all operations and activities within the corps of cadets. These management skills are taught in a classroom setting, a lab environment and reinforced in time related activities. Each student will analyze their leadership skills through a number of training exercises. Upon completion of the Cadet Leadership Course, cadets will be eligible to fill key leadership and management positions throughout the cadet corps. They will also be required to be proficient in drill, ceremonies, health and wellness. Cadets must achieve an average score of 85% on each assessment activity to receive a Certificate of Graduation and the Leadership School Ribbon.
PREREQUISITE: Department Head Approval

AFJROTC Courses Quick Reference

9321/9322	AFJROTC 1 - Aviation History (W) - Honors	Grade 9, 10, 11, 12
9323/9324	AFJROTC 2 - Science of Flight (W) - Honors	Grade 10, 11, 12
9325/9326	AFJROTC 3 - Life Skills/Careers (W) - Honors	Grade 11, 12
9327/9328	AFJROTC 4 - Management/Cadet Corps (W) - Honors	Grade 12
9351/9352	AFJROTC - Flight Commander (W) - Honors	Grade 11, 12
9381	AFJROTC - Cadet Leadership Course - Non-Weighted	Grade 10, 11, 12

Wellness

David Slattery, Department Chair

Massachusetts State Law requires all students to select physical education each year. At Lowell High School, students must complete and pass ten (10) credits in Wellness/Physical Education, as well as five (5) credits in Wellness/Health. The Wellness/Physical Education requirement may only be waived by the Head of School. The Lowell High School Wellness program includes both standalone Physical Education and Health courses. Each of these semester-long courses earns 2.5 credits. The Wellness program aligns with the Massachusetts Comprehensive Health and Physical Education Framework, SHAPE America National Standards, and Lowell High School's Portrait of a Graduate. Our department's mission is to foster a culture of well-being, empowering students to make healthy choices. Wellness is an active process that helps individuals achieve their best well-being by integrating all dimensions of wellness: physical, social, emotional, spiritual, intellectual, and occupational.

Physical activity plays a critical role in developing and maintaining a healthy lifestyle. Students will learn the value and importance of the five health-related components of physical fitness: Muscular Strength, Muscular Endurance, Cardiovascular Endurance, Flexibility, and Body Composition. Additionally, students will gain a deeper understanding of the six domains of the Portrait of a Graduate: Mind, Heart, Spirit, Skill, Network, and Leadership.

The goal of this department is to equip students with the knowledge, skills, and confidence needed to lead a lifetime of healthy physical activity and make informed decisions. Upon completing the Wellness and Physical Education graduation requirements, students will demonstrate a comprehensive understanding of the following Massachusetts Comprehensive Health and Physical Education Framework Practices and Skills: **Practice 1:** Decision-Making and Problem Solving, **Practice 2:** Self-Management and Goal Setting, **Practice 3:** Social Awareness, Relationships, and Communication Skills, **Practice 4:** Movement Skills, **Practice 5:** Self-Awareness and Analyzing Influences, **Practice 6:** Information and Resource Seeking, **Practice 7:** Self-Advocacy and Health Promotion.

* (NW) Non-Weighted

	9th Grade	10th Grade	11th Grade	12th Grade
Core Courses	<i>Wellness 1 (PE) (NW)</i>	<i>Wellness 2 (PE) (NW)</i>	<i>Sports Fitness and Fusion (NW)</i>	<i>Sports Fitness and Fusion (NW)</i>
	<i>Wellness 1 (Hlth) (NW)</i>	<i>Wellness 2 (Hlth) (NW)</i>	<i>Wellness and Officiating (NW)</i>	<i>Wellness and Officiating (NW)</i>
			<i>Unified Physical Education (NW)</i>	<i>Independent Studies and Projects-Honors</i>
			<i>Health 1 or 2 (NW)</i>	<i>(Requires application and approval from dept. chair and HOS)</i>
			<i>Unified Physical Education (NW)</i>	<i>Unified Physical Education (NW)</i>
				<i>Health 1 or 2 (NW)</i>

Required Courses

Wellness

Wellness 1

Level: Non-Weighted

Credits: 2.5 per semester/5 per year

Grade Level: 9

Fulfills PE and Health A Requirement

Prerequisites: none

Wellness 1 (Physical Education) is a grade 9 (FA) requirement.

Wellness I consists of two standalone courses: Physical Education (FA) and Health 1, each lasting one semester and earning 2.5 credits. These courses are aligned with the Massachusetts Comprehensive Health and Physical Education Framework, SHAPE America National Standards, and Lowell High School's Portrait of a Graduate. The Wellness program is co-educational and integrates health and fitness education, emphasizing the development of skills and knowledge to support lifelong wellness. In the Health 1 course, students will explore the Dimensions of Health while engaging with current health topics such as nutrition, substance misuse, healthy relationships, sexual health, personal skills, and goal setting.

In the Physical Education 1 course, students will focus on the principles of human movement, personal fitness, introductory strength training, mindfulness, communication, decision-making, lifelong leisure activities, community building, and team sports. Together, these courses provide students with the fundamental skills and concepts to make healthy choices and live an active lifestyle. Completion of Wellness I satisfies both the health and physical education graduation requirements.

Wellness 2

Level: Non-Weighted

Credits: 2.5 per semester/5 per year

Grade Level: 9R,10

Fulfills PE and Health B Requirement

Prerequisites: none

Wellness 2 (Physical Education) is a grade 10 requirement.

Wellness 2 includes both standalone Physical Education and Health 2 courses. Each of these semester-long courses earns 2.5 credits. Wellness 2 aligns with the Massachusetts Comprehensive Health and Physical Education Framework, SHAPE America National Standards and Lowell High School's Portrait of a Graduate. This co-educational course integrates health and fitness, emphasizing personal development and addressing contemporary challenges faced by young adults. The curriculum spans personal fitness, strength training, cooperative games, intermediate-level team sports, and pertinent social and emotional issues. Building on the foundation of Wellness 1, students embark on a fitness journey by creating and adapting personalized strength training and fitness programs. They actively engage in intermediate-level team sports while also participating in expanded mindfulness activities. Additionally, students analyze their health choices and potential risks, refining decision-making skills through a skills-based curriculum, which delves into Social, Emotional, and Environmental Health. Social Health topics encompass discussions on dating, fostering healthy relationships, bullying prevention, and effective interpersonal skills. Other topics include Personal Health and Safety, Healthy Relationships/Social Health, and Public, Community & Environmental Health. Mental and Emotional Health modules focus on anxiety disorders, personality development, managing emotions, stress coping strategies, accessing mental health services, and fostering mental well-being. Environmental Health segments explore the impact of pollution on health, promoting recycling, conservation practices, and understanding their effects on well-being. Completion of Wellness 2 fulfills the health and physical education requirement.

Sports and Fitness Fusion
Level: Non-Weighted
Credits: 2.5

Grade Level: 11,12
Fulfills PE Requirement
Prerequisites: none

Sports & Fitness Fusion is a course that aligns with the Massachusetts Comprehensive Health and Physical Education Framework, SHAPE America National Standards and Lowell High School's Portrait of a Graduate. This course blends different elements within our wellness curriculum. It combines team-based sports activities (basketball, soccer, volleyball,) including racket sports (badminton and pickleball) and health and fitness-related exercises or routines. This course combines both elements to create a comprehensive and well-rounded approach to wellness. Students may engage in team sports to foster collaboration, teamwork, and skill development, while also incorporating fitness exercises to promote overall health and physical fitness. Completion of Sports and Fitness Fusion fulfills the physical education requirement.

Wellness and Officiating
Level: Non-Weighted
Credits: 2.5 per semester

Grade Level: 11,12
Fulfills PE Requirement
Prerequisites: none

This course is offered to grade 12 students. This officiating course aligns with the Massachusetts Comprehensive Health and Physical Education Framework, SHAPE America National Standards and Lowell High School's Portrait of a Graduate. Students will engage in an officiating education system (REF-REPS), providing access to turn-key officiating education courses and interactive training video packs. These resources are designed to support students interested in pursuing officiating (refereeing) fostering confidence and precision as officials on the field, court, or mat. Upon completion of this course, students will have the opportunity to obtain a referee license, focusing on basketball and/or volleyball officiating. The successful completion of Wellness and Officiating fulfills the physical education requirement.

Unified Physical Education
Level: Non-Weighted
Credits: 2.5 per semester/
School
Head approval

Grade Level: 9R,10
Fulfills PE and Health B Requirement
Prerequisites: Letter of recommendation from
Counselor and Department

This course satisfies Sports and Fitness Fusion for grades 11 and 12 students. Unified Physical Education combines students of all abilities to fully participate in developmentally appropriate activities including lifetime activities, physical fitness and sport. UPE is designed for students who are interested in working with students who have cognitive or physical disabilities in an active setting. Students will work together to increase competence and confidence in a variety of developmental activities. Student partners will serve as teaching assistants and modeling peers for the students who have special needs. Students will work one-on-one and/or on small teams to support their special needs peers with developing and enhancing positive communication, social skills, fitness, game strategies, teamwork, & movement skills in a cooperative inclusive enriching environment to facilitate lifelong learning and relationships. The goal for interested students should be to provide a positive social & learning experience. The successful completion of Unified Physical Education fulfills the physical education requirement.

HEALTH

Health A
Level: Non-Weighted
Credits: 2.5

Grade Level: 11,12
Fulfils PE Requirement
Prerequisites: none

This semester-long 2.5 credit course is aligned with the Massachusetts Comprehensive Health and Physical Education Framework and Lowell High School's Portrait of a Graduate. Students will learn about the Dimensions of Health including current health content and related personal skills and goal setting. Further learning experiences include the learning about Nutrition, Substance misuse, Healthy Relationships and Sexual Health. This course also covers mindfulness, communication and decision-making. Students will learn a combination of fundamental skills and concepts that encourage them to make healthy choices and live a life full of healthy activity. This course is aligned with the Massachusetts Comprehensive Health and Physical Education framework, and satisfies Health Education requirements.

Health B
Level: Non-Weighted
Credits: 2.5

Grade Level: 11,12
Fulfils PE Requirement
Prerequisites: none

This semester-long, 2.5-credit course aligns with the Massachusetts Comprehensive Health and Physical Education Framework and Lowell High School's Portrait of a Graduate. Health 2 focuses on personal development and contemporary challenges faced by young adults, building upon the foundational knowledge from Health 1. The curriculum is designed to help students analyze their health choices and assess potential risks, refining their decision-making skills through a skills-based approach that covers Social, Emotional, and Environmental Health. Social Health topics include dating, developing healthy relationships, bullying prevention, and effective interpersonal skills. Additionally, students will explore Personal Health and Safety, Suicide Prevention, Healthy Relationships, and Public, Community, and Environmental Health. In the Mental and Emotional Health modules, students will learn about anxiety disorders, personality development, emotional management, stress coping strategies, accessing mental health services, and fostering mental well-being. Environmental Health sections will address the impact of pollution on health, promote recycling and conservation practices, and emphasize their effects on overall well-being. This course meets the Massachusetts Comprehensive Health and Physical Education standards and fulfills a Health Education graduation requirement.

Physical Education, Wellness and Health Equivalent

Lowell High School recognizes that there are alternative approaches to receiving Physical Education, Wellness and Health content. Beginning in 2022-2023, our Wellness Equivalent classes will move to the integration of Physical Education and Health concepts and topics throughout the curriculum. Students taking a PE/Health Alternative class will receive credit for Physical Education and Health when completing the full year classes. Students taking Physical Education classes will still need to complete Health 1 and Health 2. Should a student only complete one year of a PE Equivalent class, they will need to take Physical Education and a Health Class to complete the Health Graduation Requirement

Dance 1 & 2: Modern & Jazz Technique - Honors	Grade 9, 10, 11, 12
Dance 3 & 4: Technique & Composition – Honors	Grade 10, 11, 12
Advanced Dance Studies & Choreography - Honors	Grade 11, 12
Senior Dance Project – Honors	Grade 12
Show Choir Soundsations (All Female)– Honors	Grade 9, 10, 11, 12
Show Choir Sound Impressions (Mixed Choir)- Honors	Grade 9, 10, 11, 12
Show Choir Sound Impressions Advanced – Honors	Grade 10,11,12
Concert & Marching Band - Beginner– Honors	Grade 9, 10, 11, 12
Concert & Marching Band - Intermediate – Honors	Grade 9, 10, 11, 12
AFJROTC 1 - Aviation History – Honors	Grade 9, 10, 11, 12
AFJROTC 2 - Science of Flight – Honors	Grade 10, 11, 12
AFJROTC 3 - Life Skills/Careers – Honors	Grade 11, 12
AFJROTC 4 - Management/Cadet Corps – Honors	Grade 12
AFJROTC 4 - Principles of Management – Honors	Grade 12
AFJROTC - Flight Commander – Honors	Grade 11, 12

Wellness Courses Quick Reference

9151	Wellness 1: Physical Education	Grade 9
9152	Wellness 1: Health A	Grade 9
9153	Wellness 2: Physical Education	Grade 9R,10
9154	Wellness 2: Health B	Grade 9R,10
9161	Sports & Fitness Fusion	Grade 11, 12
9163	Wellness & Officiating	Grade 11, 12
9112	Unified Physical Education	Grade 11, 12
9003	Health A	Grade 11, 12
9004	Health B	Grade 11, 12

Multilingual Education

Erin Kehoe, Department Chair

The **Multilingual Education Program** is designed to support students who speak diverse languages, promoting academic achievement, cultural appreciation, and bilingual or multilingual proficiency. The program provides targeted instruction in English language development while honoring and building upon students' home languages and cultural identities. Through a combination of specialized language instruction, integrated content learning, and culturally responsive teaching practices, the program equips students with the skills necessary to succeed academically and thrive in a global society.

The program values multilingualism as a strength, preparing students to become confident, capable, and culturally aware individuals who can contribute to their communities and succeed in an interconnected world.

	9th Grade	10th Grade	11th Grade	12th Grade
Core Courses	<i>English Language Development 1</i> <i>English Language Development 2</i> <i>English Language Development 3</i> <i>English Language Development 4</i>	<i>English Language Development 1</i> <i>English Language Development 2</i> <i>English Language Development 3</i> <i>English Language Development 4</i>	<i>English Language Development 1</i> <i>English Language Development 2</i> <i>English Language Development 3</i> <i>English Language Development 4</i>	<i>English Language Development 1</i> <i>English Language Development 2</i> <i>English Language Development 3</i> <i>English Language Development 4</i>
Newcomer Program	<i>English Language Development 1</i> <i>Algebra 1*</i> <i>Integrated Science and Engineering*</i> <i>World History*</i>	<i>English Language Development 1</i> <i>Algebra 1 OR Geometry*</i> <i>Biology*</i> <i>US History I*</i>		

**Courses taught by content teachers within the Math, Science, and Social Studies departments. Course descriptions located within the Math, Science, and Social Studies Department sections of this Program of Studies*

	English Acquisition	Newcomer Program
Core Courses	<i>English Language Development 1</i> <i>English Language Development 2</i> <i>English Language Development 3</i> <i>English Language Development 4</i>	<i>English Language Development 1</i> <i>Algebra 1 OR Geometry</i> <i>Integrated Science and Engineering OR Biology</i> <i>World History OR US History I</i>

Notes:

Placement in English Language Development (ELD) courses is determined by a student's English proficiency level and grade level. Students who score between 1.0 and 2.9 on the ACCESS Test or WIDA Screener will receive double-block ELD instruction each day to support their language development needs. Students scoring 3.0-4.2* will be placed in a single-block ELD course per day. All other instruction will take place in the general education setting.

*Exit criteria for ELD courses is an ACCESS score of 4.2 overall and 3.9 literacy.

The Newcomer Program is designed for students in the early stages of English language acquisition who have been in the U.S. for one year or less and have an English Proficiency level between 1.0-1.9. The program includes double-block English Language Development (ELD) instruction, along with grade-level Math, Science, and Social Studies taught in sheltered classrooms to support both content learning and language development.

SLIFE is designed for Students with Limited or Interrupted Formal Education. Over the course of two years, the courses provide intensive literacy and numeracy instruction to equip students with the skills needed for success in grade-level courses and everyday life.

Required Courses

English Language Development 1
Level: College
Credits: 5 per semester/10 per year
Prerequisites: Placement is based on English Proficiency Levels between 1.0-1.9.

Grade Level: 9-12
Fulfills: ELA Graduation Requirement

ELD 1 is designed for students who are in the early stages of English language acquisition. This two-period course fulfills EL and English requirements focusing on developing foundational skills in listening, speaking, reading, and writing, guided by the WIDA CAN DO Descriptors. Instruction emphasizes building basic interpersonal communication skills and gaining the academic language necessary to support students' academic growth and social interactions in English.

English Language Development 2
Level: College
Credits: 5 per semester/10 per year
Prerequisites: Placement is based on English Proficiency Levels between 2.0-2.9.

Grade Level: 9-12
Fulfills: ELA Graduation Requirement

ELD 2 is designed for students with limited English proficiency. This two-period course fulfills EL and English requirements focusing on further developing skills in listening, speaking, reading, and writing, following the WIDA CAN DO Descriptors. Instruction emphasizes enhancing both interpersonal communication and academic language skills. Students engage in projects and content-based materials to strengthen their English proficiency. Knowledge and control of basic grammatical structures are reinforced, while more complex grammar is introduced. Students work with increasingly challenging reading materials and academic tasks to prepare for success in diverse educational contexts.

English Language Development 3
Level: College
Credits: 2.5 per semester/5 per year
Prerequisites: Placement is based on English Proficiency Levels of 3.0 and above.

Grade Level: 9-12
Fulfills: Elective Graduation Requirement

ELD 3 is designed for students transitioning to everyday and academic use of the English language. The curriculum aligns with the Massachusetts English Language Arts Curriculum Frameworks and incorporates the WIDA CAN DO Descriptors. There is an emphasis on advanced grammar review, vocabulary development, and composition techniques, with a focus on expository and creative writing. Students are introduced to a survey of literary forms commonly encountered in mainstream college-level courses, including mythology, novels, short stories, drama, poetry, nonfiction essays, biographies, and autobiographies. Instruction supports students in refining their language skills while deepening their appreciation of diverse literary genres.

English Language Development 4
Level: College
Credits: 2.5 per semester/5 per year
Prerequisites:

Grade Level: 9-12
Fulfills: Elective Graduation Requirement

ELD 4 is designed for English Learners at the Expanding level and/or have been studying English in the U.S. for more than five years but have not yet met the EL exit criteria on the ACCESS Test. This course provides targeted instruction in the four language domains: listening, speaking, reading, and writing, with a particular emphasis on developing productive academic language skills. Students engage with novels and other complex texts while advancing their writing abilities through the creation of longer, essay-length pieces. Instruction focuses on preparing students for success in academic settings by refining their critical thinking, analytical writing, and advanced communication skills.

Newcomer Program Courses

English Language Development 1

Level: College

Credits: 5 per semester/10 per year

Prerequisites: Year one of US schooling and English proficiency level between 1.0-1.9

Grade Level: 9-12

Fulfills: ELA Graduation Requirement

This course is designed for students who are in the early stages of English language acquisition, with an ACCESS score of 1.0-1.9 and who have been in the U.S. for one year or less. This double block course fulfills EL and English requirements focusing on developing foundational skills in listening, speaking, reading, and writing guided by the WIDA CAN DO Descriptors. Instruction emphasizes building basic interpersonal communication skills and gaining the academic language necessary to support students' academic growth and social interactions in English.

Multilingual Education Courses Quick Reference

English Acquisition

0721/0722 English Language Development 1
0723/0724 English Language Development 2
0725/0726 English Language Development 3
0727/0728 English Language Development 4

Newcomer Program

0721/0722 English Language Development 1

Special Education

Allyson M. Carbone, Department Chair

Special Education services are determined through the Team process according to federal and state regulations. Eligible students receive the services specified in their Individual Educational Programs that enable them to receive a free and appropriate public education in the least restrictive environment. Each student's program is designed to ensure a successful transition to his/her individual post high school goal and to support the acquisition of skills necessary to become productive members of the larger community. All courses, with the exception of Special Education Intern, require a corresponding IEP service.

Core Courses and Supports - Inclusion/Fundamentals

	9th Grade	10th Grade	11th Grade	12th Grade
Core Courses	<i>Foundations for Algebra (Fund.)</i> <i>Algebra 1 (Incl.)</i> <i>English 1 (Fund. and Incl.)</i> <i>World History (Fund. and Incl.)</i> <i>Integrated Science (Incl.)</i> <i>Life Science (Fund.)</i>	<i>Algebra (Fund.)</i> <i>Geometry (Incl.)</i> <i>English 2 (Incl.)</i> <i>American Experience (Fund.)</i> <i>U.S. History (Fund. and Incl.)</i> <i>Biology (Fund. and Incl.)</i>	<i>Math 4 (Incl.)</i> <i>English 3 (Incl.)</i> <i>American Experience (Fund.)</i> <i>Struggles for Equality (Fund.)</i> <i>Anatomy (Fund.)</i>	<i>Math 4 (Fund.)</i> <i>English 4 (Fund. and Incl.)</i>
Additional Supports	<i>Instructional Support 1</i> <i>Transitional Seminar 1</i> <i>Literacy</i>	<i>Instructional Support 2</i> <i>Transitional Seminar 1</i> <i>Literacy</i>	<i>Instructional Support 3/4</i> <i>Transitional Seminar 2</i> <i>Literacy</i>	

Core Courses - Adjustment

	9th Grade	10th Grade	11th Grade	12th Grade
Core Courses	<i>Algebra 1</i>	<i>Geometry</i>	<i>Math 4</i>	<i>English 4</i>
	<i>English 1</i>	<i>American Experience</i>	<i>American Experience</i>	<i>PE</i>
	<i>World History</i>	<i>US History 1</i>	<i>US History 2</i>	
	<i>Life Science</i>	<i>Biology</i>	<i>Earth/Environmental Science</i>	
	<i>Civil Liberties</i>	<i>Social Dynamics</i>		
	<i>Health</i>	<i>PE</i>	<i>PE</i>	
	<i>PE</i>			

Core Courses - LEAP/CSA

	9th Grade	10th Grade	11th Grade	12th Grade	SP (18-22)
Core Courses	<i>Functional English Language Arts</i>	<i>Functional English Language Arts</i>	<i>Real World Math</i>	<i>Real World Math</i>	<i>Real World Math</i>
	<i>Functional Math</i>	<i>Functional Math</i>	<i>Functional Literacy</i>	<i>Functional Literacy</i>	<i>Functional Literacy</i>
	<i>Functional Science</i>	<i>Functional Science</i>	<i>Health</i>	<i>Health</i>	<i>Transportation and Mobility (.5)</i>
	<i>Transportation and Mobility (.5)</i>	<i>Activities of Daily Living (.5)</i>			
	<i>Activities of Daily Living (.5)</i>	<i>Vocational Education (double block)</i>			
	<i>Pre-Vocational Education</i>	<i>Pre-Vocational Education</i>	<i>Recreation and Leisure</i>	<i>Recreation and Leisure</i>	<i>PE - Unified</i>
	<i>PE - Adaptive or Unified</i>	<i>PE - Adaptive or Unified</i>	<i>Vocational Education</i>	<i>Vocational Education</i>	
		<i>PE - Adaptive or Unified</i>	<i>PE - Adaptive or Unified</i>		

Required Courses - Fundamentals

English 1
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 9
Fulfills: Graduation Requirement

English 1 offers students an introduction to the various genres of literature. The genres will include the short story, the novel, and works of non-fiction such as essays, biography and autobiography. These readings will be accompanied by selected outside reading titles. There will be a strong emphasis on pre-reading and reading strategies, as well as writing and the writing process, including essay writing, grammar, paragraph development, sentence variety, and text referencing. Students will develop a knowledge and understanding of vocabulary and specific literary terms in conjunction with the writing and literary components of the course. Students will continue to build vocabulary and specific literary terms in conjunction with the writing and literary components of the course. This course satisfies an English graduation requirement.

American Experience
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 10,11
Fulfills: Graduation Requirement

American Experience fulfills both English 2 and English 3 graduation requirements. This spiraled course explores various genres of American literature. One year focuses more on short stories and the novel, while the second year focuses on increasing levels of competence in mechanics, content, organization, and style in a variety of writing situations. Both years provide students with opportunities to develop critical thinking skills along with strategies to further develop skills in reading, speaking, and writing.

English 4
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 12
Fulfills: Graduation Requirement

English 4 introduces students to British Literature, through a survey of works tracing the evolution of English Language and Literature. The course will place an emphasis on improving the skills of critical analysis, both oral and written, with particular attention paid to improving the content, form and style of student writing. This course also offers students the opportunity to create a resume and practice interview skills. This course satisfies an English graduation requirement.

Foundations of Algebra
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 9
Fulfills: Graduation Requirement

This course, designed for grade 9 students, solidifies the prerequisite skills needed for Algebra. Students can expect to develop an understanding of operations with rational numbers along with working with expressions and linear equations. Individual student needs and specific gaps in mathematical skills will also be addressed through this course.

Algebra 1
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 10
Fulfills: Graduation Requirement

Algebra 1 includes topics of algebra including constants and variables, functions, open phrases and sentences, postulates and properties of real numbers, linear equations, signed numbers, operations, and word problems. Topics to be studied include solutions of quadratic equations, expressions, and graphing. S

Geometry
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 11
Fulfills: Graduation Requirement

Geometry **includes** proof and logic as well as its applications to the physical world. Properties of lines, angles and triangles are examined and in some cases deduced from other properties. Transformations are studied; properties and measurements of polygons and circles are included. Properties and measurement of solid figures are studied. Measurement and applications are emphasized. The idea of similarity is introduced and applied.

Math 4
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 12
Fulfills: Graduation Requirement

Math 4 is for Juniors/Seniors and will reinforce problem solving skills by working with Real Numbers, Equations, Simplification of Algebraic Expressions, Functions, Inequalities, Systems of Equations, Graph Theory, Quadrilaterals and Polygons. This course is designed to target instruction for each student in the areas where they need the most help.

Science
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 9
Fulfills: Graduation Requirement

Science introduces students to the processes of life in order to allow students to make scientifically informed decisions related to their health, and the health of the planet. It is designed to provide both content knowledge and skills needed to succeed in higher level Biology courses and to prepare for the MCAS Biology exam.

Biology
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 10
Fulfills: Graduation Requirement

Biology provides a basic understanding of the scientific processes that make up the unified principles of life. Topics include cellular physiology and function, cellular respiration and photosynthesis, DNA structure and function, genetic mechanisms of inheritance, and evolution. Emphasis is placed on the diversity and unity of the living world, genetic continuity, and changes in organisms over time. This course satisfies a science graduation requirement.

Anatomy and Physiology
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 11
Fulfills: Graduation Requirement

Human Anatomy & Physiology offers a systematic exploration of each of the major systems of the human body including both its structure (anatomy) and function (physiology) Anatomy and Physiology. Topics studied include: Human Body Overview and Terminology, Biochemistry, Tissue Structure and Function, The Integumentary System, The Skeletal System, The Muscular System, and The Nervous System. Students will participate in class discussions, lectures, projects, and laboratory activities. Meets Lab Science Standards, Meets Lab Science standards

Course Name: World History
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 9
Fulfills: Graduation Requirement

Topics in World History begins with a review of the Fall of Rome and ends with the Age of Reformation. Part 2 begins with the Renaissance in Europe and ends with the colonization of the Americas. It is designed in accordance with the Massachusetts Curriculum Frameworks for World History and integrates history, geography, economics and government. Students will engage in a variety of learning activities and assessments as they increase their knowledge of the global community.

Topics in U.S. History
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 10
Fulfills: Graduation Requirement

Topics in US History emphasizes the major events in the history of the United States along with the US Constitution. It is designed in accordance with the Massachusetts Curriculum Frameworks to provide students with a fundamental knowledge of the American ideologies of freedom and the pursuit of happiness. The course integrates history, geography, economics, and government

Struggles for Equality
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 11
Fulfills: Graduation Requirement

Struggles For Equality A focuses on stories of Americans searching for their civil rights through the use of the 1st Amendment. The social movements of Abolitionism, Women's Rights, and Child Labor will be covered along with the interactions between Native American Tribes and the US government. During the second half of the year, the course focuses on stories of Americans searching for their civil rights through the use of the 1st Amendment. The social movements of Civil Rights, LGBTQAI Rights, American Indian, and Disability Rights will be covered along with Japanese Internment.

Support Courses

Instructional Support 1
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 9

Instructional Support provides direct instruction in the individual goals and objectives listed in each student's IEP. Instruction occurs in small group and/or one on one to support completion of general education class assignments. Special Education teachers monitor students' progress in general education classes and provide assistance and re-teaching as needed. Students learn organizational skills and study skills in this class to help them successfully access the general education curriculum. Assessment data is used to determine the need for remedial instruction and support students as they work to meet graduation requirements. Students work with their special education teachers to prepare for self-advocacy at IEP meetings as they make decisions about signing rights

Instructional Support 2
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 10

Instructional Support provides direct instruction in the individual goals and objectives listed in each student's IEP. Instruction occurs in small group and/or one on one to support completion of general education class assignments. Special Education teachers monitor students' progress in general education classes and provide assistance and re-teaching as needed. Students learn organizational skills and study skills in this class to help them successfully access the general education curriculum. Assessment data is used to determine the need for remedial instruction and support students as they work to meet graduation requirements. Students work with their special education teachers to prepare for self-advocacy at IEP meetings as they make decisions about signing rights

Instructional Support 3**Grade Level: 11****Level: College****Credits: 2.5 per semester/5 per year**

Instructional Support provides direct instruction in the individual goals and objectives listed in each student's IEP. Instruction occurs in small group and/or one on one to support completion of general education class assignments. Special Education teachers monitor students' progress in general education classes and provide assistance and re-teaching as needed. Students learn organizational skills and study skills in this class to help them successfully access the general education curriculum. Assessment data is used to determine the need for remedial instruction and support students as they work to meet graduation requirements. Students work with their special education teachers to prepare for self-advocacy at IEP meetings as they make decisions about signing rights. With guidance and support, students seek out and set up services that will help them after graduation such as setting up accommodations and supports for college, MRC referrals and/or take entrance tests for college or military training programs. Many students learn to set up bank accounts, learn to do their income taxes for the first time, register to vote/military service, and gather information needed to register for college, apply for financial aid and acquire recommendations needed for college entry/scholarships.

Instructional Support 4**Grade Level: 12****Level: College****Credits: 2.5 per semester/5 per year**

Instructional Support provides direct instruction in the individual goals and objectives listed in each student's IEP. Instruction occurs in small group and/or one on one to support completion of general education class assignments. Special Education teachers monitor students' progress in general education classes and provide assistance and re-teaching as needed. Students learn organizational skills and study skills in this class to help them successfully access the general education curriculum. Assessment data is used to determine the need for remedial instruction and support students as they work to meet graduation requirements. Students work with their special education teachers to prepare for self-advocacy at IEP meetings as they make decisions about signing rights. With guidance and support, students seek out and set up services that will help them after graduation such as setting up accommodations and supports for college, MRC referrals and/or take entrance tests for college or military training programs. Many students learn to set up bank accounts, learn to do their income taxes for the first time, register to vote/military service, and gather information needed to register for college, apply for financial aid and acquire recommendations needed for college entry/scholarships.

Literacy**Grade Level: 9, 10, 11, 12****Level: College****Credits: 2.5 per semester/5 per year**

Literacy provides a structured, systematic, multi-sensory approach to teach students how to decode and encode. The skills taught in this course enhance fluency, comprehension, and improve reading skills to enhance independence and success within the general education curriculum. There is a computer component to this course.

Transitional Seminar 1
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 9, 10

Students experience many transitions, both predictable and unique to individual circumstances, in life. The transition to high school is no different and executive functioning and social skills are all the more critical as students begin to articulate their own post-secondary goals. Transitional Seminar 1 is designed for students in grades 9 and 10, with topics including understanding self-determination; being self-aware of personal strengths and areas of need; developing interpersonal and communication skills; making good decisions; social awareness; and understanding disability rights and responsibilities while in high school. Given support, students will learn to integrate and generalize the skills taught in both their classes and in the “real world” setting, leading towards the goal of increasing independence and assimilation into the larger community.

Transitional Seminar 2
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 11,12

This course is designed to help students as they transition from high school to the adult world. Topics include self-advocacy, community awareness, access to resources, goal development, problem-solving strategies, and soft skills. Students will be given the opportunity to integrate and generalize the skills taught, and will increase their capacity to assimilate into the community.

Adjustment Courses

English 1
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 9
Fulfills: Graduation Requirement

English 1 offers students an introduction to the various genres of literature that they will explore in greater depth later in high school. The genres will include the short story, the novel, and works of non-fiction such as essays, biography and autobiography. These readings will be accompanied by selected outside reading titles. There will be a strong emphasis on pre-reading and reading strategies, as well as writing and the writing process, including essay writing, grammar, paragraph development, sentence variety, and text referencing. Students will develop a knowledge and understanding of vocabulary and specific literary terms in conjunction with the writing and literary components of the course. Students will continue to build vocabulary and specific literary terms in conjunction with the writing and literary components of the course. This course satisfies an English graduation requirement

American Experience
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 10, 11
Fulfills: Graduation Requirement

American Experience fulfills both English 2 and English 3 graduation requirements. This spiraled course explores various genres of American literature. One year focuses more on short stories and the novel, while the second year focuses on increasing levels of competence in mechanics, content, organization, and style in a variety of writing situations. Both years provide students with opportunities to develop critical thinking skills along with strategies to further develop skills in reading, speaking, and writing.

English 4
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 12
Fulfills: Graduation Requirement

English 4 introduces students to British Literature through a survey of works tracing the evolution of English Language and Literature. The course will place an emphasis on improving the skills of critical analysis, both oral and written, with particular attention paid to improving the content, form and style of student writing. This course satisfies an English graduation requirement.

Algebra 1
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 9
Fulfills: Graduation Requirement

Standard topics of introductory algebra are covered, including constants and variables, functions, and properties of real numbers, linear equations, signed numbers, operations with polynomials, word problems leading to linear equations, and factoring. Topics to be studied include rational expressions, graphing, systems of linear equations, ratio, proportion and properties and arithmetic of irrational numbers. This course satisfies an Algebra graduation requirement.

Geometry
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 10
Fulfills: Graduation Requirement

Geometry is developed with a view to proof and logic as well as to its applications to the physical world. Properties of lines, angles and triangles are examined and in some cases deduced from other properties. Properties and measurement of solid figures are studied. The idea of congruence is introduced and the classical postulates and theorems on congruent triangles and parallelograms are discussed. Measurement and applications are emphasized. The idea of similarity is introduced and applied. The right triangle is given special attention. This course satisfies a Geometry graduation requirement.

Financial Math
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 11
Fulfills: Graduation Requirement

This course. The course will begin with a brief review of the order of operations, positive and negative numbers, and the relationship and operations of fractions decimals, and percentages. Following this review of prior knowledge, students will engage in various math topics that can be applied to real life. These topics will greatly assist students as they move into their post-secondary phase of life. Students will also spend time reviewing the MCAS including multiple-choice questions, open response questions, and various testing strategies. Some questions will be focused on data and graphs, including pie charts, bar graphs, and stats including mean, median, and mode.

Math 4
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 12
Fulfills: Graduation Requirement

Math 4 is for Juniors/Seniors on an EPP and will reinforce problem solving skills by working with Real Numbers, Equations, Simplification of Algebraic Expressions, Functions, Inequalities, Systems of Equations, Graph Theory, Quadrilaterals and Polygons. This course is designed to target instruction for each student in the areas where they need the most help.

Explorations in Life Science
Level: College
Credits: 2.5 per semester/5 year

Grade Level: 9
Fulfills: Graduation Requirement

Explorations in Life Science will introduce students to the processes of life in order to allow students to make scientifically informed decisions related to their health, and the health of the planet. It is designed to provide both content knowledge and skills needed to succeed in higher-level Biology courses.

Biology
Level: College
Credits: 2.5 per semester/5 year

Grade Level: 10
Fulfills: Graduation Requirement

Biology gives students a basic understanding of the scientific processes that make up the unified principles of life. Topics include cellular physiology and function, cellular respiration and photosynthesis, DNA structure and function, genetic mechanisms of inheritance, and evolution. Emphasis is placed on the diversity and unity of the living world, genetic continuity, and changes in organisms over time. This course satisfies a science graduation requirement.

Earth Science
Level: College
Credits: 2.5 per semester

Grade Level: 11
Fulfills: Graduation Requirement

In Earth Science students will learn about various topics associated with the earth's land, water and air. These topics will include elements, minerals, rocks, oceans, weather, erosion, plate tectonics and more. Earth science will also include the study of outer space and the objects in it.

Human Impact
Level: College
Credits: 2.5 per semester

Grade Level: 10
Fulfills: Graduation Requirement

Earth & Human Impact helps students understand natural resources, natural hazards, human impact on Earth systems, and global climate change. Students understand the complex and significant interdependencies between humans and the rest of Earth's systems through the impacts of natural hazards, our dependencies on natural resources, and the significant environmental impacts of human activities.

World History
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 9
Fulfills: Graduation Requirement

World History begins with a review of the fall of Rome and ends with the Age of Reformation. It is designed in accordance with the Massachusetts Curriculum Frameworks and integrates history, geography, economics, and government. Students will engage in a variety of learning activities and assessments as they increase their knowledge of the global community.

Topics in the U.S. History
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 10
Fulfills: Graduation Requirement

U.S. History 1 emphasizes the major events in the history of the United States from the American Revolution to the War of 1812. It is designed, in accordance with the Massachusetts Curriculum Frameworks, to provide students with a fundamental knowledge of the origins of the American ideologies of freedom and the pursuit of happiness. U. S. History IA includes a detailed study of the Constitution. The course integrates history, geography, economics, and government. This course satisfies a U. S. History graduation requirement.

Civil Liberties
Level: College
Credits: 2.5 per semester/5 per year

Grade Level: 9, 10
Fulfills: Graduation Requirement

Introduction to Civil Liberties covers an understanding of the American political system, with emphasis on the origins and evolution of rights and civil liberties. The objective is for students to enhance our participatory democracy by empowering students with the knowledge of how the system works and how it can be changed. The course, designed in accordance with the Massachusetts Curriculum Frameworks integrates history, geography, economics and government.

Geography and the United States
Level: College
Credits: 2.5 per semester

Grade Level: 11
Fulfills: Graduation Requirement

Geography and The United States offers an in depth analysis of the political, physical, and human geography of the United States and neighboring countries. Students will also have the opportunity to explore the geography of all seven continents.

American Foreign Policy since 1776
Level: College
Credits: 2.5 per semester

Grade Level: 11
Fulfills: Graduation Requirement

American Foreign Policy since 1776 covers the history of American Foreign Policy to present day. Students will examine American foreign policy throughout its history along with how the US becomes involved in international events. The course, designed in accordance with the Massachusetts Curriculum Frameworks integrates history, geography, economics and government.

Physical Education
Level: College
Credits: 2.5 per semester/5 year

Grade Level: 9
Fulfills: Graduation Requirement

Physical Education offers students the opportunity to gain an understanding of the value of leading a physically active lifestyle. Students will also learn the benefits that activity provides toward physical, emotional and social growth. A healthy, physically active student is more likely to be academically motivated, alert and capable of coping with the stress of day to day life. The goal of this program will be to help students achieve success in school by encouraging consistent participation in physical activity. In addition, units provide an introduction to the rules, skills and strategies of Basketball, Cardio-Vascular Fitness, Cooperative Games, Strength Training, Racquet Sports, Volleyball and Elective Activities.

Health A
Level: College
Credits: 2.5 per semester/5 year

Grade Level: 9
Fulfills: Graduation Requirement

Health Education includes such topics as wellness, physical health, social health, emotional health, your changing personality, the human body and its systems, nutrition, fitness, drugs as medicines, introduction to substance abuse, tobacco, infectious disease, accident and injury prevention and emergency measures, and lifestyle diseases (diabetes, cancer, cardiovascular disease).

Social Dynamics
Level: College
Credits: 2.5 per semester/5 year

Grade Level: 10, 11

Social Dynamics supports students in their school experience. The curriculum is designed to teach goal-setting and problem-solving strategies; increase students' empathy and self-awareness; help students understand and respond to their disabilities; and assist students as they work to create healthy interpersonal relationships. Students will learn to confront and manage the roadblocks that impede their academic and social success. Students will be given the opportunity to integrate and generalize the skills taught, and will increase their capacity to assimilate into the community. The goal is for students to stay academically engaged, attain graduation status, and become productive citizens of society.

LEAP/CSA Courses

Courses within the LEAP/CSA program are unweighted and do not meet standard graduation requirements.

Functional English Language Arts

Grade Level: 9, 10

Functional ELA provides a structured, systematic, multi-sensory approach to teach students how to decode and encode. The skills taught in this course enhance fluency, comprehension, and improve reading skills to enhance independence and success throughout the curriculum.

Functional Mathematics

Grade Level: 9, 10

Functional Math teaches students functional mathematical skills and concepts that can be applied to real world situations. This will include calculation skills, money skills, operations, time, calendars, time management, measurement, basic fractions and other functional concepts. The course will teach students to apply topics covered in the classroom that can be applied across the curriculum and generalize skills in different settings. Concepts will be introduced and taught using a variety of flashcards, manipulative materials, functional boards, and hands on materials, as well as paper application skills.

Functional Science

Grade Level: 9, 10

Science covers such areas as General Science, Earth & Space Science, Life Science, basic Biology and Human Anatomy. It streamlines content vocabulary, comprehension materials and communication skills throughout the course. Students will use a variety of visuals, flashcards, functional boards, videos, manipulative and hands-on materials, as well as paper application skills

Pre-Vocational Education

Grade Level: 9, 10

Students will explore employment choices through identifying employment interests, aptitudes, realistic employment requirements, and areas of employment need. Students will also classify jobs into categories and investigate local employment and training opportunities, along with practicing job application and interview skills. This course also provides instruction in the soft skills needed for successful employment.

Recreation and Leisure

Grade Level: 11, 12

Recreation and leisure activities provide students with opportunities for community involvement, increase the development of friendships, and increase self-confidence. It is critical for all students to have knowledge of possible leisure activities and available resources. As part of the Recreation and Leisure course, students will explore, choose, and plan a variety of recreational and leisure activities. Through engaging in a variety of group activities, students will learn the value of recreation.

Health**Grade Level: 11, 12**

Health focuses on a variety of topics such as wellness, human anatomy and its systems, nutrition, drug and alcohol awareness, first aid & personal safety, CPR, and personal hygiene skills. The course is designed to help prepare the students for adolescent and adult social interaction and situations and how to deal with them at as high an independent level as possible.

Functional Literacy**Grade Level: 11, 12, SP**

This course focuses on the reading and writing skills students will need to meet the demands of both daily living and the workforce. Understanding printed messages is essential for students to successfully negotiate society. Students will learn strategies to read labels, advertisements, written instructions, signs, paychecks, bills, and more

Real World Math**Grade Level: 11, 12, SP**

Students will learn about and practice mathematical concepts used in everyday living. Attention will be paid to identifying currency, using money to pay for products/services, using banking services, making basic measurements, and telling time. Students will have opportunities to use and apply mathematical concepts while participating in community activities

Transportation and Mobility**Grade Level: 9, 10, 11, 12, SP**

Getting around the community, whether it is within a school, a city, or beyond, is an essential life skill. This course addresses transportation and mobility by meeting students at their instructional levels. Learning objectives include navigating the school building; demonstrating knowledge of traffic rules and safety; reading community signs; identifying and using different forms of public transportation; and understanding the responsibilities associated with driving a car.

Activities of Daily Living**Grade Level: 9, 10, 11, 12, SP**

Students will develop the life skills required to live as independently as possible. Topics include selecting, setting up, and maintaining a household; meal planning and preparation; and purchasing and caring for clothes. Students will also learn how to address a variety of personal needs, including personal grooming, medical issues, dressing appropriately, and safety.

Social Dynamics for LEAP/CSA**Grade Level: 9, 10, 11, 12, SP**

Social Dynamics offers students the opportunity to learn, practice and generalize pragmatic language (e.g., making inferences, determining solutions, problem solving, interpreting perspectives, transferring insights), nonverbal and verbal communication skills (e.g., eye contact, feedback, turn taking, personal space, topic maintenance, body language, commenting, clarification, tone of voice), social skills (e.g., speaking with formal and informal communication partners, beginning and maintaining relationships), and self-advocacy skills.

Vocational Education**Grade Level: 9, 10, 11, 12, SP**

Through participating in various internships and work opportunities throughout the school and community, students will demonstrate proficiency in following directions, meeting various job standards, solving job-related problems, and working with others. Students will also continue to practice searching, applying, and interviewing for jobs.

Physical Education - Adaptive**Grade Level: 9, 10, 11, 12, SP**

Physical Education classes are designed for individuals with special needs. Classes offer students a challenging range of activities to improve coordination, attention, physical health and self-esteem. Participants are offered a variety of activities such as walking, volleyball, soccer, hockey, biking, whiffles ball and jump rope.

Special Education Courses Quick Reference

0131/0132	English 1	Grade 9
0233/0234	American Experience	Grade 10,11
0431/0432	English 4	Grade 12
1129/1130	Foundations of Algebra	Grade 9
1131/1132	Algebra 1	Grade 9,10
11231/1232	Geometry	Grade 10,11
1359/1360	Financial Math	Grade 11
1429/1430	Math 4	Grade 12
3031/3032	Science	Grade 9
3133/3134	Explorations in Life Science	Grade 9
3231/3232	Biology	Grade 10
3531	Earth Science	Grade 11
3533	Human Impact	Grade 10
3539/3540	Anatomy and Physiology	Grade 11
4137/4138	World History	Grade 9
4219/4220	Topics in U.S. History	Grade 10
4395/4396	Struggles for Equality	Grade 11
4381/4382	Civil Liberties	Grade 9,10,11,12
4903/4904	Social Dynamics	Grade 10,11
0333/0334	Literacy	Grade 9,10,11,12
4905/4906	Transitional Seminar 1	Grade 9,10
4907/4908	Transitional Seminar 2	Grade 11,12
0951/0952	Instructional Support 1	Grade 9
0953/0954	Instructional Support 2	Grade 10
0955/0956	Instructional Support 3	Grade 11
0957/0958	Instructional Support 4	Grade 12
0135/0136	Functional English Language Arts	Grade 9,10
1103/1104	Functional Mathematics	Grade 9,10
3111/3112	Functional Science	Grade 9,10
6901/6902	Pre-Vocational Education	Grade 9,10
4909-4910	Recreation and Leisure	Grade 11,12
9003/9004	Health	Grade 11,12
0133/0134	Functional Literacy	Grade 11,12,SP
1127/1128	Real World Math	Grade 11,12,SP
4481/4482	Transportation and Mobility	Grade 9,10,11,12,SP
4913/4914	Activities of Daily Living	Grade 9,10,11,12,SP
4903/4904	Social Dynamics	Grade 9,10,11,12,SP
6903/6904	Vocational Education	Grade 9,10,11,12,SP
9133/9134	Physical Education - Adaptive	Grade 9,10,11,12,SP
6811	Special Education Aide	Grade 11,12

ACADEMIC PROGRAMS

LOWELL LATIN LYCEUM

The Lowell High School Latin Lyceum is a selective admissions exam program within Lowell High School that engages academically promising students in a challenging college preparatory curriculum intended to broaden and deepen their knowledge, skills, understandings, and civic commitment with an emphasis on a classical education.

Objectives of the academic program include: development of critical and logical thinking, precise communication, scientific analysis, creative problem solving, and empathetic understanding of the social, scientific and political backgrounds of civilization. Communicating clearly and effectively as well as reasoning quantitatively will extend across the disciplines through a constant collaboration among the Lowell Latin Lyceum faculty team.

The Lowell Latin Lyceum strives to create young scholars in the classical tradition who are well-rounded, cultured, self-disciplined, critical thinkers who can compete at the highest academic levels. The Lowell Latin Lyceum will:

- Provide a fully integrated environment.
- Promote regular and continuous intellectual growth.
- Promote cultural and linguistic sensitivity.
- Encourage teachers, parents, and students to be partners in the educational process.
- Ensure that learning occurs in both the cognitive and affective dimensions.
- Provide the opportunities for independent learning and research.

Latin Lyceum Course Selection Information

Graduation Requirements:

Math	4 years
English	4 years
Social Studies	4 years
Science	4 years
World Language	2 years Latin
Health A/B*	1 year
Physical Education*	4 years
Freshman Seminar	1 year

*Band, Dance, Show Choir can substitute for PE; ROTC can substitute for PE & Health.

LATIN LYCEUM

~ COURSE REQUIREMENTS ~

Grade 9	HH-English 1 HH-World History HH-Integrated Science HH-Algebra 1 <u>or</u> HH-Geometry H-Latin FA Seminar Physical Education/Health*
Grade 10	HH-English 2 AP European History H-Biology H-Geometry <u>or</u> HH-Geometry <u>or</u> HH-Algebra 2/Trig H-Latin 2 Physical Education/Health*
Grade 11	EC-English Composition 1 and 2 AP-US 1 H-level or higher Science course H or AP level Math H-Latin Poetry or AP-Latin Prose (Recommended) Physical Education*
Grade 12	AP-English 4 AP-US 2 H-level or higher Science course H or AP level Math H-Latin Poetry or AP-Latin Prose (Recommended) Physical Education*

*Band, Dance or Show Choir can substitute for PE; ROTC can substitute for **PE & Health**.

CLEMENT GREGORY McDONOUGH

FRESHMAN ACADEMY

The vision of Lowell High School's Freshman Academy is to provide students with an environment that supports a smooth and supportive transition from middle school to high school. Our goal is to ensure that all students who enter as freshmen successfully leave 9th grade with the content knowledge and soft skills necessary for 10th grade and beyond. Academic teams at the Freshman Academy provide instruction and support addressing the importance of each content area.

In addition to a robust level of academic support, the Freshman Academy functions on a student support team model which includes all stakeholders in the process of collaboratively supporting the social-emotional well-being of our students. A student support team work comprising 9th grade administrators, guidance counselors and school social workers collaborate with teachers and students throughout the year to support students with school conduct, and attendance to further academic growth and achievement. This model nurtures individual students to become active participants in a community of learners, and creates an environment that is most responsive to the emerging needs and talents of students who are making the transition to a high school setting. The challenges students meet and the experiences they gain in the Freshmen Academy will help to insure their continued academic success at Lowell High School.

Three levels of courses are offered within the 9th grade, including high honors, honors and college. Students must be enrolled at the same levels in the humanities courses and at the same levels in the STEM courses. For example, if a student is enrolled in high honors English, he or she must also be enrolled in high honors history. Students also take one of the non-weighted Freshman Seminars. The traditional Seminar course provides students with content-based literacy skills, organization and time management techniques, as well as units on academic requirements, goal setting, career awareness, and cross-content academic skill building. Math Seminar is an intervention course designed to meet the needs of students with math skills below grade level.

All freshman students must take a semester of Health and a semester of Physical Education. However, ROTC, Band or Show Choir may be substituted for this Physical Education requirement and AFJROTC may be substituted for both this Physical Education and Health requirement.

Please choose your freshman courses carefully. Course changes after an assignment cannot be routinely granted. This includes, but is not limited to, course change requests based on teacher-preference, peer to peer issues, or the like. At the high school level it is important to build both self-advocacy skills and the skills to tactfully and appropriately resolve interpersonal issues of this nature. It is also our past experience that proper initial placement within the freshman classes is the key to a student's overall success in high school.

Parents should consult with school counselors and/or eighth grade teachers, if they are not sure of the appropriate academic level for the ninth grade courses.

ADVANCED PLACEMENT

Lowell High School currently offers 12 Advanced Placement (AP) courses throughout its curriculum, in five different departments. Advanced Placement is a nationwide program that is designed to prepare high school students for higher education. AP classes provide rigorous, college-level curriculum in various subjects and the opportunity to earn college credits or advanced college standing. The AP program is made possible by the close cooperation of secondary schools, colleges, and the College Board.

Students at Lowell High School are encouraged to take Advanced Placement courses so that they will experience rigorous, college-level work in high school. A complete list of AP courses offered at LHS is available below. Students and parents are urged to read the AP course descriptions to understand the level of work expected. In addition, they are encouraged to seek advice from teachers, counselors, and department chairs about which AP classes would be the best fit with their high school program and their college and career plans. The Advanced Placement Test given in May is required of every student and a fee is charged for the test.

LHS AP Course Offerings

0661/0662	AP English Literature and Composition	English	12	2.5/2.5
1643/1644	Computer Science A AP	Math	11, 12	2.5/2.5
1475/1476	Calculus AB AP	Math	11, 12	2.5/2.5
1477/1478	Calculus BC AP	Math	12	2.5/2.5
1469/1470	Statistics AP	Math	11, 12	2.5/2.5
3461/3462	Physics 1 (LS) AP	Science	12	2.5/2.5
4261/4262	U. S. History 1 - AP	Social Studies	10, 11	2.5/2.5
4361/4362	U. S. History 2 - AP	Social Studies	11, 12	2.5/2.5
4561/4562	European History - AP	Social Studies	10, 11, 12	2.5/2.5
4661/4662	U.S. Government and Politics AP	Social Studies	11, 12	2.5/2.5
4445/4446	Psychology AP	Social Studies	12	2.5/2.5
4663/4664	African American Studies AP	Social Studies	11, 12	2.5/2.5
2545/2546	Spanish Language and Culture AP	World Language	11, 12	2.5/2.5
	Latin AP	World Language	12	2.5/2.5

(Students taking 4 years of Latin are eligible for the Latin AP Exam)

*** A minimum of 15 students need to enroll in order for class to run during the school year**

COLLEGE PROGRAMS

Qualified students can earn both high school and college credit through this program by taking select Massachusetts State Universities and Community Colleges courses. These courses are part of the regular credit-earning program of UMass Lowell or Middlesex Community College with instruction provided by college and/or Lowell High School teachers. Students are awarded High School credit and College credit at their respective institutions.



EARLY COLLEGE (MCC)

Early College Lowell is an educational opportunity that allows students to take enriching college-level courses while enrolled in high school, earn real college credits, and get an early start on their post-secondary education - at no cost to them or their families. Students earn 3 or 4 credits per course that are transferable to most universities and colleges throughout the country. LHS offers a wide variety of courses in arts and humanities, STEM, english and the social sciences providing students with a range of opportunities to explore.

- Students begin taking exploratory classes in Grade 9
- Students taking classes as Juniors or Seniors must be in good standing
- Students must receive recommendation from most recent ELA teacher through the Multiple Measures Form

EARLY COLLEGE (MCC)

1 Credit embedded courses

LHS Course	LHS Course Description	MCC Course	MCC Course Description	MCC Credits	Grade
9201	N-Freshman Seminar A	IDS 106	General Education Seminar: Career Exploration	1	9
1081	N-Math Seminar A	IDS 106	General Education Seminar: Career Exploration	1	9

IDS 106 General Education Seminar: Career Exploration 9 1 Cr.

General Education Seminar: Career Exploration will introduce students to the main components of identifying a major aligned with a career path through self-assessment. Students will explore their work interests, personality, skills, values and life goals in order to find purpose in their academic curriculum. This course will include career planning and industry research to formulate a real-world perspective on current jobs and the requirements needed to achieve them.

3 & 4 MCC Credit Concurrent Courses

LHS Course	LHS Course Description	MCC Course	MCC Course Description	MCC Credits	Grade
7760	A-Graphics I	ART 153	Visual Design I	3	10, 11, 12
3250	A-General Biology 1	BIO 131	General Biology I	4	11, 12
0601	A-Public Speaking	COM 103	Public Speaking Presentations and Professional	3	11, 12
0605	A-Film & Society	COM 106	Film & Society	3	11, 12
4703	A-Discover Teaching	EDU 150	Discover Teaching	3	11, 12
3971	A-Introduction to Engineering	EGR 101	Introduction to Engineering	4	11, 12
0606	A-English Composition A	ENG 101	Composition I	3	11, 12
0607	A-English Composition B	ENG 102	Composition II	3	11, 12
0557	A-Literature of The Holocaust	ENG 120	Literature of The Holocaust	3	11, 12
0587	A-Modern American Literature	ENG 161	Modern American Literature	3	11, 12
0603	A-African American Literature	ENG 165	African American Literature	3	11, 12
0609	A-Graphic Novel	ENG 190	The Graphic Novel	3	11, 12
3735	A-Environmental Studies	ENV 115	Environmental Studies	3	11, 12
4447	A-Intro to Psychology	PSY 101	Introduction to Psychology	3	11, 12
4435	A-Intro to Sociology	SOC101	Introduction to Sociology	3	11, 12

ART 153 Visual Design I 11,12 3 Cr.

Visual Design I provides students with a foundational understanding of visual design principles and the software tools necessary to create effective visual communication.

BIO 131 General Biology I 11,12 4 Cr.

A study of the cell, the fundamental unit of biological structure and function. An introductory section on bioenergetics and biochemistry lay the groundwork for the consideration of the cell through a modern interdisciplinary approach. The course examines the ultrastructure of the cell and of the most universal cell functions: transport, cellular respiration, photosynthesis, cellular reproduction, and protein synthesis. Lecture themes are illustrated in the laboratory.

ENG 165 African American Literature 11, 12 3 Cr.

African American Literature will present the student with an overview of African American writers' past and present. The course is designed to give students an understanding and appreciation of African American Literature, including some or all of the following forms from earlier periods to contemporary Black literature: early poetry, spirituals, essays, oratory, and fiction. Students will explore the multi-faceted traditions of African American Literature as a means of exploring the culture of those people of African descent in the Americas (primarily the United States) to better understand their socio-political origins, traditions, customs, and contributions in the shaping and development of popular culture.

ENG 190 The Graphic Novel 11, 12 3 Cr.

A study of graphic narratives that presents conventions of form and genre so students can examine the types of stories being told through this unique, vital medium and what effects they have on the reader. Focus will be on graphic novels, but will also explore other graphic narratives such as comics and digital comics.

ENV 115 Environmental Studies 11, 12 3 Cr.

An interdisciplinary course in ecological/environmental education designed to develop an understanding and awareness of our environment, how the environment can change and the effects of such change. The course explores the role which humans play in causing environmental change and the underlying values and ethical judgments involved in making choices. Includes a study of the structure and function of ecosystems, thermodynamics, and an examination of selected environmental problems.

PSY 101 Introduction to Psychology 11, 12 3 Cr.

This course introduces students to the scientific study of the mind and behavior and to the applications of psychological theory to life. Topics include: research methods; biopsychology; lifespan development; memory; learning; social psychology; personality; and psychological health and disorders. This course will establish a foundation for subsequent study in psychology.

SOC 101 Introduction to Sociology 11, 12 3 Cr.

This course is an introduction to the study of society and social behavior. Topics covered include sociological theory, research methods, culture, socialization, deviance, social institutions, social stratification, global inequalities, gender, race, ethnicity, social movements and social change.



Student Success Starts Here

Early College Independence Program



LHS Students will have the opportunity to take 2 classes per semester on campus at Middlesex Community College. Students will choose 2 classes per semester. Courses are offered in a variety of subject areas. All of the courses will help work toward an Associate's Degree or transfer to a 4-year institution.

Students will be dismissed from Lowell High School at 12:00 to attend classes at Middlesex Community College – Lowell.

**Please note, Early College Independence Courses are run subject to MCC professor availability and as a result subject to change.*

Independence Offerings

LHS Course	LHS Course Description	MCC Course	MCC Course Description	MCC Credits	Grade
4541	A-Cultural Anthropology	ANT 101	Cultural Anthropology	3	12
3787	A-Nutrition	BIO 108	Nutrition	3	12
3545	A-Anatomy & Physiology I	BIO 231	Anatomy & Physiology I	4	12
3546	A-Anatomy & Physiology 2	BIO 232	Anatomy & Physiology 2	4	12
6233	A-Introduction to Business	BUS 110	Introduction to Business	3	12
6323	A-Introduction to Entrepreneurship	BUS 130	Introduction to Entrepreneurship	3	12
4555	A-Intro to Communications	COM 101	Introduction to Communication and Media	3	12
4551	A-Introduction to Criminal Justice	CRJ 111	Introduction to Criminal Justice	3	12
4543	A-Ethics and Society	ETH 101	Ethics and Society	3	12
1471	A-Statistics	MAT 177	Statistics	3	12
1453	A-Precalculus for Business	MAT 182	Precalculus for Business	3	12
4541	A-Introduction to Philosophy	PHL 101	A-Introduction to Philosophy	3	12
4453	A-Abnormal Psychology	PSY 150	Abnormal Psychology	3	12

ANT 101 Cultural Anthropology 12 3 Cr.

This course is an introduction to the study of contemporary and historically recent human cultures. Topics to be covered include theory, culture, research methods, communication, subsistence patterns, economic systems, kinship, descent, family, religion, art, medicine, globalization, and cultural change. ***Class taken on the MCC Campus.***

BIO 108	Nutrition	12	3 Cr.
<p>A study of the major nutrients, including their function, food sources, and the effect of deficiency and excess, as well as an examination of changing nutritional needs during the life cycle. <i>Class taken on the MCC Campus.</i></p>			
BIO 231	Anatomy & Physiology I	12	4 Cr.
<p>This course is the first half of an intensive two-semester sequence designed to integrate the study of the structure and function of the human body. The semester begins with a study of the chemical and cellular levels of organization as related to molecular biology, cellular transport, and histology. The central theme of homeostasis then is applied to the integumentary, skeletal, muscular systems and nervous system. <i>Class taken on the MCC Campus.</i></p>			
BIO 232	Anatomy & Physiology 2	12	4 Cr.
<p>This course is the second half of an intensive two-semester sequence designed to integrate the study of the structure and function of the human body. The semester includes study of the special senses, the endocrine system, cardiovascular system (blood, heart and blood vessels), lymphatic and immune system, respiratory, digestive, urinary and reproductive systems. The concept of homeostasis and its disruption by disease conditions is emphasized, providing a framework in which to integrate all systems into a functioning whole. <i>Class taken on the MCC Campus.</i></p>			
BUS 110	Introduction to Business	12	3 Cr.
<p>Introduction to Business is the study of the foundational principles of the business world. Topics include economic systems, ethics and social responsibility, globalization, forms of business ownership, types of organizations, and the functions of accounting, finance, management, and marketing. <i>Class taken on the MCC Campus.</i></p>			
BUS 130	Introduction to Entrepreneurship	12	3 Cr.
<p>This is an introductory course designed to help students understand the importance of innovation and entrepreneurship in the 21st Century economy and will cultivate an entrepreneurial mindset. It provides students from all disciplines with an avenue to explore a perspective of innovation and entrepreneurship within their areas of interest. It will cover the different forms of entrepreneurship including small business, corporate, and social entrepreneurship. This course will focus on the entrepreneurial process including idea generation, opportunity evaluation, planning, and implementation. Experiential, project-based learning will help solidify concepts learned. <i>Class taken on the MCC Campus.</i></p>			
COM 101	Introduction to Communications	12	3 Cr.
<p>This course provides a framework for understanding the impact of media on society and the individual. The history, organization, economics, theories, and social significance of communication media are surveyed. Special emphasis will be given toward the evolving media environment, how to evaluate media messages, and how to become a better consumer of the media. <i>Class taken on the MCC Campus.</i></p>			

CHEM 1240L Chemistry II Lab **11, 12** **3 Cr.**

Serves as a continuation of the laboratory study begun in CHEM 1230L. Topics include: thermochemistry, kinetics, spectroscopy, titration, pH, equilibrium reaction and constants. Some aqueous solution reactions and organic reactions are examined. Accurate measurements and precise instrumental and apparatus operation are expected. Restricted to science, engineering, and engineering technology majors. *Taken concurrently with CHEM 1360 Honors Chemistry 2*

EDUC 1100 Teaching in The Inclusive Classroom **11, 12** **3 Cr.**

This course introduces students to what it means to teach in an inclusive elementary classroom, that values the diversity that all students bring to the classroom, and operates from the lens of anti-racism and social justice. You will be introduced to designing standards-based lesson plans with measurable learning outcomes. Additionally, you will begin to learn the importance of both formative and summative assessments. You'll be introduced to classroom management techniques to create a safe and effective learning community. You will also be introduced to effective strategies for differentiation of instruction to make learning accessible to all students. Google Classroom will be used as a platform throughout the course, for online discussions, submission of all assignments, and sharing of all course information.

LIFE 1010 Life Science I **11, 12** **3 Cr.**

Presents environmental and organismal structural interrelationships and relates these to the chemical evolutionary basis of life.

LIFE 1020 Life Science II **11, 12** **3 Cr.**

Emphasis is on systems structure and function. The cellular organization of plants and animals leads into physiological processes of higher organisms with great emphasis on humans. Among topics considered are nutrition and digestion, cellular metabolism, circulation, respiration, excretion, nervous and skeletal-muscular systems. Also considered are the chemical interactions of these systems with immunity, hormonal and reproductive processes.

ARTICULATION AGREEMENTS

Lowell High School has articulation agreements for select courses with Middlesex Community College. Articulation Agreements provide students with college credits for successfully completing Lowell High School courses should they attend Middlesex Community College.

Each school has a minimum grading and attendance requirement in addition to other criteria that need to be met before credit is recognized by the colleges. Students must attend the school issuing credits through the Articulation Agreement. Students should consult their school counselor for more information.

MIDDLESEX COMMUNITY COLLEGE

Culinary

Completion of 3 years of Culinary

5311/5312 Culinary Arts – Beginners	BUS 155 Culinary Theory	3 Cr
5313/5314 Culinary Arts – Intermediate	BUS 156 Culinary Skills	3 Cr
5315/5316 Culinary Arts – Advanced	BUS 157 Bakery and Pastry Skills	3 Cr
	BUS 158 Sanitation and Food Service Operations	3 Cr

Dance

7907/7908 Dance 3 & Dance 4	DAN 101 Introduction to Modern Dance	3 Cr
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To receive credit for the Middlesex Community College courses, students must:

- Graduate from Lowell High School
- Earn a minimum cumulative grade of “B-“ (80) in the Lowell High School courses
- Meet all Middlesex admissions requirements and be a matriculated student in good standing
- Submit to the Middlesex Enrollment Services an official high school transcript documenting graduation

CREDIT RECOVERY

At Lowell High School, we understand that sometimes students fall behind in their studies. If this happens, students may be able to catch up through our **Credit Recovery Program**.

Credit Recovery classes are available through the **Apex online learning platform** and offer the following options:

- **During the school day** - Core classes only unless otherwise approved
- **After school at Lowell High School**
- **At The Engagement Center** (within Lowell Public Schools- seniors only with application and approval) **include part-time program outside of LHS

If students qualify, they can take classes during the day, after school, or in the evening with additional support from a teacher. The goal of Credit Recovery is to help students recover credits needed to stay on track to graduate on time.

Important Information:

- **Self-paced:** Credit Recovery classes are self-paced, which means you will work through online modules at your own speed. It's up to you to keep making progress.
- **Online learning:** course content is delivered through an online platform. Educators in the classroom are present for tutoring and support but do not provide direct instruction in all content areas.
- **Pre-approval Required:** You need **pre-approval** to participate in the Credit Recovery Program, so talk to your school counselor to see if you qualify.
- **For Students Who Need to Recover Credits:** These courses are mainly for students who need to recover credits from a course they previously attempted or when students are re-engaging after absence.

SENIOR STUDY

Senior Study is a non-credit-bearing course for seniors on track to graduate with their cohort and do not need additional courses to meet graduation requirements. Seniors may leave campus early with the permission of their parents or caretakers.

Senior students must be preapproved and sign an agreement to participate in Senior Study.

WORK STUDY

Lowell High School recognizes that work of all types is a learning experience and provides students with skills and opportunities for success during and after high school. Juniors and Seniors who have employment outside of LHS may be eligible for Work Study, which is a course embedded in their schedule allowing for late arrival or early release daily.

Students must be in Grade 11 or 12 to be eligible and will need to provide their own transportation to and from the Work Study site.

Academic Expectations

- Work Study hours will replace 1 scheduled class at either the beginning or the end of the day (flexible based on student and employer preference).
- Students will be enrolled in their academic courses and must maintain passing grades in all academic subjects. Students who do not maintain passing grades will be removed from the program.
- If absent from school, the student will not attend work on the same day. The student will be removed from the Work Study Program if they attend work and not school.
- The student will attend their classes daily, as listed on their schedule. In the event of excessive absences, students may be removed from the Work Study Program.
- Students will be graded Pass/Fail for their participation in the Work Study Program.

Work Study Expectations

- Students must sign the LHS Work Study Contract prior to starting this program.
- Students must have employment prior to starting the program.
- Students will submit weekly journals as assigned and will submit their Work Based Learning Plan Supervisor Feedback from upon request
- Students will submit signed timesheets or pay stubs upon request by the College and Career Counselor overseeing the program
- Students must work a minimum of 15 hours per week.
- Students must inform the College and Career Counselor about any thoughts of quitting their job prior to giving notice to the employer.
- Students must inform the College and Career Counselor if they are terminated from their job.
- If students quit or are terminated from employment, they must stay at LHS during their Work Study period to provide support in their house office or Student Support Services
- The student will maintain a good attitude and be cooperative while in school and on the job, with minimal to no disciplinary issues at LHS.

INTERNSHIP

At Lowell High School, the second semester Internship experience assists seniors in furthering their education and knowledge within the “real world”. The focus of the internship program is to support the student experience in the workforce to become more informed about possible career choices. At the same time, this program supports independence and helps prepare them for the responsibilities of either the college experience or the world of work. At the end of the program, students will have had a 100 hour plus experience that will help shape their decisions regarding possible college majors and career direction.

This course is open to seniors who have good attendance and are in good academic standing.

Student Benefits:

- Connects classroom to real world experience
- Helps define areas of interest, educational goals and future plans
- Acquires knowledge and skills about careers and labor market
- Opportunity to understand workplace etiquette and practice communication skills
- Builds confidence, responsibility and self-advocacy skills
- Creates network of professionals for future internship and employment opportunities

Employer Benefits:

- Find future employees
- Help support the well -being of the local community
- Test drive talent
- Assistance with projects and office support
- Share knowledge and experience
- Train future leaders
- Inspire youth from the community

Preparation before site placement

- All students will go through a series of workshops that will prepare them for placement prior to internship experience as listed below.
- Resume preparation
- Interview skills
- Dress for success workshop
- Workplace etiquette
- Business communication
- Coursework exposure to related industry

6460/6461**METAL FABRICATION/WELDING 1****11****5/5 Cr.**

Introduction to metal shop safety protocols. Including material handling, welding, cutting, bending, shearing, grinding and sanding equipment. This will include an OSHA 10 certification for general industry. The Metal Fabrication program will introduce safe shop practices and will be supported by classroom time for theory on welding and cutting processes. Utilizing the Hobart Institute of Welding Technology text, along with Welding: Principles and Applications by Larry Jeffus. Blueprint reading with weld symbols, shop math and sciences of Metal Fabrication. Students will learn to weld and fabricate different types of metal and thickness. Including Cold rolled steel, hot rolled steel, stainless steel and aluminum.

Year One Highlights include the setup and operation of the following:

- Shielded Metal Arc Welding
- Gas Tungsten Arc Welding
- Gas Metal Arc Welding
- Oxy-Acetylene Cutting
- Plasma Arc Cutting
- Hydraulic Shear
- Hydraulic Press Break
- Pedestal grinders
- Belt sanders
- Hydraulic rollers
- Ironworker
- Bandsaws (vertical and horizontal)

6462/6463**METAL FABRICATION/WELDING 2****12****5/5 Cr.**

Year two will build off the skills learned in year one. Adding, out of position welding, Groove preparation. Advanced blueprint reading and sketching/drawing using scale and metallurgy. Included in year two will be a simulated D1.1 welding certification test. Resume writing and interview skills. Advanced students may be introduced to CNC plasma cutting using SwiftCNC and SwiftCAM. Maintaining the safety culture of industry. These skills are obtained by hours in the welding booth and following the Massachusetts framework guidelines for Metal Fabrication & Joining Technologies. Offering the use of state of the art equipment & tools.

Year Two Highlights:

- Out of position welding 2F&G Horizontal, 3G&F Vertical, 4G&F Overhead
- Advanced Blueprint reading
- Introduction to SwiftCNC and SwiftCAM software
- Realityworks measurement certificate
- Interview Skills certificate
- Simulated D1.1 Welding tests in various positions



LOWELL HIGH SCHOOL **CORE VALUES**

- RESPONSIBILITY**
- INTEGRITY**
- DETERMINATION**
- ENGAGEMENT**
- RESPECT**