Lowell High School

2024- 2025

Program of Studies

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LOWELL HIGH SCHOOL

50 Fr. 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.

Lowell High School students:

- Actively engage with content (Mind)
- Actively engage with each other (Heart)
- Focus on student-led conversations (Network, Leadership)
- Engage in a productive struggle (Spirit)
- Actively seek knowledge through inquiry based learning (Skill)

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 identify 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.

ADMINISTRATION

Michael Fiato	Head of School
Meghan Branco	Associate Head of School
Angela Lawler Brennan	Coordinator of Student Support Services
Patrick Smulligan	Discipline & Operations Specialist
Scott Ouellet	Athletic Director

STUDENT SUPPORT SERVICES

Graduation Requirements

To obtain a diploma of graduation from Lowell High School, each student in the **class of 2024, and 2025** must satisfy the following minimum requirements:

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

Content Area	Number of Credits Each semester course is 2.5 credits
English**	**20 Credits**
U.S History I and II** *(must include 1 semester of Civics)*	**10 credits**
Mathematics **(1-full year of Algebra and Geometry)**	**10 credits**
Natural or Physical Sciences	**10 credits**
Wellness ● Physical Education or Equivalent* ● Health (A and B) or Equivalent*	**15 credits** 10 credits 5 credits
Electives	**25 Credits**

*Physical Education and Health Equivalent Courses: (see page for more information)

- AFROTC
- 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.

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 Competency Determination.

Content Area	Number of Credits Each semester course is 2.5 credits
English **	**20 credits**
Social Studies** ● 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 ● Physical Education or Equivalent* ● Health (A and B) or Equivalent*	**15 credits** 10 credits 5 credits

*Physical Education and Health Equivalent Courses: (see the student handbook or course catalog for more information)

- 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.

Promotion Policy

Students must be promoted from the eighth grade to enter Lowell High School. In order to move to the next grade level, students must earn the minimum number of credits. Initial grade level is calculated in the year students enter Lowell High School based on credits earned prior to the beginning of that school year.

Students are promoted in subsequent years pending meeting minimum earned credit. Grade 11 students can be promoted to Grade 12 at the end of Semester 1, provided they are on track to graduate at the end of the year.

Students must earn a minimum of the following credits to be promoted to the next grade: (each semester course is 2.5 credits, students should earn 35 credits each year and should earn 140 credits at the end of senior year)

In order to move to the next grade level, students must earn the following credits:

- To grade 10, students must have earned 20 credits. Of the 20 credits, students must pass 2.5 credits of English I and 2.5 credits of Algebra I.
  - ➔ Grade 9 Repeaters must pass English 2A (2.5 credits), Geometry A (2.5 credits) and Biology A (2.5 credits) to be promoted to Grade 10/sophomore status.
- To grade 11, students must have earned 40 credits.
  - ➔ Grade 10 (repeaters) must take all three MCAS tests and earn 40 credits to be promoted to Grade 11 at the mid-year point.
- To grade 12, students must have earned 60 credits

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.

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

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 the student.

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

- A – Advanced
- 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 Honor level courses are the highest level in intellectual challenge 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 intellectual challenges 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 require a moderate to extensive intellectual development and outside preparation by the student. These courses are designed to prepare the student to succeed in four-year colleges and two-year colleges. Reading levels will be above the nationally normed median. Students are assumed to be self-motivated.

Non-Weighted courses are for students of all ability levels. These courses are heterogeneously grouped.

PREREQUISITES FOR CONTINUING COURSES

The following guidelines have been adopted by all departments and should 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

Note: A passing grade is needed to continue the second semester of a continuous course & teacher recommendations can be used for students who fall below the grade level criteria but wish to advance to higher course work.

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.
- ➔ Consult with your individual teachers about course recommendations
- ➔ Attend your individual or group meeting with your school counselor

Please understand that not all student choices can be accommodated due to scheduling constraints and school placement policies.

DEPARTMENT COURSES

ENGLISH

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.

In accordance with state mandates, 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. The Education Reform Law also requires students to pass the state's Grade 10 MCAS tests as a condition for receiving a high school diploma. English Language Arts is one of the mandated MCAS areas. Courses offered in the English Department are aligned with and fulfill the content requirements of the Massachusetts State Curriculum Frameworks.

Summer Literacy Program: Some courses require the completion of a summer assignment. Information about summer work can be found on the LHS website.

ENGLISH CORE COURSES, Grades 9-11

0131/0132	English 1 - College	9 (FA)	2.5/2.5
0141/0142	English 1 - Honors	9 (FA)	2.5/2.5
0151/0152	English 1 - High Honors	9 (FA)	2.5/2.5
0121/0122	English 1 - College	9, 9R	2.5/2.5
0231/0232	English 2 - College	10	2.5/2.5
0241/0242	English 2 - Honors	10	2.5/2.5
0251/0252	English 2 - High Honors	10	2.5/2.5
0331/0332	English 3 - College	11	2.5/2.5
0341/0342	English 3 - Honors	11	2.5/2.5
0606/0607	English Composition - (EC - MCC) * - Advanced	11	2.5/2.5

SENIOR ENGLISH CORE CLASSES
Full Year Courses

0431/0432	English 4 - College	12	2.5/2.5
0441/0442	British Traditions - Honors	12	2.5/2.5
0519/0520	Other Worlds - Honors	12	2.5/2.5
0528/0529	Sports Literature and Writing - Honors	12	2.5/2.5
0552/0553	Race and Ethnicity in Literature A/B - Honors	12	2.5/2.5
0555/0556	Literature of The Holocaust A/B - Honors	12	2.5/2.5
0560/0561	Diverse Voices in Literature - Honors	12	2.5/2.5
0577/0578	The Graphic Novel - College	12	2.5/2.5
0606/0607	English Composition - (EC - MCC) * - Advanced	12	2.5/2.5
0661/0662	Literature and Composition (AP)* - Advanced	12	2.5/2.5

SENIOR ENGLISH CORE CLASSES
One Semester Courses

0526	Short Fiction and Poetry - Honors	12	2.5
0531	Creative Writing - College	12	2.5
0533	Creative Writing - Honors	12	2.5
0537	Expository Writing - College	12	2.5
0538	Expository Writing - Honors	12	2.5
0567	Gender in Literature - Honors	12	2.5
0580	Social Justice and Modern Media – Honors	12	2.5
0585	Write, Camera, Action - Honors	12	2.5
0601	Public Speaking (EC - MCC) - Advanced	12	2.5
0603	African American Literature (EC - MCC) - Advanced	12	2.5
0605	Intro to Film Studies and Analysis (EC - MCC) – Advanced	12	2.5
0609	The Graphic Novel (EC - MCC) - Advanced	12	2.5
0557	Literature of the Holocaust (EC - MCC) - Advanced	12	2.5
0587	Modern American Literature (EC - MCC) - Advanced	12	2.5

ENGLISH ELECTIVE COURSES, Grade 10*, 11 and 12

0466/0467	Reading and Writing in the 21st Century - College	11, 12	2.5/2.5
0519/0520	Other Worlds - Honors	11, 12	2.5/2.5
0526	Short Fiction and Poetry - Honors	11, 12	2.5
0528/0529	Sports Literature and Writing - Honors	11, 12	2.5/2.5
0531	Creative Writing - College	11, 12	2.5
0533	Creative Writing - Honors	11, 12	2.5
0537	Expository Writing - College	11, 12	2.5
0538	Expository Writing - Honors	11, 12	2.5
0552/0553	Race and Ethnicity in Literature A/B - Honors	11, 12	2.5/2.5
0555/0556	Literature of The Holocaust - Honors	11, 12	2.5/2.5
0560/0561	Diverse Voices in Literature - Honors	11, 12	2.5/2.5
0567	Gender in Literature - Honors	10, 11, 12	2.5
0577/0578	The Graphic Novel - College	10, 11, 12	2.5/2.5
0580	Social Justice and Modern Media – Honors	10, 11, 12	2.5
0585	Write, Camera, Action - Honors	10, 11, 12	2.5
0601	Public Speaking (EC - MCC) - Advanced	11, 12	2.5
0603	African American Literature - (EC - MC) Advanced	11, 12	2.5
0605	Intro to Film Studies and Analysis (EC - MCC) – Advanced	11, 12	2.5
0609	The Graphic Novel - (EC - MCC) - Advanced	11, 12	2.5
0557	Literature of the Holocaust (EC - MCC) - Advanced	11, 12	2.5
0587	Modern American Literature (EC - MCC) - Advanced	11, 12	2.5

*Students entering Grade 10 may request approval from the English Department Chair to take upper level elective courses. Approval must be granted prior to enrollment.

ENGLISH SUPPORT & OTHER ELECTIVE COURSES

0023/0024	Balanced Literacy (9) - College	9 (FA)	2.5/2.5
0025/0026	Balanced Literacy (10) - College	10	2.5/2.5
0061	SAT Critical Reading/Writing Prep – Honors	11,12	2.5
9201/9202	Freshman Seminar – Non-Weighted	9 (FA)	2.5/2.5
9401/9402	Upward Bound - College	9, 10, 11	2.5/2.5

ENGLISH CORE COURSES

0131/0132 ENGLISH 1 - College 9 2.5/2.5 Cr.

This course is designed to help students successfully transition to high school by building essential, foundational communication skills. The course provides strategies to help students to 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 and the effective use of textual evidence in supporting a text-based response. Preparation for the MCAS test is not the focus of this course, but skills practiced will be critical for successful performance on the Grade 10 ELA MCAS assessment. ***(Co-enrollment at the same level with 4121/4122 Essential Skills In World History/Topics In World History)***

0141/0142 ENGLISH 1 - Honors 9 2.5/2.5 Cr.

This course is designed to help students successfully transition to high school by building essential, foundational communication skills. The course provides strategies to help students to 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 and the effective use of textual evidence in supporting a text-based response. Preparation for the MCAS test is not the focus of this course, but skills practiced will be critical for successful performance on the Grade 10 ELA MCAS assessment. While the scope of the curriculum is similar to 0131, this course differs in the pace and in the expectation for independent work. Preparation for the MCAS test is not the focus of this course, but skills practiced will be essential for successful performance on the MCAS assessment. *(Co-enrollment at the same level with 4141/4142 World History – Honors)* ***PREREQUISITE: Students wishing to be considered for honors English 1 must earn a designation of "Meeting Expectations" on their most recent ELA MCAS and maintain a grade of 80 or better in their 8th grade ELA course. Students who have not taken the MCAS exam must score 80% or better in ELA on their most recent standardized test.***

0151/0152 ENGLISH 1 - High Honors 9 2.5/2.5 Cr.

English 1 - High Honors is for students who have demonstrated exceptional ability and achievement in reading and writing during middle school and who are motivated to work in an accelerated program. Students will engage in a rigorous examination of four major genres of literature: the short story, the novel, poetry and drama. Students will be expected to use the writing process to produce well-developed analytical essays, read closely, actively and interpretively, engage meaningfully in small group work and class discussions, and conduct an extensive research project. The overall goal of this course is to develop higher-level thinking skills that characterize independent learners. *(Co-enrollment at the same level with 4181/4182 World History-High Honors)* ***PREREQUISITE: Students wishing to be considered for high honors English 1 must earn a designation of "Exceeding Expectations" on their most recent ELA MCAS and maintain a grade of 90 or better in their 8th grade ELA course. Students who have not taken the MCAS exam must score 90 or better in ELA on their most recent standardized test.***

0121/0122 ENGLISH 1 - College 9, 9R 2.5/2.5 Cr.

English 1 - College is designed for students who need to fulfill credit for English 1 outside of the Freshman Academy. This course focuses on the essential elements of communication -- reading comprehension, clarity in writing, active listening, and confidence in speaking. The course uses a wide-range of text types and genres. Students write for a variety of purposes, including literary analysis, creative expression and argument.

0231/0232 ENGLISH 2 - College 10 2.5/2.5 Cr.

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. By synthesizing information from varied resources, students will make connections between texts in order to encapsulate the full complexity of storytelling. Students will grapple with analyzing 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 for the first time in the spring of their sophomore year. Explicit instruction in various test taking strategies, including multiple choice and MCAS style essay writing, is included in the scope of this course.

The LHS English Department has partnered with Middlesex Community College to provide Early College learning opportunities in this course. Within English 2, students complete **EC-MCC: IDS110 The Choices We Make.** This one credit course is designed to assist students in identifying and understanding the choices they make and how their choices positively and negatively impact their ability to reach their academic and personal goals. Through the close reading of a range of personal stories, students explore a variety of real-world choices and outcomes. (1 MCC Credit)

0241/0242 ENGLISH 2 - Honors 10 2.5/2.5 Cr.

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. By synthesizing information from varied resources, students will make connections between texts in order to encapsulate the full complexity of storytelling. Students will grapple with analyzing 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. While the scope of the curriculum is similar to English 0231/0232, this course differs in the pace and the expectation for independent work. Preparation for the ELA MCAS is included in the scope of this course. ***PREREQUISITE: Successful completion of English 1 - Honors with a minimum grade of 70 or successful completion of English 1 - College with a minimum grade of 85.***

The LHS English Department has partnered with Middlesex Community College to provide Early College learning opportunities in this course. Within English 2, students complete **EC-MCC: IDS110 The Choices We Make.** This one credit course is designed to assist students in identifying and understanding the choices they make and how their choices positively and negatively impact their ability to reach their academic and personal goals. Through the close reading of a range of personal stories, students explore a variety of real-world choices and outcomes. (1 MCC Credit)

0251/0252 ENGLISH 2 - High Honors 10 2.5/2.5 Cr.

English 2 **-** High Honors is for students who have demonstrated exceptional ability and achievement in reading and writing in English 1 Students will engage in reading a wide range of texts, including those well above grade level. Students will continue to refine their writing skills as they practice critical analysis, with special attention paid to increasingly sophisticated style, diction, and sentence structure. This course offers an accelerated pace and demands extensive outside reading and a research-based project. Students selecting this course are expected to self-initiate, self-direct and self-evaluate as writers, engage independently with complex texts, and be active participants in class discussions. The overall goal of this course is to develop higher-level thinking skills that characterize independent learners. Preparation for the ELA MCAS is included in the scope of this course. ***PREREQUISITE: Successful completion of English 1 (with a minimum grade of 80 in high honors, 85 in honors, and 90 in college level course) and the recommendation of the Grade 9 English teacher. This course requires the completion of a summer reading and writing project that is due at the first class meeting of the year. Students who do not meet these prerequisites must obtain Department Head approval.***

The LHS English Department has partnered with Middlesex Community College to provide Early College learning opportunities in this course. Within English 2, students complete **EC-MCC: IDS110 The Choices We Make.** This one credit course is designed to assist students in identifying and understanding the choices they make and how their choices positively and negatively impact their ability to reach their academic and personal goals. Through the close reading of a range of personal stories, students explore a variety of real-world choices and outcomes. (1 MCC Credit)

0331/0332 ENGLISH 3 - College 11 2.5/2.5 Cr.

English 3 **-** College further enhances reading, writing and thinking skills in the context of American Literature. Students will 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 assisting students to attain 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.

0341/0342 ENGLISH 3 - Honors 11 2.5/2.5 Cr.

English 3 **-** Honors is for students who have demonstrated strong motivation, ability and achievement in English 2. English 3 - Honors introduces the student to American Literature by tracing the development of cultural concepts and patterns in writers from the Colonial Period forward. This course explores the cultural realities, literary movements and writers' techniques that shaped the emerging American identity. There is strong emphasis on enhancing the skills of critical analysis, both oral and written, and tracing the evolution of concepts in American writing. 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. 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. ***PREREQUISITE: Successful completion of English 2 - Honors with a minimum grade of 70 or successful completion of English 2 - College with a minimum grade of 85.***

0606/0607 ENGLISH COMPOSITION (EC - MCC) – Advanced 11, 12 2.5/2.5 Cr.

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 will continue building 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. Using a writing process that includes pre-writing, drafting, instructor and peer feedback, and revision, 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. This course is offered in partnership with Middlesex Community College. Students who successfully complete this course will receive both LHS English graduation credit and MCC credit. [MCC course equivalent English Composition 1 and English Composition 2: An Introduction to Literature (3 Credits each)] ***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) or written approval from your ELA teacher and completion of Middlesex Community College's multiple measures prerequisites. A grade of 70 or better in 0606 is required to continue in 0607. This course requires the completion of a summer assignment. Failure to complete the summer assignment will result in removal from the course.***

SENIOR ENGLISH CORE CLASSES
Full Year Courses

Grade 12 students are able to select from a variety of courses to meet the English graduation requirement. Students must enroll in a minimum of one English course per semester, but are able to take additional ELA courses for elective credit. Grade 11 students may enroll in these classes for elective credit only. Grade 10 students who are interested in taking an upper level elective course may request permission from the English Department Chair.

A student must meet the following prerequisites to enroll in **Honors** level Grade 12 courses:

- *Current Grade 11 students*
    - *a 70 or above in English 3- Honors*
    - *an 80 or above in English 3 - College*
- *Current Grade 10 students*
    - *- a 70 or above in English 2 – High Honors*
    - *an 80 or above in honors English 2*
    - *a 90 or above in college English 2*

Some courses have more specific prerequisites listed. Students who do not meet the prerequisites must obtain Department Chair approval prior to enrolling.

0431/0432 ENGLISH 4 - College 12 2.5/2.5 Cr.

This survey course introduces students to British Literature, and subsequently the shift to literary works from other countries, by tracing the evolution of literature from the Anglo-Saxon Period forward. Reading and writing assignments support the practice of interpretation, analysis and synthesis of ideas. In conjunction with the study and analysis of literature, emphasis is placed on developing and sharpening the skills needed to write with increased sophistication of content, form and diction. 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.

0441/0442 BRITISH TRADITIONS - Honors 11. 12 2.5/2.5 Cr.

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.

0519/0520 OTHER WORLDS - Honors 11, 12 2.5/2.5 Cr.

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.

0528/0529 SPORTS LITERATURE AND WRITING - Honors 11, 12 2.5/2.5 Cr.

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. Completion of the Grade 12 summer reading program is required.

0552/0553 RACE AND ETHNICITY IN LITERATURE - Honors 11, 12 2.5/2.5 Cr.

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.

0555/0556 LITERATURE OF THE HOLOCAUST - Honors 11, 12 2.5/2.5 Cr.

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.

0560/0561 DIVERSE VOICES IN LITERATURE - Honors 11, 12 2.5/2.5 Cr.

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 medias.

0577/0578 THE GRAPHIC NOVEL - College 11, 12 2.5 Cr.

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, II, III, 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.

0606/0607 ENGLISH COMPOSITION (EC - MCC) – Advanced 11, 12 2.5/2.5 Cr.

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 will continue building 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. Using a writing process that includes pre-writing, drafting, instructor and peer feedback, and revision, 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. This course is offered in partnership with Middlesex Community College. Students who successfully complete this course will receive both LHS English graduation credit and MCC credit. [MCC course equivalent English Composition 1 and English Composition 2: An Introduction to Literature (3 Credits each)] ***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) or written approval from your ELA teacher and completion of Middlesex Community College's multiple measures prerequisites. A grade of 70 or better in 0463 is required to continue in 0464. This course requires the completion of a summer assignment. Failure to complete the summer assignment will result in removal from the course.***

0661/0662 LITERATURE AND COMPOSITION (AP) - Advanced 12 2.5/2.5 Cr.

Literature and Composition AP (English 4) 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. The Advanced Placement Test, given in May of the senior year, is required of every student in 0461, and a fee is charged for the test. The student selecting this course must submit a writing sample to the instructor for approval. ***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 junior English teacher. This course requires the completion of a summer assignment. Failure to complete the summer assignment will result in removal from the course.***

SENIOR ENGLISH CORE CLASSES
One Semester Courses

The following courses satisfy an English graduation requirement for Grade 12 students; students must be enrolled in a minimum of one ELA core course each semester. Grade 11 students may enroll in these courses for elective credit in addition to their core Grade 11 course. Prerequisites are the same as for full-year courses -- see above. Grade 10 students wishing to enroll in courses designated for Grade 11 and 12 may request permission from the English Department Chair prior to enrolling.

0526 SHORT FICTION AND POETRY - Honors 11, 12 2.5 Cr.

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.

0531 CREATIVE WRITING - College 11, 12 2.5 Cr.

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. It is recommended that this course be paired with Expository Writing (0537)

0533 CREATIVE WRITING - Honors 11, 12 2.5 Cr.

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. It is recommended that this course be paired with Expository Writing (0538).

0537 EXPOSITORY WRITING – College 11, 12 2.5 Cr.

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. It is recommended that this course be paired with Creative Writing (0533).

0538 EXPOSITORY WRITING – Honors 11, 12 2.5 Cr.

Expository Writing teaches practical and effective strategies for preparing for the demands of college 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. It is recommended that this course be paired with Creative Writing (0534)

0567 GENDER IN LITERATURE - Honors 10, 11, 12 2.5 Cr.

Gender and Identity looks at the phenomenon of gender from multiple aspects: psychology, sociology, anthropology, psychology, philosophy, and religion. Starting with ancient myths and views around gender, the course will progress to modern ideas of gender as a construct, and question the connection between mind, body, and genetics. 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. Major changes in American attitudes toward gender after WWII will be examined and compared with world trends. Each student will be expected to research and write a major paper at the end of the course, and present her or his ideas through digital media. This course fulfills program requirements of the Education Pathway.

0580 SOCIAL JUSTICE AND MODERN MEDIA – Honors 10, 11, 12 2.5

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.

0585 Write, Camera, Action - Honors 12 2.5 Cr.

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.

0601 PUBLIC SPEAKING - (EC- MCC) Advanced 11, 12 2.5 Cr.

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. ***Prerequisite: Successful completion of, or concurrent enrollment in, English Composition (0606/0607). Students who do not meet this prerequisite may take this course for elective credit with the permission of the English Department Chair.***

0603 AFRICAN AMERICAN LITERATURE - (EC - MCC) – Advanced 11, 12 2.5 Cr.

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. ***Prerequisite: Successful completion of, or concurrent enrollment in, English Composition (0606/0607). Students who do not meet this prerequisite may take this course for elective credit with the permission of the English Department Chair.***

EC-MCC: ENG 165 African American Literature (3 Credits)

0605 INTRODUCTION TO FILM STUDIES & ANALYSIS - (EC - MCC) - Advanced 11, 12 2.5 Cr.

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. ***Prerequisite: Successful completion of, or concurrent enrollment in, English Composition (0606/0607). Students who do not meet this prerequisite may take this course for elective credit with the permission of the English Department Chair.***

EC-MCC: COM 106 Film & Society (3 Credits)

0609 THE GRAPHIC NOVEL - (EC - DE - MCC)- Advanced 11, 12 2.5 Cr.

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. ***Prerequisite: Successful completion of, or concurrent enrollment in, English Composition (0606/0607). Students who do not meet this prerequisite may take this course for elective credit with the permission of the English Department Chair.***

0557 Literature of the Holocaust - (EC-DE-MCC) - Advanced 11,12 2.5 Cr.

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. ***Prerequisite: Successful completion of, or concurrent enrollment in, English Composition (0606/0607). Students who do not meet this prerequisite may take this course for elective credit with the permission of the English Department Chair.***

EC-MCC: ENG 120 (3 Credits)

0587 Modern American Literature (EC - DE - MCC) - Advanced 11,12 2.5 Cr.

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. ***Prerequisite: Successful completion of, or concurrent enrollment in, English Composition (0606/0607). Students who do not meet this prerequisite may take this course for elective credit with the permission of the English Department Chair.***

EC-MCC: ENG 161 Modern American Literature (3 Credits)

ENGLISH ELECTIVE COURSES
Grade 10*, 11 and 12

0466/0467 READING & WRITING IN THE 21ST CENTURY– College 11, 12 2.5/2.5 Cr.

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.**

0519/0520 OTHER WORLDS - Honors 11, 12 2.5/2.5 Cr.

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.

0526 SHORT FICTION AND POETRY - Honors 11, 12 2.5 Cr.

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.

0528/0529 SPORTS LITERATURE AND WRITING - Honors 11, 12 2.5/2.5 Cr.

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. Completion of the Grade 12 summer reading program is required.

0531 CREATIVE WRITING - College 11, 12 2.5/2.5 Cr.

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. It is recommended that this course be paired with Expository Writing (0537)

0533 CREATIVE WRITING - Honors 11, 12 2.5/2.5 Cr.

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. It is recommended that this course be paired with **Expository Writing (0538).**

0537 EXPOSITORY WRITING – College 11, 12 2.5 Cr.

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. Enrollment in 0531 is recommended. It is recommended that this course be paired with Creative Writing (0533)

0538 EXPOSITORY WRITING – Honors 11, 12 2.5 Cr.

Expository Writing teaches practical and effective strategies for preparing for the demands of college 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. It is recommended that this course be paired with Creative Writing (0534)

0552/0553 RACE AND ETHNICITY IN LITERATURE - Honors 11, 12 2.5/2.5 Cr.

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.

0555/0556 LITERATURE OF THE HOLOCAUST - Honors 11, 12 2.5/2.5 Cr.

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.

0560/0561 DIVERSE VOICES IN LITERATURE - Honors 11, 12 2.5/2.5 Cr.

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 medias.

0567 GENDER IN LITERATURE - Honors 10, 11, 12 2.5 Cr.

Gender and Identity looks at the phenomenon of gender from multiple aspects: psychology, sociology, anthropology, psychology, philosophy, and religion. Starting with ancient myths and views around gender, the course will progress to modern ideas of gender as a construct, and question the connection between mind, body, and genetics. 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. Major changes in American attitudes toward gender after WWII will be examined and compared with world trends. Each student will be expected to research and write a major paper at the end of the course, and present her or his ideas through digital media. This course fulfills program requirements of the Education Pathway.

0577/0578 THE GRAPHIC NOVEL - College 11, 12 2.5/2.5 Cr.

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, II, III, 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.

0580 SOCIAL JUSTICE AND MODERN MEDIA – Honors 10, 11, 12 2.5 Cr.

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.

0585 WRITE, CAMERA, ACTION - Honors 12 2.5 Cr.

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.

0601 PUBLIC SPEAKING - (EC- MCC) Advanced 11, 12 2.5 Cr.

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. ***Prerequisite: Successful completion of, or concurrent enrollment in, English Composition (0606/0607). Students who do not meet this prerequisite may take this course for elective credit with the permission of the English Department Chair.***

0603 AFRICAN AMERICAN LITERATURE – (EC - MCC) – Advanced 11, 12 2.5 Cr.

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. ***Prerequisite: Successful completion of, or concurrent enrollment in, English Composition (0606/0607). Students who do not meet this prerequisite may take this course for elective credit with the permission of the English Department Chair.***

EC-MCC: ENG 165 African American Literature (3 Credits)

0605 Introduction To Film Studies and Analysis (EC - MCC) - Advanced 11, 12 2.5 Cr.

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. ***Prerequisite: Successful completion of, or concurrent enrollment in, English Composition (0606/0607). Students who do not meet this prerequisite may take this course for elective credit with the permission of the English Department Chair.***

EC-MCC: COM 106 Film & Society (3 Credits)

0609 THE GRAPHIC NOVEL - (EC - DE - MCC) - Advanced 11, 12 2.5 Cr.

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. ***Prerequisite: Successful completion of, or concurrent enrollment in, English Composition (0606/0607). Students who do not meet this prerequisite may take this course for elective credit with the permission of the English Department Chair.***

0557 Literature of the Holocaust - (EC-DE-MCC) - Advanced 11,12 2.5 Cr.

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. ***Prerequisite: Successful completion of, or concurrent enrollment in, English Composition (0606/0607). Students who do not meet this prerequisite may take this course for elective credit with the permission of the English Department Chair.***

EC-MCC: ENG 120 (3 Credits)

0587 Modern American Literature (EC - DE - MCC) - Advanced 11, 12 2.5 Cr.

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. ***Prerequisite: Successful completion of, or concurrent enrollment in, English Composition (0606/0607). Students who do not meet this prerequisite may take this course for elective credit with the permission of the English Department Chair.***

EC-MCC: ENG161 Modern American Literature (3 Credits)

ENGLISH SUPPORT COURSES

0023/0024 BALANCED LITERACY (9) - College 9 (FA) 2.5/2.5 Cr.

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.

0025/0026 BALANCED LITERACY (10) - College 10 2.5/2.5 Cr.

Balanced Literacy course 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.

0061 SAT CRITICAL READING/WRITING PREP - Honors 11, 12 2.5 Cr.

SAT Critical Reading/Writing Prep provides a strong preparation and review for the SAT Verbal/Writing test given at intervals throughout the school year. The course will provide diagnostic testing and intensive practical drill on test- taking techniques and it will place a strong emphasis on writing strategies for the essay portion of the exam. In addition, the course will also concentrate on accelerated vocabulary development. Throughout the course, emphasis will be on the ability to read and reason quickly, intelligently and effectively. ***This course does not satisfy an ELA graduation requirement.***

SUPPORT COURSES

The following classes do not satisfy English graduation requirements.

9201/9202 FRESHMAN SEMINAR - Non-Weighted 9 (FA) 2.5/2.5 Cr.

Freshman Seminar provides students with an opportunity for self-study. Throughout the year, students will explore career interests, establish goals, and explore possibilities for post-secondary pathways. This introductory course infuses a PBIS framework and develops students' organizational skills and study habits in order for them to navigate through their Freshman Year successfully. Within the second semester of seminar students enroll in *Career Explorations* and are provided with the opportunity to receive dual credit through LHS and Middlesex Community.

***EC -MCC**:* IDS 101 General Education Seminar: Middlesex Community College's First Year Experience FYE) is embedded in the Fall Semester Feshman Seminar. In the FYE seminar, students learn essential skills for success, including email etiquette, discussion etiquette, self-advocacy, and reflection. Students are introduced to MCC's Institutional Student Learning Outcomes (ISLOs), and engage with the college's academic, student support and co-curricular services, along with other college resources, to develop and strengthen those skills and abilities. (1 MCC Credit)

***EC-MCC:** IDS110 General Education: The Choices We Make - With a focus on Personal and Professional Development, this class is designed to assist students in identifying and understanding the choices they make and how their choices positively and negatively impact their ability to reach their academic and personal goals. Through dynamic storytelling, students will explore a variety of real-world choices and outcomes. This course is embedded in the Fall semester. (1 Credit)*

IDU106 General Education Seminar: Career Exploration will introduce students to the main components of brainstorming, identifying, and planning for potential career paths. Additionally, students will self-assess their competency with MCC's Institutional Student Learning Outcomes (ISLOs) and engage with MCC's academic, student support and co-curricular services, along with other Lowell High School and college resources, to develop and strengthen those skills and abilities. This Course is embedded in the Spring semester. (1 Credit)

9401/9402 UPWARD BOUND - College 9, 10, 11 2.5/2.5 Cr.

Middlesex Community College provides services for low-income and/or first-generation American citizens and/or permanent resident students who seek to attend college. The goal is to generate the skills and motivation students will need to succeed in higher education. It is an intensive program of instruction and support developed around academic course requirements. Students will apply basic skills that they learn in other academic courses in an interdisciplinary, theme- based curriculum consisting of hands-on activities and group projects. The course will also include the following academic success workshops: critical and creative thinking, problem solving, time management, study skills, career and college planning, MCAS, PSAT, SAT, CPT prep. Students will be expected to participate in a six- week summer program at Middlesex Community College. Students are typically enrolled in fall and spring until graduation. ***PREREQUISITE: Open to qualified college bound freshmen, sophomores, and juniors who are low-income and/or first generation in family who desire to attend college.***

SOCIAL STUDIES

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 and Civics to graduate from LHS. All students must take SOC.4226 *American Civics Past & Present* as part of the ten (10) credit requirement, unless they take courses that substitute for that requirement as noted in the catalog descriptions. 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.*

WORLD HISTORY COURSES

4121/4122	Survey of World History A & B – College	9 (FA)	2.5/2.5
4141/4142	Survey of World History A & B – Honors	9 (FA)	2.5/2.5
4181/4182	Survey of World History A & B - High Honors	9 (FA), (LL)	2.5/2.5
4390	Introduction to Global Studies - Honors	11, 12	2.5
4392	Human Migration Throughout History - Honors	11, 12	2.5

U.S. HISTORY COURSES

4221/4222	Survey of U.S. History – College	10, 11, 12	2.5/2.5
4223/4224	Survey of U.S. History – Honors	10, 11, 12	2.5/2.5
4225	Topics in U.S. History 2 – College	11, 12	2.5
4226	American Civics Past & Present – Honors	11, 12	2.5
4261/4262	U.S. History 1 – Advanced	10, 11	2.5/2.5
4361/4362	U.S. History 2 AP – Advanced	11, 12	2.5/2.5
4371	Education in America – Honors	11, 12	2.5
4380	America & the World Wars – Honors	11, 12	2.5
4383	Civil Rights & Jim Crow – Honors	11, 12	2.5
4385	The Cold War & Global War on Terror – Honors	11, 12	2.5
4386/4387	American History Through Our Eyes – Honors	11, 12	2.5/2.5
4563	Lowell: Immigration & Industrialization – Honors	11, 12	2.5
4570	Seminar on American Diversity – Honors	11, 12	2.5
4661/4662	U.S. Government & Politics AP – Advanced	11, 12	2.5/2.5
4663/4664	African American Studies AP – Advanced	11, 12	2.5/2.5

SOCIAL SCIENCE ELECTIVES

4415	Intro to Economics & Finance – Honors	11, 12	2.5
4431	Intro to Sociology – Honors	11, 12	2.5
4435	Intro to Sociology (EC MCC) – Advanced	11, 12	2.5
4437	Sociology of American Education - (DE - UML) – Advanced	11, 12	2.5
4440	Psychology & American Culture – Honors	11, 12	2.5
4443	Intro to Psychology – Honors	11, 12	2.5
4445/4446	Psychology AP – Advanced	11, 12	2.5/2.5
4447	Intro to Psychology (EC MCC) – Advanced	11, 12	2.5
4451	Childhood & Adolescent Development – Honors	11, 12	2.5
4454	Child Psychology - High Honors	11, 12	2.5
4473	Philosophy and American Culture – Honors	11, 12	2.5
4513	Facing History & Ourselves – Honors	11, 12	2.5
4524	Cambodia: Culture & Conflict – Honors	11, 12	2.5
4561/4562	European History AP- Advanced	10, 11, 12	2.5/2.5
4701	Teaching In The Inclusive Classroom (DE-UML) – Advanced	10, 11, 12	2.5
4703	Discovering Teaching (EC-MCC) – Advanced	11, 12	2.5
6802	Internship – Honors	12	5

TYPICAL COURSE OF STUDY

To meet graduation and program requirements in history[1]

Year	Standard	Advanced	Latin Lyceum
Freshman	C or H-Survey of World History	HH-Survey of World History	HH-Survey of World History
Sophomore	C or H-Survey of US History	A-US History 1 or AP- European History	AP-European History
Junior	American Civics C-Topics in US History 2 or an H-US History elective	A-US History 1 or AP- US History 2	A-US History 1
Senior	Electives	AP-US History 2	AP-US History 2

Notes:

- Several Pathways have additional requirements for courses in the Social Studies Department.
- All students must take American Civics, except for those students who take A-US History 1, AP-US Government and Politics, H-American History through Our Eyes, or AP African American Studies. Action civics has been incorporated into those courses.
- Students who need to make up graduation requirements generally do this through courses in their senior year.
- Students may take Social Science electives starting their junior year.

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.

WORLD HISTORY CORE AND ELECTIVE COURSES

4121/4122 SURVEY OF WORLD HISTORY A/B - College 9 2.5/2.5 Cr.

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. *(Co-enrollment at the same level with 0131/0132 English 1 - College or 0111/0112 Explorations in English-College)*

4141/4142 SURVEY OF WORLD HISTORY A/B - Honors 9 2.5/2.5 Cr.

Survey of World History at the honors level utilizes the same core curriculum that all levels of the course use, adding activities and assignments that deepen analysis, expand vocabulary and concepts, and require an accelerated pace compared to the college level. *(Co-enrollment at the same level with 0141/0142 English 1 - Honors)*

4181/4182 SURVEY OF WORLD HISTORY A/B - High Honors 9 2.5/2.5 Cr.

Survey of World History at the high honors level utilizes the same core curriculum that all levels of the course use, adding activities and assignments that deepen analysis, expand vocabulary and concepts, and require an accelerated pace compared to the honors level. This level explicitly prepares students for advanced-level European and US History during their sophomore through senior years. *(Co-enrollment at the same level with 0151/0152 English 1 - High Honors)*

4390 INTRODUCTION TO GLOBAL STUDIES – Honors 11, 12 2.5 Cr.

Introduction to Global Studies analyzes current issues around the world 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. ***PREREQUISITES: Successful completion of English 2 and Survey of U.S. History.***

4392 HUMAN MIGRATION THROUGHOUT HISTORY – Honors 11, 12 2.5 Cr.

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 throughout History seeks to place many of the contemporary issues surrounding immigration and emigration into a comprehensible framework. Included will be major past migrations, like the migration of Asian people through the Bering region and down to the Americas, the Athabascan migration to the area that is the present-day Southwest United States, the European *Völkerwanderung,* and the 19th-century Bay of Bombay great migration, which remains one of the largest movements of people in recorded history. The effects of climate, political regimes, economics, ethno-religious persecution, imperialism, nationalism, colonialism, and post-colonialism will be considered. Along with this, we will study current migration patterns and migration laws in different countries around the world. ***PREREQUISITES: Successful completion of English 2 and Survey of U.S. History.***

U.S. HISTORY CORE AND ELECTIVE COURSES

4221/4222 SURVEY OF U.S. HISTORY A/B - College 10, 11 2.5/2.5 Cr.

Survey of U.S. History emphasizes the major events in the history of the United States from the French and Indian War to the current day. It is designed around major topics in U.S. History — in accordance with the Massachusetts Curriculum Frameworks, Common Core State Standards, and NCSS guidelines — to provide students with a fundamental knowledge of major currents in American history, with a sound knowledge of complex historical causes; the roots of American democracy, and the rights and responsibilities of citizenship; and the importance of individual and group action in ensuring American liberty. The course will reinforce goals in critical reading, listening, and communication across multiple domains.

4223/4224 SURVEY OF U.S. HISTORY A/B - Honors 10, 11 2.5/2.5 Cr.

Survey of U.S. History at the honors level utilizes the same core curriculum that all levels of the course use, adding activities and assignments that deepen analysis, expand vocabulary and concepts, and require an accelerated pace compared to the college level. ***PREREQUISITE: Successful completion of Survey of World History with teacher recommendation.***

4225 TOPICS IN U.S. HISTORY 2 - College 11, 12 2.5 Cr.

Topics in U.S. History 2 focuses on major events in U.S. history with a project-based, in-depth examination of major events in post-WWII America. In this course, students will continue to develop competency in critical reading and listening, social sciences writing, and multi-media communication. Students are expected to take this course during the same year as 4226 American Civics. ***PREREQUISITE: Successful completion of Survey of U.S. History.***

4226 AMERICAN CIVICS PAST & PRESENT - Honors 11, 12 2.5 Cr.

With the action civics program Generation Citizen at its core, *American Civics* 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. Students participate in a process of identifying a communal issue important to them, then learn how to be citizen change-agents to affect positive outcomes to resolve the issue. In the spring, student-elected representatives exhibit their projects during the city of Lowell's Civics Day. Except as noted above in the course of study chart, this class is an obligatory portion of the ten-credit US History graduation requirement. ***PREREQUISITE: Successful completion of Survey of World History.***

4261/4262 U.S. HISTORY 1 - Advanced 10, 11 2.5/2.5 Cr.

U.S. History 1 - 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.* ***PREREQUISITE: Successful completion of both Survey of World History (H/HH) and English 1(H/HH) with a minimum grade of 90, and teacher recommendation.***

4361/4362 AP U.S. HISTORY 2 (AP) - Advanced 11, 12 2.5/2.5 Cr.

U.S. History 2 AP - Advanced analyzes the development of the United States from Reconstruction through 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. ***PREREQUISITE: Successful completion of U.S. History 1 - Advanced. 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.***

4371 EDUCATION IN AMERICA - Honors 11, 12 2.5 Cr.

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. 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. ***PREREQUISITE: Successful completion of English 2, and Survey of* U.S. History or Topics II in US History.**

4380 AMERICA & THE WORLD WARS - Honors 11, 12 2.5 Cr.

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. ***PREREQUISITE: Successful completion of English 2, and Survey of U.S. History or Topics in US History 2.***

4383 CIVIL RIGHTS AND JIM CROW - Honors 11, 12 2.5 Cr.

Civil Rights and 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. *Jim Crow in America* 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. ***PREREQUISITE: Successful completion of English 2, and Survey of U.S. History or Topics in US History 2.***

4385 THE COLD WAR & GLOBAL WAR ON TERROR – Honors 11, 12 2.5 Cr.

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. ***PREREQUISITE: Successful completion of English 2, and Survey of U.S. History or Topics in US History 2.***

4386/4387 AMERICAN HISTORY THROUGH OUR EYES – Honors 11, 12 2.5/2.5 Cr.

Most histories of the United States are based in the European-American experience of colonialism, independence, expansion, development, and global predominance. In American History through Our Eyes, the lived experiences of other peoples in our country take center stage, with a focus on the contributions that these groups have made to our shared history, and the challenges they continue to face as Americans. During this year-long course, American history will be examined through the lived experiences of Black and Hispanic people (semester 1), and Asian, Indigenous, and LGBTQ people (semester 2). An inquiry-based approach will focus on a rich variety of primary sources, as well as members of our Lowell community, and students' own lived experiences. The goal of American History through Our Eyes is to broaden our perspective of American history, in our collective voices are heard in all their diversity. ***PREREQUISITE: Successful completion of English 2, and Survey of U.S. History***.

4563 LOWELL: IMMIGRATION & INDUSTRIALIZATION – Honors 11, 12 2.5 Cr.

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. ***PREREQUISITE: Successful completion of English 2, and Survey of U.S. History or Topics in US History 2.***

4570 SEMINAR ON AMERICAN DIVERSITY - Honors 11, 12 2.5 Cr.

Seminar on American Diversity explores the diverse voices in the history and society of Lowell, the Commonwealth of Massachusetts, and the United States. Looking at a wealth of primary sources, the course will explore important and challenging issues in U.S. history and American current events around race, religion, ethnicity, socioeconomic class, gender, sexual orientation, and immigration and citizenship status. This course will include required reading, projects, teach-outs, short research papers, community interaction, and a final capstone project. The topics to be covered will be determined with input of the students through consensus building at the start of the semester. ***PREREQUISITE: Successful completion of English 2, and Survey of U.S. History or Topics in US History 2.***

4661/4662 U.S. GOVERNMENT AND POLITICS (AP) - Advanced 11, 12 2.5/2.5 Cr.

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 elective must take the AP College Board subject test. ***PREREQUISITE: Successful completion of English 2 and Survey of US History with a minimum grade of 90. Registration in all AP courses are subject to Department Chair review.***

4663/4664 AFRICAN AMERICAN STUDIES (AP) - Advanced 11, 12 2.5/2.5 Cr.

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. **PREREQUISITE: Successful completion of English 2 and Survey of US History with a minimum grade of 90. Registration in all AP courses are subject to Department Chair review.**

SOCIAL SCIENCES ELECTIVE COURSES

4415 INTRO TO ECONOMICS & FINANCE - Honors 11, 12 2.5 Cr.

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. ***PREREQUISITE: Successful completion of English 2, and Survey of U.S. History.***

4431 INTRO TO SOCIOLOGY - Honors 11, 12 2.5 Cr.

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. **PREREQUISITES: Successful completion of English 2, and Survey of U.S. History or Topics in US History 2. Students may take 4435 EC-MCC Intro to Sociology after taking this course.**

4435 INTRO TO SOCIOLOGY - (EC - MCC) - Advanced 11, 12 2.5 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. ***PREREQUISITES: Successful completion of English 2A/B or English 3A/B (with a minimum grade of 80 in high honors, 85 in honors and 90 in college level course) and the completion of Middlesex Community College's multiple measures prerequisites.***

EC-MCC: SOC 101 Introduction to Sociology (3 credits).

4437 SOCIOLOGY OF AMERICAN EDUCATION - (DE - UML) – Advanced
11, 12 2.5 Cr.

Sociology of American Education introduces students to ongoing debates in the field of Sociology regarding the American educational system, its structures and functions, and how it relates to issues of inequality by race, class and gender. Students are expected to explore, examine and evaluate the current issues relating to the system of education in the United States ***PREREQUISITES: Passing grade in 4435 Intro to Sociology (EC-MCC) and instructor recommendation.***

DE-UML: SOC 101 Introduction to Sociology (3 credits).

4440 PSYCHOLOGY & American Culture- Honors 11, 12 2.5 Cr.

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. **PREREQUISITES: Successful completion of English 2, and Survey of U.S. History or Topics II in US History**.

4443 INTRO TO PSYCHOLOGY - Honors 11, 12 2.5 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. ***PREREQUISITES: Successful completion of English 2, and Survey of U.S. History or Topics in US History 2. Students may take AP Psychology after taking this course.***

4445/4446 PSYCHOLOGY AP - Advanced 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITES: Successful completion of English 2, and U.S. History 1 AP or Survey of H-US History with a minimum grade of 90 and a passing grade on the Psychology Assessment. All AP courses are subject to Department Chair review.***

4447 INTRO TO PSYCHOLOGY - (EC - MCC) - Advanced 11, 12 2.5 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. ***PREREQUISITES: Successful completion of English 2A/B or English 3A/B (with a minimum grade of 80 in high honors, 85 in honors and 90 in college level course) and the completion of Middlesex Community College's multiple measures prerequisites*.**

EC-MCC: PSY 101 Introduction to Psychology (3 credits).

4451 CHILD & ADOLESCENT DEVELOPMENT - Honors 11, 12 2.5 Cr.

This one-semester course explores the physical, cognitive, and social development of children from the pre-natal 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. ***PREREQUISITES: Successful completion of English 2, and Survey of U.S. History or Topics II in US History. Students may take AP or EC-MCC Psychology after taking this course.***

4454 CHILD PSYCHOLOGY - High Honors 11, 12 2.5 Cr.

This course provides an overview of significant issues of development from the prenatal period to early adolescence. Key topics, including developmentally appropriate expectations, brain development, cultural influences, and the historical context of child psychology, will be explored. Through this course, students will broaden their understanding of the complexities of childhood. ***PREREQUISITES: Successful completion of English 2A/B or English 3A/B (with a minimum grade of 80 in high honors, 85 in honors and 90 in college level course) and the completion of Middlesex Community College's multiple measures prerequisites. Note: 4447 Intro to Psychology (EC-MCC) must be taken before this course.***

4473 PHILOSOPHY & AMERICAN CULTURE - Honors 11, 12 2.5 Cr.

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. ***PREREQUISITES: Successful completion of English 2, and Survey of U.S. History or Topics in US History 2.***

4513 FACING HISTORY & OURSELVES - Honors 11, 12 2.5 Cr.

Facing History and Ourselves is based on the national program of the same name that helps students find meaning in the past and recognize the need for involvement and responsible decision-making. Using the Holocaust as a case study, students are asked to examine history in all its complexities, including its legacies of prejudice and discrimination, resilience and courage. The Facing History course helps young people develop a voice in their conversations with peers, as well as in the important discussions and debates of their community and nation. In this course, students make the essential connection between history and the moral choices they confront in their own lives. Students will be required to complete an in-depth research project incorporating technological, written, and presentation components. **PREREQUISITES: Successful completion of English 2, and Survey of U.S. History or Topics in US History 2.**

4524 CAMBODIA: CULTURE AND CONFLICT - Honors 11, 12 2.5 Cr.

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. ***PREREQUISITES: Successful completion of English 2, and Survey of U.S. History or Topics in US History 2.***

4561/4562 EUROPEAN HISTORY AP - Advanced 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: World History - High Honors with a 90 or teacher recommendation, or AP U.S. History 2 or teacher recommendation, or Department US History requirement (10 credits) with cumulative 90 or better. All AP courses are subject to Department Chair review.***

4701 TEACHING IN THE INCLUSIVE CLASSROOM (DE-UML) – Advanced 10, 11, 12 2.5 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. ***DE - UML: EDUC 1100 Teaching in The Inclusive Classroom (3 Credits)***

4703 DISCOVER TEACHING - (EC - MCC) - Advanced 11, 12 2.5 Cr.

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. ***PREREQUISITES: Successful completion of English 2A/B or English 3A/B (with a minimum grade of 80 in high honors, 85 in honors and 90 in college level course) and the completion of Middlesex Community College's multiple measures prerequisites.*** **EC-MCC: EDU 150 Discover Teaching (3 credits).**

6802 INTERNSHIP - Honors (S2) 12 5 Cr.

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.

MATHEMATICS

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 ten (10) credits in Mathematics (5 credits of Algebra and 5 credits of Geometry or another course approved by the department chair which addresses these standards). As of Fall 2022, all incoming freshman students' graduation requirement is the passing of 15 credits in Mathematics (5 credits of Algebra, 5 credits of Geometry, and 5 additional credits in mathematics).

Massachusetts law requires students to pass the grade 10 MCAS tests, with a score of "Meeting Expectations", in addition to local graduation requirements, as a condition for receiving a high school diploma. Consequently, all freshman and sophomore courses prepare the students in the State Mathematics Curriculum Framework requirements so that they will be prepared for the MCAS mathematics test. The Mathematics Department also provides courses to support students' needs to fulfill the EPP requirements, should a student need them

Please see the flow chart in this section for a guide to the sequence of mathematics courses.

MATHEMATICS CORE COURSES

1131/1132	Algebra 1 [FA] - College	9	2.5/2.5
1133/1134	Algebra 1 - College	9, 10, 11, 12	2.5/2.5
1141/1142	Algebra 1 [FA] - Honors	9	2.5/2.5
1151/1152	Algebra 1 [FA] - High Honors	9	2.5/2.5
1101/1111	Transition to Algebra/Topics in Algebra [FA]	9	2.5/2.5
1231/1232	Geometry - College	10, 11, 12	2.5/2.5
1241/1242	Geometry - Honors	10, 11	2.5/2.5
1251/1252	Geometry & Analytic Geometry - High Honors	9, 10	2.5/2.5
1331/1332	Algebra 2 - College	10, 11, 12	2.5/2.5
1341/1342	Algebra 2 - Honors	10, 11	2.5/2.5
1351/1352	Algebra 2 & Trigonometry - High Honors	10, 11	2.5/2.5
1431/1432	Pre-Calculus - College	11, 12	2.5/2.5
1441/1442	Pre-Calculus - Honors	11, 12	2.5/2.5
1451/1452	Advanced Pre-Calculus / Calculus A - Advanced	11, 12	2.5/2.5
1443/1444	Fundamentals of Calculus - Honors	12	2.5/2.5
1475/1476	Calculus AB AP - Advanced	11, 12	2.5/2.5
1477/1478	Calculus BC AP - Advanced	12	2.5/2.5
1465/1466	Statistics - College	11, 12	2.5/2.5
1467/1468	Statistics - Honors	11, 12	2.5/2.5
1469/1470	Statistics AP - Advanced	11, 12	2.5/2.5

MATHEMATICS SUPPORT & ELECTIVE COURSES

1062	SAT Math Preparation - Honors	11, 12	2.5
1081/1082	Math Seminar - Non-Weighted	9 (FA)	2.5/2.5
1425/1426	Advanced Quantitative Reasoning - College	11, 12	2.5
1427/1428	Advanced Quantitative Reasoning - Honors	11, 12	2.5
1355/1356	Math 3 - College	11	2.5/2.5
1429/1430	Math 4 - College	12	2.5/2.5
1353/1354	Financial Algebra - College	11, 12	2.5/2.5

COMPUTER SCIENCE

1611/1612	Exploring Computer Science - College	9, 10, 11, 12	2.5/2.5
1615/1616	Mobile Computer Science Principles - Honors	10, 11, 12	2.5/2.5
1631/1632	Web Development - Honors	10, 11, 12	2.5/2.5
1641/1642	Computer Science A - Honors	10, 11, 12	2.5/2.5
1643/1644	Computer Science A AP - AP	10, 11, 12	2.5/2.5

Mathematics Course Sequence Flow Chart

College Level Flow Chart

9th Grade		10th Grade		11th Grade		12th Grade
Algebra 1 (1131/1132)	➔	Geometry (1231/1232)	➔	Financial Algebra (1353/1354) Math 3 (1355/1356	➔	Algebra 2 (1331/1332) Math 4 (1429,1430) Statistics (1465/1466)
Algebra 1 (1131/1132)	➔	Geometry (1231/1232)	➔	Algebra 2 (1331/1332)	➔	Pre-Calculus (1431/1432) Statistics (1465/1466) Advanced Quantitative Reasoning (1425/1426) Financial Algebra (1353/1354)

Honors Level Flow Chart

9th Grade		10th Grade		11th Grade		12th Grade
Algebra 1(HH) (1151/1152)	➔	HH Geometry & Analytic Geometry (1251/1252)	➔	HH Algebra 2 & Trigonometry (1351/1352)	➔	AP Calculus AB (1475/1476) and/or AP Statistics (1465 & 1466) or Advanced Pre- Calc/Calculus (1451/1470)
HH Geometry & Analytic Geometry (1251/1252) *Extremely rare occurrence*	➔	HH Algebra 2 & Trigonometry (1351/1352)	➔	AP Calculus AB (1475/1476) or Advanced Pre- Calc/Calculus (1451/1470)	➔	AP Calculus BC (1477/1478) and/or AP Statistics (1465/1466)

High Honors Level Flow Chart

9th Grade		10th Grade		11th Grade		12th Grade
Algebra 1(HH) (1151/1152)	➔	HH Geometry & Analytic Geometry (1251/1252)	➔	HH Algebra 2 & Trigonometry (1351/1352)	➔	AP Calculus AB (1475/1476) and/or AP Statistics (1465 & 1466) or Advanced Pre-Calc/Calculus (1451/1470)
HH Geometry & Analytic Geometry (1251/1252) *Extremely rare occurrence*	➔	HH Algebra 2 & Trigonometry (1351/1352)	➔	AP Calculus AB (1475/1476) or Advanced Pre-Calc/Calculus (1451/1470)	➔	AP Calculus BC (1477/1478) and/or AP Statistics (1465/1466)

MATHEMATICS CORE COURSES

1131/1132 ALGEBRA 1 [FA] - College 9 2.5/2.5 Cr.

Algebra 1 develops reasoning skills in a way that will help students in their future courses and careers. The topics of Algebra 1 focus on four critical areas: (1) deepen and extend understanding of linear and exponential relationships; (2) contrast linear and exponential relationships with each other and engage in methods for analyzing and solving linear and using quadratic functions; (3) extend the laws of exponents to square and cube roots; and (4) apply linear models to data that exhibit a linear trend. *(Co-enrollment at the same level with 3131/3132 Integrated Science - College)* ***For Students in the Freshman Academy***

1133/1134 ALGEBRA 1 - College 9, 10, 11, 12 2.5/2.5 Cr.

Algebra 1 develops reasoning skills in a way that will help students in their future courses and careers. The topics of Algebra 1 focus on four critical areas: (1) deepen and extend understanding of linear and exponential relationships; (2) contrast linear and exponential relationships with each other and engage in methods for analyzing and solving linear and using quadratic functions; (3) extend the laws of exponents to square and cube roots; and (4) apply linear models to data that exhibit a linear trend.

1141/1142 ALGEBRA 1 [FA] - Honors 9 2.5/2.5 Cr.

Algebra 1 - Honors develops reasoning skills in a way that will help students in their future courses and careers. The topics of Algebra 1A focus on two critical areas: (1) deepen and extend understanding of linear and exponential relationships; (2) contrast linear and exponential relationships with each other and engage in methods for analyzing and solving linear and exponential equations. *(Co-enrollment at the same level with 3141/3142 Integrated Science - Honors)* ***PREREQUISITE: 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***

1151/1152 ALGEBRA 1 [FA] - High Honors 9 2.5/2.5 Cr.

Algebra 1 - High Honors develops reasoning skills in a way that will help students in their future courses and careers. The topics of Algebra 1A focus on two critical areas: (1) deepen and extend understanding of linear, quadratic and exponential relationships; (2) contrast linear, quadratic and exponential relationships with each other and engage in methods for analyzing and solving linear and exponential equations. (Co-enrollment at the same level with 3151/3152 Integrated Science - High Honors) ***PREREQUISITE: 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***

1101/1111 TRANSITION TO ALGEBRA - College 9 2.5/2.5 Cr.
TOPICS IN ALGEBRA 1 - College

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.

Topics In Algebra is for students that have completed Transitions to Algebra. Power Standards from the Algebra 1 curriculum will be covered. ***NOTE: This class will be taken out of standard sequence. PREREQUISITE: Approval of Department Head***

1231/1232 GEOMETRY - College 10, 11, 12 2.5/2.5 Cr.

Geometry is developed with 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. Hands on projects are utilized throughout the course. ***PREREQUISITE: Successful completion of one year of high school math.***

1241/1242 GEOMETRY - Honors 9, 10, 11 2.5/2.5 Cr.

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. Hands on projects are utilized throughout the course. 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. ***PREREQUISITE: Successful completion of Algebra 1.***

1251/1252 GEOMETRY & ANALYTIC GEOMETRY - High Honors 9, 10 2.5/2.5 Cr.

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. *(Co-enrollment at the same level with 3141/3142 Integrated Science - Honors)* ***PREREQUISITE: Placement exam for 9th graders and successful completion of Algebra 1 with teacher recommendation and an A average for 10th graders.***

1331/1332 ALGEBRA 2 - College 10, 11, 12 2.5/2.5 Cr.

Algebra 2 includes graphing linear functions, and solution of systems of simultaneous linear equations exponents, polynomials, rationals, radicals, quadratic and polynomial equations. Factoring is treated in detail. ***PREREQUISITE: Successful completion of Algebra 1.***

1341/1342 ALGEBRA 2 - Honors 10, 11 2.5/2.5 Cr.

Algebra 2 - Honors includes how various properties of numbers are derived from Postulates for the real number system. Algebraic expressions such as polynomials are examined with detail. Additional topics include graphing linear functions, matrices, and solution of systems of simultaneous linear equations exponents, polynomials, rationals, radicals, quadratic and polynomial equations. ***PREREQUISITE: Course Algebra 1 is required. This course may be taken concurrently with Geometry by students with an average of at least 80 in Algebra 1 honors or 90 in Algebra 2 - College. SOPHOMORE CO-REQUISITE: Concurrent Geometry required.***

1351/1352 ALGEBRA 2 & TRIGONOMETRY - High Honors 10, 11 2.5/2.5 Cr.

Algebra 2 & Trigonometry combines the three semesters of courses Algebra 2 and Pre-Calculus (Trigonometry) into two semesters. ***PREREQUISITE: 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.***

1431/1432 PRE-CALCULUS A - College 11, 12 2.5/2.5 Cr.

Pre-Calculus A utilizes analytic geometry by using rectangular coordinates and special attention is given to the second degree equations that describe the conic sections. The course provides an 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. ***PREREQUISITE: 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.***

1441/1442 PRE-CALCULUS - Honors 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: 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.***

1451/1452 ADVANCED PRE-CALCULUS / CALCULUS A - Advanced 11 2.5/2.5 Cr.

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

1443/1444 FUNDAMENTALS OF CALCULUS - Honors 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Pre-Calculus; Recommendation of Pre-Calculus teacher and successful completion of a diagnostic exam.***

1475/1476 CALCULUS AB AP - Advanced 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Pre-Calculus; Recommendation of Pre-Calculus teacher and successful completion of a diagnostic exam. All AP courses require Department Head Approval.***

1477/1478 CALCULUS BC AP - Advanced 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of AP Calculus AB or PRE-CALCULUS B - High Honors/Calculus A - Advanced. All AP courses require Department Head Approval.***

1465/1466 STATISTICS - College 11, 12 2.5/2.5 Cr.

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, and data analysis. ***PREREQUISITE: Successful completion of Algebra 2 - College with a minimum grade of 70.***

1467/1468 STATISTICS - Honors 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Algebra 2 - Honors with a minimum grade of 75/College with a minimum grade of 90.***

1469/1470 STATISTICS AP - Advanced 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: 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. All AP courses require Department Head Approval.***

MATHEMATICS SUPPORT & ELECTIVE COURSES

1062 SAT MATH PREPARATION - Honors 11, 12 2.5 Cr.

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. A numerical grade is given in this honors class which is conducted almost entirely on Google Classroom.
Note: Does not meet math graduation requirement.

1081/1082 MATH SEMINAR - Non-weighted 9 (FA) 2.5/2.5 Cr.

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. ***COREQUISITE: Algebra 1 - College. NOTE: Does not meet math graduation requirements.***

EC-MCC: IDS 101 General Education Seminar (1 Credit) (S1)

EC-MCC: IDU106 General Education Seminar: Career Exploration (1 Credit) (S2)

EC-MCC: IDS110 General Education: The Choices We Make (1st half, 1 Credit issued in English 2A)

1425/1426 ADVANCED QUANTITATIVE REASONING - College 11, 12 2.5/2.5 Cr.

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. A significant aspect of the course is group work and oral presentations will be required every week. 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.***

1427/1428 ADVANCED QUANTITATIVE REASONING - Honors 11, 12 2.5/2.5 Cr.

Advanced Quantitative Reasoning - Honors takes a more in-depth look at set theory, decision making and measures of central tendency and variance. Student oral presentations will be required several times a week and most of the work will be done in groups. This course is designed to prepare students to use Algebra, Geometry, and Trigonometry and Discrete mathematics to model a range of situations and solve problems in a variety of ways. A significant aspect of the course is group work and oral presentations will be required every week. 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 Honors and Algebra 2 - Honors.***

1355/1356 MATH 3 - College 11, 12 2.5/2.5 Cr.

Math 3 is for Juniors on an EPP and will reinforce problem solving skills by working with Quantities, Expressions, Equations, Inequalities, Functions, Models (Linear, Quadratic, Exponential), Congruence, Geometric Equations, and Interpreting Categorical and Quantitative Data. This course is designed to target instruction for students in key target areas. ***PREREQUISITE: Successful completion of Algebra 1 and Geometry.***

1429/1430 MATH 4 - College 12 2.5/2.5 Cr.

Math 4 is for Seniors on an EPP and will reinforce problem solving skills by working with Real Numbers, Complex Numbers, Expressions (Polynomial and Rational), Equations, Inequalities, Systems of Equations, Functions, Models (Linear, Quadratic, Exponential), Graph Theory, Congruence, Similarity, Right Triangles, Trigonometry, Circles, Geometric Equations, Geometric Measurement, Conditional Probability. This course is designed to target instruction for students in key target areas. ***PREREQUISITE: Successful completion of Algebra 1 and Geometry.***

1353/1354 FINANCIAL ALGEBRA - College 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Algebra 1 and Geometry.***

COMPUTER SCIENCE

1611/1612	Exploring Computer Science - College	9, 10, 11, 12	2.5/2.5
1615/1616	Mobile Computer Science Principles - Honors	10, 11, 12	2.5/2.5
1631/1632	Web Development - Honors	10, 11, 12	2.5/2.5
1641/1642	Computer Science A - Honors	10, 11, 12	2.5/2.5
1643/1644	Computer Science A AP - Advanced	10, 11, 12	2.5/2.5

1611/1612 Exploring Computer Science - College 9,10, 11, 12 2.5/2.5 Cr.

Exploring Computer Science introduces a wide range of fundamental computer science concepts, such as programming, algorithms, problem solving strategies, data analysis, and robotics in a hands-on, inquiry based environment. Students will also study the societal impact of computing as well as the influence that technology has had on our world and the workforce. This course is designed for students that have limited to no computer science experience and will provide an equitable approach to the study of computer science. **NOTE: Does not meet math graduation requirements.**

1615/1616 Mobile Computer Science Principles - Honors 10,11,12 2.5/2.5 Cr.

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. **NOTE: Does not meet math graduation requirements.**

1631/1632 WEB DEVELOPMENT - Honors 10, 11, 12 2.5/2.5 Cr.

Web Development introduces students to the three primary programming languages for creating websites - HTML, CSS, and JavaScript. Students will use HTML to structure their sites so that the content is organized and easy to read, use CSS to style their sites so they are appealing to the reader, and use JavaScript to add functionality and interactivity to their sites. The JavaScript component of the course also serves as an introduction to programming concepts found in languages such as Java and C++. The course makes heavy use of hands-on projects and independent work. **PREREQUISITE: Successful completion of Algebra 1, Exploring Computer Science, or Mobile Computer Science Principles. NOTE: Does not meet math graduation requirements.**

1641/1642 COMPUTER SCIENCE A - Honors 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Algebra 1, Exploring Computer Science, or Mobile Computer Science Principles. NOTE: Does not meet math graduation requirements.***

1643/1644 COMPUTER SCIENCE A AP - Advanced 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Algebra 1, Exploring Computer Science, or Mobile Computer Science Principles. All AP courses require Department Head Approval. NOTE: Does not meet math graduation requirements.***

SCIENCE

Each student is required to pass 10 credits in Science as a graduation requirement. All students must complete Integrated Science & Engineering and be **enrolled in or completed** Biology before electing an upper level science elective.

In addition to local graduation requirements, Massachusetts requires students to pass state generated MCAS tests as a condition for receiving a high school diploma. Successful completion of a Science MCAS test is a graduation requirement. Lowell High School students will sit for the Biology MCAS in their sophomore year.

Science Core Courses

3131/3132	Integrated Science & Engineering (LS) - College	9	2.5/2.5
3141/3142	Integrated Science & Engineering (LS) - Honors	9	2.5/2.5
3151/3152	Integrated Science & Engineering (LS) - High Honors	9	2.5/2.5
3231/3232	Biology (LS) - College	10, 11, 12	2.5/2.5
3241/3242	Biology (LS) - Honors	10, 11, 12	2.5/2.5

Science Elective Courses

3051	MCAS Prep Biology (11) - College	11	2.5
3052	MCAS Prep Biology (12) – College	12	2.5
3731/3732	Life Science I & II - (DE-UML) (LS) - Advanced	11, 12	2.5/2.5
3250	General Biology 1 - (EC-MCC) (LS) - Advanced	11, 12	2.5
3783	Microbiology (LS) - Honors	11, 12	2.5
3331/3332	Conceptual Chemistry (LS) - College	11, 12	2.5/2.5
3341/3342	Chemistry (LS) - Honors	10, 11, 12	2.5/2.5
3721/3722	Chemistry (DE -UML) (LS) - Advanced	11, 12	4/4
3723/3724	Chemistry Lab (DE-UML) (LS) - Advanced	11, 12	1/1
3441/3442	Physics (LS) - Honors	11, 12	2.5/2.5
3461/3462	Physics 1 AP - Advanced	11, 12	2.5/2.5
3535	ESS: Geology (LS) - Honors	11, 12	2.5
3536	ESS: Meteorology (LS) - Honors	11, 12	2.5
3537	ESS: Oceanography (LS) - Honors	11, 12	2.5
3538	ESS: Astronomy - Honors	11, 12	2.5
3541	Introduction to Human Anatomy - Honors	11, 12	2.5
3543/3544	Anatomy & Physiology (LS) - Honors	11, 12	2.5/2.5
3548	Genetics (LS) - Honors	11, 12	2.5
3560	Forensics Science (LS) - Honors	12	2.5
3623	Introduction to STEM Teaching (DE - UML) – Advanced	11, 12	2.5
3625	Ethics and Social Justice in STEM	11, 12	2.5
3735	Environmental Studies (EC -MCC) (LS) – Advanced	11, 12	2.5
3736	Environmental Science – Honors	11, 12	2.5
3785	Environmental Sustainability - Honors	11, 12	2.5/2.5

Note - The ESS designated courses are designed to follow the 2016 Massachusetts Earth and Space Science Standards.

BIOSCIENCE

3601	Medical Terminology & Body Systems - Honors	11, 12	2.5/2.5
3605	Nutrition & Disease - Honors	10, 11, 12	2.5
3607	Medical Law & Current Health Issues - Honors	12	2.5
3611/3612	Principles of Biomedical Science (PLTW) (LS) - Honors	11, 12	2.5/2.5
3618	Careers in Health and Bioscience - Honors	11, 12	2.5
6802	Internship (S2) - Honors	12	5

ENGINEERING

3911/3912	Introduction to Engineering Design (PLTW) (LS) - Honors	10, 11, 12	2.5/2.5
3921/3922	Principles of Engineering (PLTW) (LS) - Honors	11, 12	2.5/2.5
3953/3954	Robotics (LS) - Honors	10, 11, 12	2.5/2.5
3945/3946	Architectural Design (LS) - Honors	10, 11, 12	2.5/2.5
3971	Introduction to Engineering - (EC - MCC) (LS) - Advanced	11, 12	2.5
6802	Internship (S2) - Honors	12	5

EXCEPTIONS TO PREREQUISITE REQUIREMENTS AS LISTED REQUIRE WRITTEN APPROVAL OF THE DEPARTMENT HEAD

SCIENCE CORE COURSES

3131/3132 INTEGRATED SCIENCE & ENGINEERING (LS) – College 9 (FA) 2.5/2.5 Cr.

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. ***(Co-enrollment at the same level with 1131/1132 Algebra 1 - College)*** *Meets Lab Science standards*

3141/3142 INTEGRATED SCIENCE & ENGINEERING (LS) - Honors 9 (FA) 2.5/2.5 Cr.

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. ***(Co-enrollment at the same level with 1141/1142 Algebra 1- Honors or 1251/1252 Geometry & Analytic Geometry - High Honors)*** *Meets Lab Science standards*

3151/3152 INTEGRATED SCIENCE & ENGINEERING (LS) - High Honors 9 (FA) 2.5/2.5 Cr.

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. *(Co-enrollment at the same level with 1141/1142 Algebra 1- Honors or 1251/1252 Geometry & Analytic Geometry - High Honors) Meets Lab Science standards*

3231/3232 BIOLOGY (LS) - College 10, 11, 12 2.5/2.5 Cr.

College Biology provides students an understanding of the scientific processes that make up the unified principles of life. Topics include the characteristics of life, the scientific method, cellular physiology and function, biochemistry, cellular respiration and photosynthesis, cell division and genetics. Emphasis is placed on the diversity and unity of the living world. *Meets Lab Science standards*

3241/3242 BIOLOGY (LS) - Honors 10, 11, 12 2.5/2.5 Cr.

Honors Biology challenges the abilities of the advanced student with an in-depth understanding of the scientific processes and concepts that make up the unified principles of life. Topics include the characteristics of life, the scientific method, cellular physiology and function, biochemistry, cellular respiration and photosynthesis, cell division and genetics. Emphasis is placed on the diversity and unity of the living world. ***PREREQUISITE: 70 or above in Honors Integrated Science, 85 or above in College Integrated Science.*** *Meets Lab Science standards*

Science Elective Courses

3051 MCAS PREP BIOLOGY (11) - College 11 2.5 Cr.

MCAS Biology Prep is an intensive review of material covered in previous Biology courses for juniors and seniors preparing for the MCAS retake. Test strategies and content review are included***. PREREQUISITE: Must have taken College or Honors Biology***

3052 MCAS PREP BIOLOGY (12) - College 12 2.5 Cr.

MCAS Biology Prep is an intensive review of material covered in previous Biology courses for juniors and seniors preparing for the MCAS retake. Test strategies and content review are included. ***PREREQUISITE: Must have taken College or Honors Biology***

3731/3732 LIFE SCIENCE I & II - (DE-UML) (LS) - Advanced 11, 12 2.5/2.5 Cr.

This course presents environmental and organismal structural interrelationships and relates these to the chemical evolutionary basis of life. PREREQUISITES: Successful completion of English 2A and 2B (junior) or English 3A and 3B (senior), with a minimum grade of 80 in high honors, 85 in honors or 90 in a college level course. Students must also have an overall LHS GPA of 2.5 or better, a score of 480 or better on the PSAT or SAT verbal test, and a formal teacher recommendation from their Biology teacher. Completed enrollment in Honors Biology with a minimum grade of 85. Meets Lab Science standards

DE-UML: LIFE 1010 Life Science I (S1) (3 Credits)
DE-UML: LIFE 1020 Life Science II (S2) (3 Credits)

3250 GENERAL BIOLOGY 1 - (EC - MCC) (LS) - Advanced 11, 12 2.5 Cr.

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. ***PREREQUISITES: Successful completion of English 2A/B or English 3A/B (with a minimum grade of 80 in high honors, 85 in honors and 90 in college level course) and the completion of Middlesex Community College's multiple measures prerequisites, and a formal teacher recommendation from their Biology teacher. Completed enrollment in Honors Biology with a minimum grade of 85.*** *Meets Lab Science standards*

EC-MCC: BIO 131 General Biology 1 (4 Credits)

3783 MICROBIOLOGY (LS) - Honors 11, 12 2.5 Cr.

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. *Meets Lab Science standards* ***PREREQUSITE: 85 or above in Honors Biology.***

3331/3332 CONCEPTUAL CHEMISTRY (LS) - College 11,12 2.5/2.5 Cr.

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. *Meets Lab Science standards* ***PREREQUISITE: 75 or above in College Biology; 75 or above in College Algebra 1.***

3341/3342 CHEMISTRY (LS) - Honors 10, 11,12 2.5/2.5 Cr.

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. *Meets Lab Science standards* ***PREREQUISITE: 75 or above in Honors Algebra 1; 80 or above or concurrently enrolled in Honors Biology.***

3721/3722 CHEMISTRY - (DE - UML) - Advanced 11, 12 4/4 Cr.
3723/3724 CHEMISTRY LAB - (DE - UML) - Advanced 11, 12 1/1 Cr.

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). *Meets Lab Science standards* ***PREREQUISITES: Successful completion of English 2A and 2B (junior) or English 3A and 3B (senior), with a minimum grade of 80 in high honors, 85 in honors or 90 in a college level course. Students must also have an overall LHS GPA of 2.5 or better, a score of 480 or better on the PSAT or SAT verbal test, and a formal teacher recommendation from their Chemistry teacher. Completed enrollment in Honors Chemistry with a minimum grade of 85.***

DE-UML: CHEM 1350 Honors Chemistry I (S1) (3 Credits)
DE-UML: CHEM 1230L Chemistry Lab (S1) (1 Credit)
DE-UML: CHEM 1360 Honors Chemistry II (3 Credits)
DE-UML: CHEM 1240L Chemistry Lab (S2) (1 Credit)

3441/3442 PHYSICS (LS) - Honors 11, 12 2.5/2.5 Cr.

Honors Physics is an introduction to classical mechanics covering kinematics, Newton's laws, conservation laws, elasticity, fluids, oscillations, wave mechanics, sound phenomena, electricity, magnetism, electric circuits, and optics. *Meets Lab Science standards*

3461/3462 AP PHYSICS 1 - Advanced 11, 12 2.5/2.5 Cr.

AP Physics 1 explores principles of Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. The course is based on six Big Ideas, which encompass core scientific principles, theories, and processes that cut across traditional boundaries and provide a broad way of thinking about the physical world. ***PREREQUISITES: No prior course work in physics is necessary. Students should have completed geometry and be concurrently taking Algebra II or an equivalent course. All AP courses require Department Head approval.*** This course is a block class (2 periods) each semester.

3535 ESS: GEOLOGY (LS) - Honors 11, 12 2.5 Cr.

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.

3536 ESS: METEOROLOGY (LS) - Honors 11, 12 2.5 Cr.

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.

3537 ESS: OCEANOGRAPHY (LS)- Honors 11, 12 2.5 Cr.

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.

3538 ESS: ASTRONOMY (LS) - Honors 11, 12 2.5 Cr.

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.

3541 INTRODUCTION TO HUMAN ANATOMY (LS) – Honors 11, 12 2.5 Cr.

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. ***PREREQUISITE: 75 or above in College Biology.***

3543/3544 HUMAN ANATOMY & PHYSIOLOGY (LS) - Honors 11, 12 2.5/2.5 Cr.

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***

3548 GENETICS (LS) - Honors 11, 12 2.5 Cr.

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. *Meets Lab Science standards.* ***PREREQUISITE: 75 or above in Honors Biology; 85 or above in College Biology; 95 or above in Explorations of Biology.***

3560 FORENSICS SCIENCE (LS) - Honors 12 2.5 Cr.

Forensic Science models the work of forensic scientists and introduces the knowledge and laboratory techniques used by forensic scientists in their analysis of crimes and in the role of forensic evidence in criminal and civil proceedings. Investigative procedures include crime scene processing and reconstruction, fingerprinting, evaluation of injuries and cause of death. <u>This course is highly recommended for students who have an interest in the field of law enforcement.</u> *Meets Lab Science standards.*

3623 INTRODUCTION TO STEM TEACHING (DE - UML) - Advanced 11, **12 2.5 Cr.**

This course provides an exploration into teaching as a career, emphasizing inquiry-based science, mathematics, and engineering. You will use your knowledge and skills you have acquired from your STEM content area and use these attributes to plan and teach 3 lessons to students in Grades 6 -8, and then reflect on your experience, and students' learning.

DE - UML: UTCH 1030 Introduction to STEM Education (3 Credits)

3625 ETHICS AND SOCIAL JUSTICE IN STEM - Honors 11, **12 2.5 Cr.**

This course is an engaging elective suitable for students from all academic backgrounds, including those in the Education Pathway. This course delves into the ethical and social justice dimensions of Science, Technology, Engineering, and Mathematics (STEM). Key topics include bioethics, environmental ethics, artificial intelligence and data privacy ethics, and the importance of diversity and inclusivity in STEM fields. Through critical discussions, projects, and case studies, students will explore how STEM can be leveraged to address societal challenges and promote equitable solutions. This course is ideal for students interested in the interplay between technology, society, and ethics, preparing them for thoughtful participation in any STEM or educational field.

3735 ENVIRONMENTAL STUDIES - (EC - MCC) (LS) - Advanced 11, 12 2.5 Cr.

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. PREREQUISITES: Successful completion of English 2A/B or English 3A/B (with a minimum grade of 80 in high honors, 85 in honors and 90 in college level course) and the completion of Middlesex Community College's multiple measures prerequisites. Successful completion of Biology with a minimum grade of 85 in College or 80 in Honors and a formal teacher recommendation from their Biology teacher.*** *Meets Lab Science standards*

EC-MCC: ENV 115 Environmental Studies (3 Credits)

3736 ENVIRONMENTAL SCIENCE - Honors 11, 12 2.5 Cr.

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. PREREQUISITES: Successful completion of Biology. Meets Lab Science standards.

3785 ENVIRONMENTAL SUSTAINABILITY – Honors 11, 12 2.5 Cr.

Students engage in a semester-long class where they learn information on 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. Meets Lab Science standards.

Bioscience

3601 MEDICAL TERMINOLOGY & BODY SYSTEMS - Honors 11, 12 2.5 Cr.

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. ***MCC ARTICULATION: MAS101 Medical Terminology. PREREQUISITE: 80 or above in Honors Biology.***

3605 NUTRITION & DISEASE - Honors 10, 11, 12 2.5 Cr.

This semester course will begin with a study of the structure and function of the digestive system. Major macronutrients and micronutrients will be studied to include their functions, food sources, and the effects of deficiency and excess in the development of nutritionally related diseases and conditions. Students will identify the prevalence, symptoms, causes, treatments, preventions and prognoses of these diseases. Changing nutritional needs throughout the life cycle will be explored. Nutrition label reading, US government recommendations for nutrition according to MyPlate, and fad diets will also be evaluated.

3607 MEDICAL LAW & CURRENT HEALTH ISSUES - Honors 12 2.5 Cr.

Medical Law & Current Health Issues introduces legal and ethical responsibilities in the medical and bioscience fields. Students will take an in-depth look at the safety, ethical, and legal issues involved in medical and biotechnology careers. This course will also undertake an in depth analysis of the cause and effect of modern health issues and how these issues impact people's lives physically, socially, and economically. Medical and biotechnical advancements will be incorporated. 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 Health & Bioscience pathway courses. ***PREREQUISITE: 80 or above in Honors Biology. 80 or above or concurrently enrolled in Honors Anatomy & Physiology.***

3611/3612 PRINCIPLES OF BIOMEDICAL SCIENCE (PLTW) (LS) - Honors 11, 12 2.5/2.5 Cr.

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.

3618 CAREERS IN HEALTH & BIOSCIENCE - Honors 11, 12 2.5 Cr.

Careers In Health & Bioscience introduces students to career pathways in healthcare and bioscience, such as allied health and medical support services. This will be accomplished through lectures, class discussions, research projects, field trips and professional guest speakers. The major topics of study in allied health are as follows: pharmacology, rehab services, dental services, gerontology, social services, nutritionist, health education, medical genetics, mental health, public health, emergency medical technicians, and pharmacy assistant. Topics to be covered under medical support services include managed care, administrative services, medical assisting, and medical office management. The major topics of study in physician/nurse are as follows: medical doctor, registered nurse, licensed practical nurse, physician's assistant, nurse practitioner, and certified nursing assistant. The topics to be covered in medical technology are as follows: radiology technician, respiratory technician, laboratory technician, orthopedic technician, vision technician, audiology and medical imagery.

6802 INTERNSHIP - Honors (S2) 12 5 Cr.

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.

Engineering

3911/3912	Introduction to Engineering Design (PLTW) (LS) - Honors	10, 11, 12	2.5/2.5
3921/3922	Principles of Engineering (PLTW) (LS) - Honors	11, 12	2.5/2.5
3971	Introduction to Engineering - (EC - MCC) (LS) - Advanced	11, 12	2.5
3953/3954	Robotics (LS) - Honors	10, 11, 12	2.5/2.5
3945/3946	Architectural Design (LS) - Honors	10, 11, 12	2.5/2.5
6802	Internship - Honors	12	5

3911/3922 INTRODUCTION TO ENGINEERING DESIGN (PLTW) (LS) - Honors 10, 11, 12 2.5/2.5 Cr.

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

3921/3922 PRINCIPLES OF ENGINEERING (PLTW) (LS) - Honors 11, 12 2.5/2.5 Cr.

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 career 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. *Meets Lab Science standards* ***PREREQUISITE: 80 or above in 3911/3912 Introduction to Engineering Design (PLTW).***

3971 INTRODUCTION TO ENGINEERING - (EC - MCC) – Advanced 11, **12 2.5 Cr.**

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: Successful completion of English 2A/B or English 3A/B (with a minimum grade of 80 in high honors, 85 in honors and 90 in college level course) and the completion of Middlesex Community College's multiple measures prerequisites, and a formal teacher recommendation from their Engineering, Architecture, or Robotics teacher. Juniors should have already taken or be concurrently enrolled in Calculus or Trigonometry.***

EC-MCC: EGR 101 Introduction to Engineering (3 Credits)

3953/3954 ROBOTICS - Honors 10, 11, 12 2.5/2.5Cr.

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. *Meets Lab Science standards*

3945/3946 ARCHITECTURAL DESIGN - Honors 10, 11, 12 2.5/2.5 Cr.

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. *Meets Lab Science standards.*

6802 INTERNSHIP - Honors (S2) 12 5 Cr.

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.

WORLD LANGUAGE

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 foreign 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.

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 once they have returned their signed course selection worksheet to their guidance counselor. 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 Head for an interview or a placement exam. Heritage Language speakers will also take a placement exam to determine proper scheduling. During the 2021-2022 academic year, Latin will have honors and AP sections; Spanish 3 will have separate honors and college sections for most levels; and French, Khmer and Portuguese will have the honors level. During this academic year we will also be looking at the possibility of students taking dual enrollment classes.

LATIN

2113/2114	Latin 1 - Honors	9, 10, 11, 12	2.5/2.5
2123/2124	Latin 2 - Honors	9, 10, 11, 12	2.5/2.5
2147/2148	Latin Prose - Advanced	11, 12	2.5/2.5
2149/2150	Latin Poetry - Advanced	11, 12	2.5/2.5

PORTUGUESE

2613/2614	Portuguese 1 - Honors	9, 10, 11, 12	2.5/2.5
2623/2624	Portuguese 2 - Honors	9, 10, 11, 12	2.5/2.5
2633/2634	Portuguese 3 - Honors	10, 11, 12	2.5/2.5
2643/2644	Portuguese 4 - Honors	11, 12	2.5/2.5
2651/2652	Heritage Portuguese 1 - Honors	9, 10, 11, 12	2.5/2.5
2653/2654	Heritage Portuguese 2 - Honors	10, 11, 12	2.5/2.5

FRENCH

2313/2314	French 1 - Honors	9, 10, 11, 12	2.5/2.5
2323/2324	French 2 - Honors	9, 10, 11, 12	2.5/2.5
2333/2334	French 3 - Honors	10, 11, 12	2.5/2.5
2343/2344	French 4 - Honors	11, 12	2.5/2.5
2361/2362	French Text, Film and Media	11, 12	2.5/2.5

SPANISH

2511/2512	Spanish 1 - College	9, 10, 11, 12	2.5/2.5
2513/2514	Spanish 1 - Honors	9, 10, 11, 12	2.5/2.5
2521/2522	Spanish 2 - College	9, 10, 11, 12	2.5/2.5
2523/2524	Spanish 2 - Honors	9, 10, 11, 12	2.5/2.5
2531/2532	Spanish 3 - College	9, 10, 11, 12	2.5/2.5
2533/2534	Spanish 3 - Honors	9, 10, 11, 12	2.5/2.5
2541/2542	Spanish 4 - College	10, 11, 12	2.5/2.5
2543/2544	Spanish 4 - Honors	10, 11, 12	2.5/2.5
2545/2546	Spanish 4 (AP) - Advanced	11, 12	2.5/2.5
2553/2554	Spanish Conversation - Honors	10, 11, 12	2.5/2.5
2561/2562	Spanish Literature - Honors	10,11,12	2.5/2.5
2503/2504	Spanish 1 - Heritage Speaker - Honors	9, 10, 11, 12	2.5/2.5
2507/2508	Spanish 2 - Heritage Speaker - Honors	10, 11, 12	2.5/2.5

KHMER

2713/2714	Khmer 1 - Honors	9, 10, 11, 12	2.5/2.5
2723/2724	Khmer 2 - Honors	9, 10, 11, 12	2.5/2.5
2733/2734	Khmer 3 - Honors	10, 11, 12	2.5/2.5
2743/2744	Khmer 4 - Honors	11, 12	2.5/2.5

EXCEPTIONS TO PREREQUISITE REQUIREMENTS AS LISTED REQUIRE WRITTEN APPROVAL OF THE DEPARTMENT HEAD

WORLD LANGUAGE COURSES

LATIN

2113/2114 LATIN 1 - Honors 9, 10, 11, 12 2.5/2.5 Cr.

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.

2123/2124 LATIN 2 - Honors 10, 11, 12 2.5/2.5 Cr.

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, 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. ***PREREQUISITE: Successful completion of Latin 1 Honors or permission of the Department Head.***

2147/2148 LATIN PROSE - Advanced 12 2.5/2.5 Cr.

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. Students completing the Latin Prose and Poetry courses and the Latin AP Exam will have the Latin AP designation added to their transcript. Meets Latin 3 or Latin 4 requirements based on offering rotation.* ***PREREQUISITE: Successful completion of Latin 2 Honors or permission of the Department Head. [Offered odd numbered school years]***

2149/2150 LATIN POETRY - Advanced 11, 12 2.5/2.5 Cr.

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 This course is offered in alternating years with Advanced Latin Prose. Students completing the Latin Prose and Latin Poetry courses and the Latin AP Exam will have the Latin AP designation added to their senior year transcript. Meets Latin 3 or Latin 4 requirements based on offering rotation.* ***PREREQUISITE: Successful completion of Latin 2 Honors or permission of the Department Head. [Offered even numbered school years]***

PORTUGUESE

2613/2614 PORTUGUESE 1 - Honors 9, 10, 11, 12 2.5/2.5 Cr.

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.***

2623/2624 PORTUGUESE 2 - Honors 9, 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Portuguese 1 - Honors or permission of Department Head.***

2633/2634 PORTUGUESE 3 - Honors 10, 11, 12 2.5/2.5 Cr.

Portuguese 3 - Honors 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. ***PREREQUISITE: Successful completion of Portuguese 2 - Honors or permission of Department Head.***

2643/2644 PORTUGUESE 4 - Honors 11, 12 2.5/2.5 Cr.

Portuguese 4 - Honors is for the student who wishes to further his/her knowledge of the Portuguese language, or 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 strengthening the four language skills of reading, writing, listening and speaking. ***PREREQUISITE: Successful completion of Portuguese 3 - Honors or permission of the Department Head. (Only offered if numbers are sufficient.)***

2651/2652 PORTUGUESE 1 - HERITAGE SPEAKER - Honors 9, 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Placement through exam or consultation with the Department Head***

2653/2654 Portuguese 2 Heritage Speaker - Honors 10, 11, 12 2.5/2.5 Cr.

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. PREREQUISITE: Placement through exam or consultation with the Department Head.

FRENCH

2313/2314 FRENCH 1 - Honors 9, 10, 11, 12 2.5/2.5 Cr.

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.***

2323/2324 FRENCH 2 - Honors 10, 11, 12 2.5/2.5 Cr.

French 2 - Honors provides a more detailed oral-aural continuation of 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. ***PREREQUISITE: Successful completion of French 1 - Honors or permission of Department Head.***

2333/2334 FRENCH 3 - Honors 11, 12 2.5/2.5 Cr.

French 3 - Honors entails written and oral work based on an 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. Pace of course is rapid. ***PREREQUISITE: Successful completion of French 2 - Honors or permission of the Department Head.***

2343/2344 FRENCH 4 - Honors 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of French 3 - Honors or permission of the Department Head.***

2361/2362 FRENCH TEXT FILM AND MEDIA - Honors 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Permission of Department Head (Only offered if numbers are sufficient.)***

SPANISH

2511/2512 Spanish 1 – College 9, 10, 11, 12 2.5/2.5 Cr.

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***

2513/2514 SPANISH 1 - Honors 9, 10, 11, 12 2.5/2.5 Cr.

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.***

2521/2522 SPANISH 2 - College 9, 10, 11, 12 2.5/2.5 Cr.

Reviews the work of 2511/2512 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.

2523/2524 SPANISH 2 - Honors 9, 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Spanish 1 - Honors or permission of Department Head.***

2531/2532 SPANISH 3 - College 10, 11, 12 2.5/2.5 Cr.

Spanish 3 - College continues the work of Spanish 2 and introduces Spanish literature and art. ***PREREQUISITE: Successful completion of Spanish 2***

2533/2534 SPANISH 3 - Honors 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Spanish 2 - Honors with a minimum grade of 70 or permission of the Department Head.***

2541/2542 SPANISH 4 - College 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Spanish 3.***

2543/2544 SPANISH 4 - Honors 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Spanish 3 - Advanced or successful completion of Spanish 3 - Honors or permission of the Department Head. (Only offered if numbers are sufficient.)***

2545/2546 SPANISH 4 AP - Advanced 11, 12 2.5/2.5 Cr.

Spanish 4 AP 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. ***PREREQUISITE: Successful completion of Spanish 3 - Honors. A minimum grade of 80 in Semester 1 is required to continue. All AP courses require Department Head Approval.***

2553/2554 SPANISH CONVERSATION - Honors 11, 12 2.5/2.5 Cr.

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 elected in addition to them. ***PREREQUISITE: Successful completion of Spanish 2 - Honors with a minimum grade of 70 or successful completion of Spanish 2 - College with a minimum grade of 85.***

2561/2562 SPANISH LITERATURE - Honors 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Department Head Approval***

2503/2504 SPANISH 1 - HERITAGE SPEAKER - Honors 9, 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Placement through exam or consultation with the Department Head.***

2507/2508 SPANISH 2 - HERITAGE SPEAKER - Honors 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Spanish 1 - Heritage Speaker.***

KHMER

2713/2714 KHMER 1 - Honors 9, 10, 11, 12 2.5/2.5 Cr.

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.

2723/2724 KHMER 2 - Honors 9, 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Khmer 1 - Honors or permission of the Department Head.***

2733/2734 KHMER 3 - Honors 10, 11, 12 2.5/2.5 Cr.

Khmer 3 - Honors develops the skills of reading, writing, speaking, and listening are emphasized, especially in practical, every day usage at a deeper and faster pace. ***PREREQUISITE: Successful completion of Khmer 2 - Honors or permission of the Department Head.***

2743/2744 KHMER 4 - Honors 11, 12 2.5/2.5 Cr.

Khmer 4 - Honors improves a student's skills with authentic Khmer materials (legends, readers, tapes, etc.) being the primary focus of the class. ***PREREQUISITE: Successful completion of Khmer 3 -Honors or permission of the Department Head. (Only offered if numbers are sufficient.)***

BUSINESS – MARKETING & FINANCE

The Business - Marketing & Finance Department offers electives that benefit all students, allowing students to attain marketable skills in accounting, finance, marketing, and sales along with offering industry certification in OSHA and Customer Service and Sales (National Retail Federation).

You can take courses in the Business Department using two different routes. You may choose to become part of the Business Marketing and Finance Pathway and benefit from a defined course of study. You can also choose to explore the world of business through various electives.

BUSINESS – MARKETING & FINANCE COURSES

6230	Business Explorations - College	9, 10, 11	2.5
6015	Microsoft Office Specialist - College	10, 11, 12	2.5
6111/6112	Accounting - College	10, 11, 12	2.5/2.5
6113/6114	Accounting - Honors	10, 11, 12	2.5/2.5
6211	Business Law 1 - College	10, 11, 12	2.5
6212	Business Law 2 - College	10, 11, 12	2.5
6213	Business Law 1 - Honors	10, 11, 12	2.5
6214	Business Law 2 - Honors	10, 11, 12	2.5
6141	Personal Finance - College	11, 12	2.5
6143	Personal Finance - Honors	11, 12	2.5
6161	Intro to Financial Services (JDCU) - Honors*	12	2.5
6309	Marketing - College	9, 10, 11, 12	2.5
6317	Digital/Social Media Marketing - Honors	10, 11, 12	2.5
6313	Entrepreneurship - Honors	10, 11, 12	2.5
6315	Retail Marketing - Honors*	12	2.5
6350	Sports & Entertainment Marketing - College	10, 11, 12	2.5
9231/9232	Career Seminar	9R	2.5/2.5

*Denotes capstone class with strict prerequisites.

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

- Students must pass FOUR business courses to earn the business pathway designation.
- Students must pass EIGHT business courses to earn Chapter 74 recognition.
- 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

6230 BUSINESS EXPLORATIONS - College 9, 10, 11 2.5 Cr.

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.*

9231/9232 CAREER SEMINAR – College 9 2.5/2.5

Students will acquire essential life skills, explore varied career paths, receive social-emotional support, and strengthen academic abilities crucial for high school, life, and post-secondary success. The course reviews academic resources, support services, co-curricular programs, experiential learning, and additional supports that will develop and support healthy behaviors and habits that will increase their success throughout their high school years and beyond. Students will engage in self-assessments, growth mindset activities and career exploration as they develop personalized academic plans to achieve their high school and post-secondary goals.

COLLEGE/BUSINESS SKILLS

6015 MICROSOFT OFFICE SPECIALIST - College 10, 11, 12 2.5 Cr.

You will get a taste of the business world as you become a Microsoft Office Specialist using real-world simulations. You will use critical thinking and computer application skills to plan, create, revise, and produce a wide variety of real-world documents for three different clients. You will become proficient using Microsoft Word, Excel, and PowerPoint. This course offers essential skills for everyone entering the world of business or heading off to college. Students will have the opportunity to take the Microsoft Office Specialist Certification Practice Exams which will prepare them to pass the Microsoft Office Certification Exam.

ACCOUNTING

6111/6112 ACCOUNTING - College 10, 11, 12 2.5/2.5 Cr.

Accounting is the math you can do! Whether you are going to work for a small business or start your own business, 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.

6113/6114 ACCOUNTING - Honors 10, 11, 12 2.5/2.5 Cr.

Whether you are going to invest in a business, work for a multimillion-dollar company, or start your own business, you will always use financial information. Accounting provides financial information to users for making decisions. In this challenging and fast-paced 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 encounter accounting principles and practical applications as you experience the challenges of operating an event-planning service business.

BUSINESS LAW

6211 BUSINESS LAW 1 - College 10, 11, 12 2.5 Cr.

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.

6212 BUSINESS LAW 2 - College 10, 11, 12 2.5 Cr.

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 contacts; 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*

6213 BUSINESS LAW 1 - Honors 10, 11, 12 2.5 Cr.

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. In this course, you will be participating in mock trials, allowing you to practice your courtroom skills.

6214 BUSINESS LAW 2 - Honors 10, 11, 12 2.5 Cr.

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 contacts; 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

6141 PERSONAL FINANCE - College 11, 12 2.5 Cr.

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 learn strategies to manage money responsibly, set financial goals, and make daily financial decisions that affect your life. From budgeting to taxes, from credit cards to buying a car, students will be exposed to a variety of skills and will have the opportunity to learn and apply these skills in an interactive simulation. The course culminates with a simulation where students choose the direction of their lives and make all financial and career decisions.

6143 PERSONAL FINANCE - Honors 11, 12 2.5 Cr.

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 learn strategies to manage money responsibly, set financial goals, and make daily financial decisions that affect your life. From budgeting to taxes, from credit cards to buying a car, you will be exposed to a variety of skills and will have the opportunity to learn and apply these skills in an interactive simulation. Personal Finance - Honors will delve deeper into investing and building a financial portfolio than Personal Finance - College. The course culminates with a simulation where students choose the direction of their lives and make all financial, investment, and career decisions.

6161 INTRO TO FINANCIAL SERVICES (JDCU) - Honors 12 2.5 Cr.

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 Department Chair or Branch Supervisor.

MARKETING

6309 MARKETING - College 9, 10, 11, 12 2.5 Cr.

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.

6317 DIGITAL/SOCIAL MEDIA MARKETING - Honors 10, 11, 12 2.5 Cr.

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 explore and assess how to maintain marketing integrity in an age of over-sharing, open-source collaboration, and dynamic technology advancements.

6313 ENTREPRENEURSHIP - Honors 10, 11, 12 2.5 Cr.

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.

6315 RETAIL MARKETING - Honors 12 2.5 Cr.

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, excellent attendance is mandatory. *Students can only take this course once. PREREQUISITE: Successful completion of 10 CREDITS of business courses with a passing grade of 80 or above or permission of Department Chair.* NATIONAL RETAIL FEDERATION INDUSTRY CERTIFICATION OPPORTUNITY

6350 SPORTS & ENTERTAINMENT MARKETING - College 10, 11, 12 2.5 Cr.

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 will 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. INTERNSHIP/WORK STUDY/AFTER DARK

INTERNSHIP & WORK STUDY

6802	Internship - Honors	12	5
6851	Work Study (S1) - College	11, 12	2.5
6852	Work Study (S2) - College	11, 12	2.5

SCHOOL SUPPORT

6811/6812	Special Education Aide - Honors	10, 11, 12	2.5/2.5
6813/6814	Library Aide – Honors	10, 11, 12	2.5/2.5
6815/6816	Office Aide – Non-Weighted	9, 10, 11, 12	2.5/2.5
6817/6818	Technology Aide – Honors	10, 11, 12	2.5/2.5
6841/6842	Student Ambassador – Honors	11,12	2.5/2.5

AFTER DARK

6401/6402	Information Technology 1 - Advanced	11	5/5
6403/6404	Information Technology 2 - Advanced	12	5/5
6411/6412	Automotive Technology 1 – Honors	11	5/5
6413/6414	Automotive Technology 2 – Honors	12	5/5
6451/6452	Advanced Manufacturing 1 - Honors	11	5/5
6453/6454	Advanced Manufacturing 2 - Honors	12	5/5
6456/6457	HVAC 1 - Honors	11	5/5
6458/6459	HVAC 2 - Honors	12	5/5
6460/6461	Metal Fabrication 1 - Honors	11	5/5
6462/6463	Metal Fabrication 2 - Honors	12	5/5

INTERNSHIP & WORK STUDY

6802 INTERNSHIP - Honors 12 5 Cr.

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 a 100-hour internship with 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 Semester 2 course and runs Periods 6B & 7.

6851 WORK STUDY (S1) - College 11, 12 2.5 Cr.

Work study provides students the ability to earn credit for workplace experiences. Workplace experiences provide structure and unique applications of learning which help to prepare a student for success in life. NOTE: Parent/Guardian and employer approval required via signed contract which must be returned prior to student participation in the program. Coordination with Work Study Coordinator/College Career Counselor required. Must be in good standing with graduation requirements. Students can sign up for work study as a semester course, and seniors have priority enrollment. Students must maintain a minimum of a 15-hour work week, complete journal entries, Work Based Learning Plan Supervisor Feedback Form, timesheets / paychecks on request, and Work Location Information Form as core requirements for the course.

6852 WORK STUDY (S2) - College 11, 12 2.5 Cr.

Work study provides students the ability to earn credit for workplace experiences. Workplace experiences provide structure and unique applications of learning which help to prepare a student for success in life. NOTE: Parent/Guardian and employer approval required via signed contract which must be returned prior to student participation in the program. Coordination with Work Study Coordinator/College Career Counselor required. Must be in good standing with graduation requirements. Students can sign up for work study as a semester course, and seniors have priority enrollment. Students must maintain a minimum of a 15-hour work week, complete journal entries, Work Based Learning Plan Supervisor Feedback Form, timesheets / paychecks on request, and Work Location Information Form as core requirements for the course.

SCHOOL SUPPORT

6811/6812 SPECIAL EDUCATION AIDE - Honors 10, 11, 12 2.5 Cr.

The Special Education Department provides valuable opportunities for students wishing to explore a career in the Special Education field. Students have the opportunity to be placed in classrooms with teachers and/or specialists overseeing their experience in working with students who have intensive special needs, students with autism, and students who have intellectual impairments. In addition, students wishing to specialize in Speech and Language, Occupational Therapy, and/or Physical Therapy have the opportunity to work with these specialists. Students in this class are also expected to be role models for the special needs students. All candidates must present themselves to the Special Education Department Chair and complete an interview process to determine eligibility. Permission of the Department Chair is required.

6813/6814 LIBRARY AIDE - Honors 10, 11, 12 2.5/2.5 Cr.

Students will provide services in the library within Lowell High School. The student and the Librarian will work together closely on tasks that are helpful to the functioning and organization of the library as well as educational for the student aide. The student is always directly supervised by the librarian. Permission of the Librarian or administrator is required.

6815/6816 OFFICE AIDE – Non-Weighted 9,10,11,12 2.5/2.5 Cr.

Students will provide services to house offices or departments within Lowell High School. The student and the administrator will work together closely on tasks that are helpful to the office/department and that are educational for the student aide. The student is always directly supervised by the office/department staff. Permission of the department head or administrator is required.

6817/6818 TECHNOLOGY AIDE – Honors 9,10,11,12 2.5/2.5 Cr.

Students will provide services in the technology department within Lowell High School. The student and the technology/media staff will work together closely on tasks that are helpful to the functioning and organization of the technology department and the deployment of technology devices as well as the education for the student aide. The student is always directly supervised by the staff in the technology department. ***Permission of the Librarian or administrator is required.***

6841/6842 STUDENT AMBASSADOR - Honors 10, 11, 12 2.5/2.5 Cr.

At Lowell High School, our Student Ambassadors act as mentors, facilitators, and a friendly support network for students new to our school community. The Ambassadors consist of a select group of sophomores, juniors, and seniors who apply to be a part of the program and can commit fully to our meetings and event schedule. Student ambassadors have an opportunity to gain professional and life skills that will positively impact the Lowell High community and transfer to post-high school experiences.

AFTER DARK

After Dark is a collaboration between Lowell High School and Greater Lowell Technical High School that provides more students the opportunity of a technical education. The program requires a two-year commitment. Lowell High School students will take academic classes with a reduced LHS schedule during the regularly scheduled school day before attending classes at GLTHS from 2:30 to 5:30. The After Dark Program is currently being offered for HVAC (Heating, Ventilation and Air Conditioning and Refrigeration), Metal Fabrication (Welding) and Automotive Technology

6401/6402 INFORMATION TECHNOLOGY 1 - Advanced 11 5/5 Cr.

Year one of the program will introduce students to the following fundamental big ideas of computer science: Creativity, Abstraction, Data and Information, Algorithms, Programming, The Internet, and Global Impact. At the end of the course, students will take the College Board's Advanced Placement Computer Science Principles Exam. Students will also work toward their COMPTIA IT Fundamentals Certification. This certification introduces students to software, hardware, networking, and security. In addition, students will be introduced to creating websites using HTML and CSS. Students can also earn the OSHA 10 General Industry Certification and the new Cyber Safety Awareness Training and Certification. Advanced students may be introduced to Python Programming. Year One Curriculum Highlights:

- AP Computer Science Principles
- CompTIA IT Fundamentals Certification
- TestOut IT Fundamentals Certification
- OSHA 10 General Industry Certification
- Cyber Safety Awareness Training and Certification
- Introduction to HTML and CSS
- Certiport Information Technology Specialist
- HTML and CSS Certification
- JavaScript Certification
- Python Certification

6403/6404 INFORMATION TECHNOLOGY 2 - Advanced 12 5/5 Cr.

Year two will build off year one. Students will build Windows, Web and Database apps using industry standard professional development environments in VB.NET and C#.NET. Students will increase their web design knowledge with more advanced HTML and CSS training. Students can earn the CIW Site Development Associate and Certiport InformationTechnology Specialist Certifications. Students will create resumes and as a capstone will build a published digital portfolio (website) to highlight their software development work and certifications that they have earned. Advanced students may be introduced to Java Programming.

Year Two Curriculum Highlights:

- Programming Fundamentals with Visual Basic.NET and C#.NET
- CIW Site Development Associate Certification
- Introduction to SQL
- Resumes
- Certiport Information Technology Specialist
- Software Development Certification
- Databases Certification
- HTML 5 Application Development Certification
- Java Certification

6411/6412 AUTOMOTIVE TECHNOLOGY 1 - Advanced 11 5/5 Cr.

Upon entering the automotive technology program, students will be introduced to the safety protocols and requirements. This will be achieved through instructor demonstration, OSHA 10 General training, and SP2 Safety training.

The class is divided into both classroom/computer studies and live hands on work on a variety of vehicles available for training. Areas of concentration will include automotive tools, measurement tools, and hardware and torque applications. As students become familiar with the basic hand tools and applications, they will focus on an in-depth study of under car systems, maintenance procedures, fluids, tire servicing and Hunter alignment systems.

The students are familiarized with the practices and customs used in industry. Areas of concentration include electrical, engine performance, engine mechanical, engine measurement, and digital multi-meters. Along with computer-based training, students are prepped with employability skills enabling them to prepare for employment and in the automotive field.

The automotive shop program is enhanced with all latest state of the art equipment, tools and computer access including: IDENTIFIX, ALLDATA, and Mitchell Computer Based Learning. The course is aligned to Massachusetts State Frameworks for Automotive Technology.

6413/6414 AUTOMOTIVE TECHNOLOGY 2 - Advanced 12 5/5 Cr.

Automotive Technology year two builds on technical competencies students learned year one. Students are able to achieve an entry level ASE Certification, OSHA 10 General certification, Valvoline Credentials, along with factory Ford Certifications. All of these enable the students to be prepared to enter employment positions through area businesses and automotive dealerships. Students who are eligible may enter cooperative education programs semester two of year two of the program.

6451/6452 ADVANCED MANUFACTURING 1 - Honors 11 5/5 Cr.

Year one of the Advanced Manufacturing program will introduce students to basic CNC set-up and operation of the CNC Lathe and CNC Mill. Covering the importance of safety and safe operation of the CNC Lathe and Mill. Introduction to Mastercam programming and MDI (Manual Data Input) while using the HAAS Control Panel. The use of basic blue printing and sketches, basic measuring tools, micrometers, dial calipers, height gauges, and tolerances used to control sizes.

Each student will take the OSHA 10 Hour General Industry course to achieve their OSHA card certification.

While using the CNC Mill students will become proficient in the use of indicators, edge finders, and will learn how to properly touch off tools and make distance and tool length offsets at the machines.

Year One Shop and Classroom Highlights:

- Shop Safety and Shop Standards
- Basic CNC Lathe
- Basic CNC Mill
- Basic Blueprinting
- Basic Set ups and Operation Info
- Basic Metrology, Q.C Inspection and Measuring Concepts
- OSHA 10 Hour General Industry Certification
- Basic Blueprint Reading Intro.
- Basic Machining Techniques on CNC Lathe and CNC Mills

6453/6454 ADVANCED MANUFACTURING 2 - Honors 12 5/5 Cr.

Year two of the After Dark Advanced Manufacturing Program will introduce the students to absolute and incremental programming, Manual CNC programming, Trigonometry to find points along a Bolt Circle, and will be introduced to Geometric Dimensioning and Tolerancing. Students will begin to become proficient at Mastercam drawings. The drawings will become more and more difficult. The importance of squaring the vise, tramming the head of the mill, using tooling like end mills, face mills, and how to square a block within .002 of an inch. Using precision stops, applying Quality Control Inspection techniques, and developing process plans.

6456/6457 HEATING, VENTILATION, AIR CONDITIONING & REFRIGERATION SHOP 1 - Honors
12 5/5 Cr.

The After Dark HVAC student works on soldering, brazing, PVC piping, simple electrical circuits, and working with a VoltOhm-Meter, safety, PPE and tools of the trade. Students work with copper tubing, torches, brazing, and electrical components in order to become more familiar with these types of tools and fittings. Simple electrical circuits are built for the students to become familiar with schematic review, circuit testing, and circuit tracing. The program expands to include basic refrigeration systems and various types of refrigerants. Students cover in detail both the electrical and refrigeration systems of a domestic refrigerator and window air conditioning units. Students will complete employability skill assignments; employability skills are stressed throughout the program. Students will receive OSHA 10 credential.

6458/6459 HEATING, VENTILATION, AIR CONDITIONING & REFRIGERATION SHOP 2-Honors
12 5/5 Cr.

Year 2 concentrates on commercial refrigeration. Specific areas of study covered are refrigerants, refrigeration oil, system installation and servicing, methods of oil return, electrical wiring, and the installation and service of electrical components. This course concentrates on the acquisition of the skills necessary to use the basic tools of the trade and troubleshooting of the trade. The program expands to include basic refrigeration systems, various types of refrigerants, and the use of refrigerant recovery equipment. Students cover in detail both the electrical and refrigeration systems of a domestic refrigerator as well as window air conditioners. Students prepare for EPA Section 608 and have the potential for cooperative education opportunities in the second half of the year.

6460/6461 METAL FABRICATION 1 - Honors 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 2 - Honors 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

CULINARY & FOODS

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.

CULINARY

5311/5312	Culinary Arts - Beginners - Honors	10, 11, 12	5/5
5313/5314	Culinary Arts - Intermediate - Honors	11, 12	5/5
5315/5316	Culinary Arts - Advanced - Honors	12	5/5
6802	Internship - Honors	12	5

Culinary Arts classes are block classes and run for 2 periods

FOODS

5101	The Science of Cooking - College	9, 10, 11, 12	2.5
5102	Nutrition and Dietary Choices - College	9, 10, 11, 12	2.5
5103	Regional Cuisine - College	10, 11, 12	2.5
5104	International Foods - College	10, 11, 12	2.5

BUSINESS RELATED COURSES

6111/6112	Accounting - College	10, 11, 12	2.5/2.5
6113/6114	Accounting - Honors	10, 11, 12	2.5/2.5
6309	Marketing- College	10, 11, 12	2.5
6313	Entrepreneurship - Honors	10, 11, 12	2.5
6230	Business Explorations - College	10, 11, 12	2.5

CULINARY

5311/5312 CULINARY ARTS - BEGINNER - Honors 10, 11, 12 5/5 Cr.

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. This course meets every day for two periods. 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.

5313/5314 CULINARY ARTS - INTERMEDIATE - Honors 11, 12 5/5 Cr.

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. PREREQUISITE: Successful completion of Culinary Arts – Beginner*

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.

5315/5316 CULINARY ARTS - ADVANCED - Honors 12 5/5 Cr.

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. PREREQUISITE: Successful completion of Culinary Arts – Intermediate*

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.

6802 INTERNSHIP - Honors (S2) 12 5 Cr.

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

5101 THE SCIENCE OF COOKING - College (S1) 9, 10, 11, 12 2.5 Cr.

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.

5102 NUTRITION AND DIETARY CHOICES - College (S2) 9, 10, 11, 12 2.5 Cr.

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.

5103 REGIONAL CUISINES - College (S1) 10, 11, 12 2.5 Cr.

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.

5104 INTERNATIONAL FOODS - College (S2) 10, 11, 12 2.5 Cr.

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.

5201/5202 UNIFIED FOODS - College 10, 11, 12 2.5 Cr.

Unified Foods combines students of all abilities to fully participate in developmentally appropriate cooking oriented activities. Unified Foods 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. **Prerequisite: Passing grade in at least two food studies courses including Science of Cooking, Nutrition & Dietary Choices, Regional Cuisine, International Foods or one year in Beginner Culinary Arts. Requests for the Unified Foods classes will be reviewed by the Chef Instructors and the Culinary Department Head.**

FINE ARTS

The mission of the Fine Arts Program at Lowell High School is to provide all students with high-quality learning opportunities where arts skills, critical thinking, and creative problem solving are emphasized. The program encourages creativity and strives to develop each individual's artistic voice. Central to this creative work is utilizing one's risk-taking, curiosity, and collaborative abilities, thereby building student self-confidence and resiliency. Our Fine Arts programming supports the development of 21st century skills, which extend student learning outside the classroom and make connections across academic content areas. Our curriculum focuses on the development of creative sensitivities and technical proficiencies in the arts while bolstering arts literacy and creative self-expression.

PERFORMING ARTS

INSTRUMENTAL MUSIC

7139/7140	Concert & Marching Band (FY) (W) – Honors	9, 10, 11, 12	2.5/2.5
7121	Piano & Music Theory - Honors	9, 10, 11, 12	2.5
7131	Guitar & Music Theory - Honors	9, 10, 11, 12	2.5
7133	Percussion Ensemble - Honors	9, 10, 11, 12	2.5
7151/7152	Modern Music (FY) - Honors	9, 10, 11, 12	2.5/2.5

VOCAL MUSIC

7297/7298	Show Choir Soundsations (All Female) (FY) (W) – Honors	9, 10, 11, 12	2.5/2.5
7299/7300	Show Choir: Sound Impressions (Mixed Choir) (FY) (W) – Honors	9, 10, 11, 12	2.5/2.5
7301/7302	Show Choir: Sound Impressions Advanced (FY) (W) - Honors	10,11,12	2.5/2.5

MUSIC THEORY

7355/7356	Music Theory (FY) – Honors	11, 12	2.5
7161/7162	Music In Our Lives	9, 10, 11, 12	2.5/2.5
7163/7164	Music in Television & Film	9, 10, 11, 12	2.5/2.5

THEATER

7411/7412	Theater 1 & 2: Introduction To Theater- Honors	9, 10, 11, 12	2.5/2.5
7413/7414	Theater 3 & 4: Intermediate Theater - Honors	10, 11, 12	2.5/2.5
7415/7416	Theater 5 & 6: Advanced Theater | Drama Fest Practicum	11, 12	2.5/2.5
7425/7426	Theater Design - Honors	9,10,11,12	2.5/2.5

DANCE

7905/7906	Dance 1 & 2: Modern & Jazz Technique (W) – Honors ,	10, 11, 12	2.5/2.5
7907/7908	Dance 3 & 4: Technique & Composition (W) – Honors	10, 11, 12	2.5/2.5
7953/7954	Dance 5 & 6: Advanced Dance Studies (W) - Honors	11, 12	2.5/2.5
7983/7984	Dance 7 & 8: Senior Dance Project (W) - Honors	12	2.5/2.5
7991/7992	Unified Dance (W) – Non-Weighted	11, 12	2.5/2.5

VISUAL ARTS

GRAPHIC DESIGN

7747/7748	Graphic Design 1& 2: Introduction to Graphic Design – Honors	9,10, 11, 12	2.5/2.5
7758	Graphic Design 3: Intermediate Graphic Design - Honors (S1)	10,11, 12	2.5
7760	Graphic Design 4 - Graphics I (DE - MCC) (S2) – Advanced	11, 12	2.5

TV, FILM, & DIGITAL MEDIA PRODUCTION

7825/7826	Digital Media 1 & 2: Introduction to Digital Media - Honors	9,10, 11, 12	2.5/2.5
7827/7828	Digital Media 3 & 4: Intermediate Film - Honors	10, 11, 12	2.5/2.5

STUDIO ARTS

7513/7514	Art 1 & 2: Introduction to Studio Art – Honors	9, 10, 11, 12	2.5/2.5
7521/7522	Art 3 & 4: Intermediate Studio Art 2D - Honors	10, 11, 12	2.5/2.5
7523/7524	Art 3 & 4: Intermediate Studio Art 3D - Honors	10, 11, 12	2.5/2.5
7529/7530	Art 3 & 4: Intermediate Digital Photo - Honors	10, 11, 12	2.5/2.5
7543/7544	Art 5 & 6: Advanced Art - Honors	11, 12	2.5/2.5

PERFORMING ARTS
INSTRUMENTAL MUSIC

Intro-Level Music Classes	Concert & Marching Band	Piano	Guitar	Percussion Ensemble	Music in TV & Film	Music in Our Lives
Intermediate Advanced Level Music Classes	Concert & Marching Band (years 2,3,4)	Modern Music				

7139/7140 CONCERT & MARCHING BAND (FY) (W) – Honors 9, 10, 11, 12 2.5/2.5 Cr.

As a part of this course you are a part of the LHS Marching Band and Concert Band. Any students looking to learn/perform on instruments traditionally found in a concert and marching band are welcome to join. The marching band performs at local community and regional competitive events. The concert band spends time learning 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 Physical Education and Health Requirements.*

7121 PIANO & MUSIC THEORY - Honors 9, 10, 11, 12 2.5 Cr.

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.

7131 GUITAR & MUSIC THEORY - Honors 9, 10, 11, 12 2.5 Cr.

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. No prerequisites.

7133 PERCUSSION ENSEMBLE - Honors 9, 10, 11, 12 2.5 Cr.

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.

7151/7152 MODERN MUSIC (FY) – Honors 9, 10, 11, 12 2.5/2.5 Cr.

Modern Music Class is an upper level music mom 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. *PREREQUISITE: Successful completion of any other music elective.*

VOCAL MUSIC

Audition Required	Show Choir Sound Impressions (mixed group - boys and girls)	Sound Impressions Advanced (instructor permission required)
No Audition Required	Show Choir SoundSations (female-only)	

7297/7298 SHOW CHOIR: SOUNDSATIONS (Women's Ensemble) (FY) (W) - Honors

9, 10, 11, 12 2.5/2.5 Cr.

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. Meets Physical Education AND Health requirements. PREREQUISITE: None (female-only). Note: Attending evening practices and out of school performances outside of school are required. There is a financial commitment that must be met for this group through fundraising.

7299/7300 SHOW CHOIR: SOUND IMPRESSIONS (Mixed Choir) (FY) (W) – Honors
9, 10, 11, 12 2.5/2.5 Cr.

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. Meets Physical Education Requirement. PREREQUISITE: Audition. Note: Attending evening practices and out of school performances outside of school is required. There is a financial commitment that must be met for this group through fundraising.

7301/7302 SHOW CHOIR: SOUND IMPRESSIONS ADVANCED (Mixed Choir) (FY) (W) - Honors
10, 11, 12 2.5/2.5 Cr.

Sound Impressions Advanced is a co-curricular class for Advanced Show Choir students, which includes after-school and evening rehearsals. Meets Physical Education AND Health Requirements. PREREQUISITE: Audition and teacher recommendation. Note: Attending evening practices and out of school performances outside of school is required. There is a financial commitment that must be met for this group through fundraising.

MUSIC THEORY

7355/7356 MUSIC THEORY (FY) – Honors 11, 12 2.5 Cr.

Advanced Music Theory will develop your ability to recognize, understand, and describe basic materials and processes of music that are heard or presented music. In this course we will:
Acquire an understanding of music theory from a historical perspective by developing and strengthening aural skills, sight-singing skills, written skills, compositional skills, and analytical skills through the use of listening, performing, writing, creative, and analytical exercises.
Master the fundamental elements and terminology of music, including hearing and notating pitches, intervals, scales and keys, chords, meter, and rhythm.
Strengthen reading and writing skills. The ability to read and write musical notation is essential to this course and it is strongly recommended that the student have acquired at least a basic performance skill set in voice or an instrument. *PREREQUISITE: Successful completion of any 2 instrumental music classes and permission of instructor.*

7161/7162 Music In Our Lives 9, 10, 11, 12 2.5/2.5

What comes to mind when you hear the word 'music'? Do you think about your favorite band or artist? In this course, you'll learn about how we hear music; how music affects our lives; essential elements of music like rhythm, pitch, and harmony; different musical genres; singing and your voice; various instruments; music composition; and the history and culture of music over the years. This elective course will expose you to a range of musical styles and ideas without a performance requirement. No Prerequisite.

7163/7164 Music in Television & Film 9, 10, 11, 12 2.5/2.5

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. There is no performance requirement and this course is open to all students.

THEATER

Intro-Level Theater Classes	Theater 1/2	Theater Design
Intermediate-Level Theater Classes	Theater 3/4	
Advanced-Level Theater Classes	Theater 5/6 Drama Fest	

7411/7412 THEATER 1: INTRODUCTION TO THEATER - Honors 9, 10, 11, 12 2.5/2.5 Cr.
THEATER 2: BEGINNING THEATER - Honors

Theater 1 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 for the class and complete quarterly projects. Actors will focus on enhancing their skills through improvisation, scene work, and monologues.

Theater 2 is a continued exploration of the dramatic and theatrical arts. 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 and complete quarterly projects. Actors will focus on enhancing their skills through improvisation, scene work, and monologues.

7413 THEATER 3: INTERMEDIATE THEATER - Honors 10, 11, 12 /2.5 Cr.

Theater 3 is a performance-based course. Students further their dramatic technique through workshop exercises and dramatic techniques in acting from improvisation to play production. Students will perform skits, scenes, and plays to enjoy the experience of acting. Actors hone in on their prior acting skills and develop different characters.

7414 THEATER 4: INTERMEDIATE THEATER - Honors 10, 11, 12 /2.5 Cr.

Theater 4 is a performance-based course in which students continue to develop their dramatic technique through workshop exercises and dramatic techniques in acting from improvisation to play production. Students will additionally be introduced to the art of directing, and will collaboratively create an original play that will be performed for each of the other sections of theatre classes.

7415/7416 THEATER 5 & 6: ADVANCED THEATER | DRAMA FEST PRACTICUM 11, 12 2.5 Cr.

The Massachusetts High School Drama Festival is a competitive program that 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 theatre. 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. ***PREREQUISITES: Successful completion of 7411/7412 Theater 1 & 2: Introduction To Theater AND Theater 3 & 4: Intermediate Theater and recommendation of the teacher and/or Department Chair OR successful completion of Theatre 1 & 2, Theatre 3 & 4, or Theatre Design, plus the recommendation of the teacher. A small number of design/technical theatre students will be allowed in the class to fulfill the role of stage manager and provide technical/design support. Note: Attending after school rehearsals, in school performances, and out of school performances is required.***

7425/7426 THEATER DESIGN – Honors 9, 10, 11, 12 2.5/2.5 Cr.

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 theatre 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.

Intro-Level Dance Classes	Dance 1/2	
Intermediate-Level Dance Classes*	Dance 3/4	
	Advanced Dance	*articulation agreement with MCC
Advanced-Level Dance Classes	Senior Dance Project	

7905/7906 DANCE 1 & 2: MODERN AND JAZZ TECHNIQUE (W) - Honors
9, 10, 11, 12 2.5/2.5 Cr.

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 Physical Education and Health Requirement.*

7907/7908 DANCE 3 & 4: TECHNIQUE AND COMPOSITION (W) - Honors
10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of 7905/7906 Dance 1&2: Modern and Jazz Technique. Meets Physical Education and Health Requirement.***

7953/7954 Dance 5 & 6: ADVANCED DANCE STUDIES (W) - Honors

11, 12 2.5/2.5 Cr.

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. ***PREREQUISITES: Successful completion of 7905/7906 Dance 1 & 2: Modern and Jazz Technique AND Dance 3 & 4: Technique and Composition (minimum grade of 75) and recommendation of the teacher and/or Department Chair. Meets Physical Education and Health Requirement.***

7983/7984 Dance 7 & 8: SENIOR DANCE PROJECT - Honors 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Advanced Dance Studies and Choreography and recommendation of the teacher and/or Department Chair. Meets Physical Education and Health Requirement***

7991/7992 Unified Dance – Non-Weighted 11,12 2.5/2.5 Cr

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. **Prerequisite: Letter of recommendation and Department Head approval.**

VISUAL ARTS

	STUDIO ART	FILM/DIGITAL MEDIA	GRAPHIC DESIGN
Introductory Fine Art Classes (no prerequisite)	Art 1&2: Introduction to Studio Art	Digital Media 1&2: Introduction to Digital Media	Graphic Design 1&2: Introduction to Graphics
Intermediate Fine Art Classes (prerequisite: must take any art 1&2)	Art 3 & 4: Intermediate Studio Art 2D Art 3 & 4: Intermediate Studio Art 3D Art 3 & 4: Intermediate Digital Photo	Digital Media 3&4: Intermediate Film	Graphic Design 3&4: Intermediate Graphic Design
Advanced Fine Art Classes (prerequisite: must take at least one art 1&2 and one art 3&4)	Art 5&6: Advanced Art		

STUDIO ARTS

7513/7514 ART 1 & 2: INTRODUCTION TO ART- Honors 9, 10, 11, 12 2.5 / 2.5 Cr.

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.

7521/7522 ART 3&4: INTERMEDIATE STUDIO ART 2D - Honors 10, 11, 12 2.5 / 2.5 Cr.

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. ***Prerequisite: Completion of Introduction to Art I & II***

7523/7524 ART 3&4: INTERMEDIATE STUDIO ART 3D - Honors 10, 11, 12 2.5 / 2.5 Cr.

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. ***Prerequisite: Completion of Introduction to Art I & II***

7529/7530 ART 3&4: DIGITAL PHOTO - Honors 10, 11, 12 2.5 / 2.5 Cr.

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. ***Prerequisite: Completion of Introduction to Art I & II***

7543/7544 ART 5 & 6: ADVANCED ART - Honors 11, 12 2.5 / 2.5 Cr.

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. ***PREREQUISITE: Successful completion of Introduction to Art I & II <u>and</u> at least two intermediate-level art classes***

TV, FILM, & MEDIA PRODUCTION

7825/7826 DIGITAL MEDIA 1&2: INTRODUCTION TO DIGITAL MEDIA 9, 10, 11, 12 2.5 / 2.5 Cr.

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. No prerequisite.

7827/7828 DIGITAL MEDIA 3&4: INTERMEDIATE FILM 10, 11, 12 2.5 / 2.5 Cr.

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. ***PREREQUISITE: Introduction to Digital Media or Introduction to Art***

GRAPHIC DESIGN

7747/7748 GRAPHIC DESIGN 1&2: INTRODUCTION TO GRAPHIC DESIGN – Honors
9, 10, 11, 12 2.5/2.5 Cr.

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.

7758 GRAPHIC DESIGN 3: INTERMEDIATE GRAPHIC DESIGN – Honors
10, 11, 12 2.5 Cr.

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. ***PREREQUISITE: Successful Completion of Introduction to Graphic Design 1&2***

7760 GRAPHIC DESIGN 4: GRAPHICS I (EC - MCC) – Advanced 10, 11, 12 2.5 Cr.

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. ***PREREQUISITE: Successful completion of Graphic Design 3 with a grade of 80, a score of 480 or better on the PSAT or SAT verbal test, and a formal teacher recommendation from their current Graphic Design 1&2 teacher.***

U. S. AIR FORCE JUNIOR ROTC
AEROSPACE SCIENCE

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*.

9321/9322	AFJROTC 1 - Aviation History (W) - Honors	9, 10, 11, 12	2.5/2.5
9323/9324	AFJROTC 2 - Science of Flight (W) - Honors	10, 11, 12	2.5/2.5
9325/9326	AFJROTC 3 - Life Skills/Careers (W) - Honors	11, 12	2.5/2.5
9327/9328	AFJROTC 4 - Management/Cadet Corps (W) - Honors	12	2.5/2.5
9337/9338	AFJROTC 4 - Principles of Management (W) - Honors	12	2.5/2.5
9351/9352	AFJROTC - Flight Commander (W) - Honors	11, 12	2.5/2.5
9381	AFJROTC - Cadet Leadership Course - Non-Weighted	10, 11, 12	2.5

AEROSPACE SCIENCE
(AFJROTC)

9321/9322 AFJROTC 1 - AVIATION HISTORY (W) - Honors 9, 10, 11, 12 2.5/2.5 Cr.

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.)*

9323/9324 AFJROTC 2 - SCIENCE OF FLIGHT (W) - Honors 10, 11, 12 2.5/2.5 Cr.

Science of Flight Focuses on communication skills, writing, and public speaking. Cadets are further challenged in their leadership development through courseware 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.*

9325/9326 AFJROTC 3 - LIFE SKILLS/CAREERS (W) - Honors 11, 12 2.5/2.5 Cr.

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*

9337/9338 AFJROTC 4 - PRINCIPLES OF MANAGEMENT (W) - Honors 12 2.5 Cr.

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*

9327/9328 AFJROTC 4 - MANAGEMENT/CADET CORPS (W) - Honors 12 2.5/2.5 Cr.

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.*

9351/9352 AFJROTC - FLIGHT COMMANDER (W) - Honors 11, 12 2.5 / 2.5 Cr.

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.*

9381 AFJROTC - CADET LEADERSHIP - Non-Weighted 11, 12 2.5 Cr.

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*

Wellness Education

Massachusetts State Law requires all students to select physical education each year. Lowell High School students must pass ten (10) credits in Wellness/Physical Education. This requirement may be waived only by the Head of School for documented medical excuse, critical course conflicts or for extraordinary circumstances.

The Lowell High School Wellness program is aligned with the Massachusetts Comprehensive Health and Physical Education Framework and Lowell High School's Portrait of a Graduate. The mission of the Wellness dept. is to build a culture of well-being, with students making healthy choices. Wellness is an active process that helps individuals reach their optimal well-being by integrating all the dimensions of wellness into their lives: physical, social, emotional, spiritual, intellectual and occupational. Physical activity is critical to the development and maintenance of a healthy lifestyle. Students will learn the value and importance of the five health/wellness related components of physical fitness. *Muscular Strength, Muscular Endurance, Cardiovascular Endurance, Flexibility and Body Composition.* Students will also learn and develop a deeper understanding of the six domains of Portrait of a Graduate; *Mind, Heart, Spirit, Skill, Network and Leadership.* The goal of this department is to develop and teach students the knowledge, skills, and confidence to enjoy a lifetime of healthy physical activity and making healthy choices. A student who successfully completes the Wellness and Physical Education graduation requirements will be able to demonstrate a comprehensive understanding of the following Massachusetts Comprehensive Health and Physical Education Framework Practices; **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.

9151/9152	Wellness 1	9	2.5/2.5
9153/9154	Wellness 2	9R,10	2.5/2.5
9161	Sports and Fitness Fusion	11, 12	2.5
9163	Wellness and Officiating	11, 12	2.5
9171	Independent Studies & Projects	12	2.5
9111/9112	Unified Physical Education 1 & 2	11, 12	2.52.5
9011	Health Education 1 - Non Weighted	11, 12	2.5
9012	Health Education 2 - Non Weighted	11, 12	2.5

Wellness

9151/9152 Wellness 1- Non-Weighted 9 (FA) 2.5 / 2.5 Cr.

Wellness 1 is a grade 9 (FA) requirement. This course is aligned with both the Massachusetts Comprehensive Health and Physical Education Framework and Lowell High School's Portrait of a Graduate. Wellness is a co-educational program that integrates health and fitness. Students will learn about the physical aspects of the health triangle, including current health content and related personal skills and goal setting. Further learning experiences include the learning about the development and function of the human body and its systems, human sexuality (including male and female reproductive anatomy, contraception, sexually transmitted diseases, and consent), the principles of human movement, personal fitness, intro to strength training, mindfulness, nutrition, introduction to addictive substances, communication, decision-making, lifelong leisure activities, community building and an introduction to team sports. Students will learn a combination of fundamental skills and concepts that encourage them to make healthy choices and live a life full of physical activity. The completion of Wellness 1 satisfies a health and physical education requirement.

9153/9154 Wellness 2 - Non-Weighted 10 2.5 / 2.5 Cr.

Wellness 2 aligns with the Massachusetts Comprehensive Health and Physical Education Framework 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 the Healthy Life Choices curriculum, which delves into Social, Emotional, and Environmental Health. Social Health topics encompass discussions on dating, fostering healthy relationships, bullying prevention, effective interpersonal skills based on The 7 Habits of Highly Effective People,and understanding social media and Internet safety. 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.

9161 Sports and Fitness Fusion - Non Weighted 11,12 2.5

Sports & Fitness Fusion is a course that aligns with the Massachusetts Comprehensive Health and Physical Education Framework 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 pickle ball) 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.

9163 Wellness and Officiating- Non-Weighted 12 2.5

This course aligns with the Massachusetts Comprehensive Health and Physical Education Framework 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 this component of Wellness and Officiating fulfills the physical education requirement.

9171 Independent Studies and Projects - Honors 12 2.5

All independent studies and projects must be approved by the teacher of record and the department chair. This course aligns with the Massachusetts Comprehensive Health and Physical Education Framework. Wellness independent studies or projects could span a wide range of activities, from physical fitness programs to mental health initiatives, aligning with the comprehensive approach of the Wellness department and encompassing the six domains of the Portrait of a Graduate: Mind, Heart, Spirit, Skill, Network, and Leadership. These projects aim to empower students with the knowledge, skills, and confidence to make informed, healthy choices while actively engaging with the various dimensions of wellness. The successful completion of this component of Wellness and Officiating: Exploring Independent Studies/Projects fulfills the physical education requirement.

9111/9112 Unified Physical Education - Non-Weighted 11, 12 2.5

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. Prerequisite: Letter of recommendation and Department Head approval.

HEALTH

9011 Health 1 - Health in Mind and Body – Non-Weighted 11,12 2.5

The emphasis for this course is placed on building knowledge for a healthier body, both now and in the future. We focus on the health triangle and explain how we are a combination of social, emotional, and physical health. The focus of other units will be on the physical aspects of the health triangle and will include the human body and its systems, nutrition, introduction to addictive substances, and human sexuality (including male and female reproductive anatomy, contraception, sexually transmitted diseases, and consent). This course is aligned with the Massachusetts Comprehensive Health Curriculum framework, and satisfies a Health Education requirement.

9012 Health 2 - Healthy Life Choices - Non-Weighted 11,12 2.5

This course focuses on issues and challenges that young adults face today, specifically on the social and emotional aspects of the health triangle (see description above in Health A). Students will analyze their personal health choices and risk factors based on their decision-making skills through the Healthy Life Choices curriculum which is composed of the following units: Social Health, Emotional Health, and Environmental Health. Topics in Social Health will include: dating and healthy relationships, bullying prevention, 7 habits of highly effective people, social media and Internet safety. Mental and Emotional Health will focus on: anxiety disorders, personality development, expressing emotions, stress management, and mental health services, and Environmental Health will cover: pollution and its effect on health, practicing recycling and conservation. The course also involves the opportunity to process and discuss health topics with the aid of videos, speakers, and current literature. This course is aligned with the Massachusetts Comprehensive Health Curriculum frameworks, and satisfies 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 PE Equivalent classes will move into a Wellness Program integrating 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

7905/7906	Dance 1 & 2: Modern & Jazz Technique (W) - Honors	9, 10, 11, 12	2.5/2.5
7907/7908	Dance 3 & 4: Technique & Composition (W) - Honors	10, 11, 12	2.5/2.5
7953/7954	Advanced Dance Studies & Choreography - Honors	11, 12	2.5/2.5
7983/7984	Senior Dance Project (W) – Honors	12	2.5/2.5
7297/7298	Show Choir Soundsations (All Female) (W) – Honors	9, 10, 11, 12	2.5/2.5
7299/7300	Show Choir Sound Impressions (Mixed Choir) (W)- Honors	9, 10, 11, 12	2.5/2.5
7301/7302	Show Choir Sound Impressions Advanced (W) – Honors	10,11,12	2.5/2.5
7139/7140	Concert & Marching Band (FY) (W) – Honors	9, 10, 11, 12	2.5/2.5
9321/9322	AFJROTC 1 - Aviation History (W) – Honors	9, 10, 11, 12	2.5/2.5
9323/9324	AFJROTC 2 - Science of Flight (W) – Honors	10, 11, 12	2.5/2.5
9325/9326	AFJROTC 3 - Life Skills/Careers (W) – Honors	11, 12	2.5/2.5
9327/9328	AFJROTC 4 - Management/Cadet Corps (W) – Honors	12	2.5/2.5
9337/9338	AFJROTC 4 - Principles of Management (W) – Honors	12	2.5/2.5
9351/9352	AFJROTC - Flight Commander (W) – Honors	11, 12	2.5/2.5

All independent studies and projects must be approved by the teacher of record and the department chair. This course aligns with the Massachusetts Comprehensive Health and Physical Education Framework. Wellness independent studies or projects could span a wide range of activities, from physical fitness programs to mental health initiatives, aligning with the comprehensive approach of the Wellness department and encompassing the six domains of the Portrait of a Graduate: Mind, Heart, Spirit, Skill, Network, and Leadership. These projects aim to empower students with the knowledge, skills, and confidence to make informed, healthy choices while actively engaging with the various dimensions of wellness. <u>The successful completion of this component of Wellness and Officiating: Exploring Independent Studies/Projects fulfills the physical education requirement.</u>

MULTILINGUAL EDUCATION

ENGLISH AS A SECONDARY LANGUAGE – ESL

0701/0702	ESL 1- College	9,10,11,12	5/5
0703/0704	ESL 2- College	9,10,11,12	5/5
0705/0706	ESL 3 - College	9,10,11,12	5/5
0707/0708	ESL 4 - College	9,10,11,12	5/5
0709/0710	ESL 5 - College	9,10,11,12	5/5

ENGLISH LANGUAGE DEVELOPMENT – ELD

0865/0866	The Sounds of English - College	9,10,11,12	2.5/2.5
0911/0912	Beginning Reading and Writing - College	9,10,11,12	2.5/2.5
0913/0914	Intermediate Reading and Writing - College	9,10,11,12	2.5/2.5
0915/0916	Advanced Reading and Writing - College	9,10,11,12	2.5/2.5
0931/0932	Tutorial/Study Skills - College	9,10,11,12	2.5/2.5

MATHEMATICS

1027/1028	Introduction to Mathematics - College	9,10,11,12	2.5/2.5
1137/1138	Algebra 1 - College	9, 10	2.5/2.5
1237/1238	Geometry - College	10, 11, 12	2.5/2.5

SCIENCE

3027/3028	Introduction to Science - College	Dept. Head Approval	2.5/2.5
3137/3138	Integrated Science - College	9, 10	2.5/2.5
3237/3238	Biology - College	10, 11, 12	2.5/2.5
3347/3348	Biochemistry - College	10, 11, 12	2.5/2.5

SOCIAL STUDIES

4091/4092	Introduction to World Studies - College	Dept. Head Approval	2.5/2.5
4137/4138	World History - College	9	2.5/2.5
4191/4192	American Customs - College	9, 10, 11, 12	2.5/2.5
4235/4236	Introduction to U.S. History	10, 11, 12	2.5/2.5
4237/4238	U. S. History 1 - College	10, 11, 12	2.5/2.5
4337/4338	U. S. History 2 - College	11, 12	2.5/2.5

MULTILINGUAL LEARNERS

The prerequisites for the following course descriptions are NOT the sole criteria for placement in MLE courses. Department Chair and/or teacher recommendations, departmental assessments, standardized test scores, and students' previous academic records are also considered.

ENGLISH AS A SECONDARY LANGUAGE (ESL)

0701/0702 ESL 1 - College 9, 10, 11, 12 5/5 Cr.

ESL 1 is for students with little or no English proficiency. EL students at this level follow a curriculum that includes listening, speaking, reading, and writing as outlined in the WIDA CAN DO Descriptors and/or the WIDA Model Test. Basic interpersonal communicative skills in English are emphasized, while simultaneously introducing cognitive academic language proficiency skills. This course satisfies an English graduation requirement. ***PREREQUISITE: A pretest indicating no or very limited English proficiency***

0703/0704 ESL 2 - College 9, 10, 11, 12 5/5 Cr.

ESL 2 is for students with some English proficiency. EL students at this level follow a curriculum that includes listening, speaking, reading, and writing as outlined in the WIDA CAN DO Descriptors and/or the WIDA Model Test. Basic interpersonal communicative skills in English are emphasized, while simultaneously introducing cognitive academic language proficiency skills. This course satisfies an English graduation requirement. ***PREREQUISITE: A pretest indicating very limited English proficiency****.*

0705/0706 ESL 3 - College 9, 10, 11, 12 5/5 Cr.

ESL 3 is for students with limited English proficiency. EL students at this level follow a curriculum that includes listening, speaking, reading, and writing as outlined in the WIDA CAN DO Descriptors and/or the WIDA Model Test. This course satisfies an English graduation requirement.

Further development of English proficiency for both interpersonal communication and academic use is emphasized through the use of projects, computer-based instruction and content-based material. This course satisfies an English graduation requirement. ***PREREQUISITE: A pretest indicating limited English proficiency, successful completion of course, ESL 2, and/or other considerations approved by the Department Head.***

0707/0708 ESL 4 - College 9, 10, 11, 12 5/5 Cr.

ESL 4 is for students with advanced English proficiency. EL students at this level follow a curriculum that includes listening, speaking, reading, and writing as outlined in the WIDA CAN DO Descriptors and/or the WIDA Model. Knowledge and control of basic grammatical structures in both speaking and writing are emphasized, while more complex grammatical structures are introduced. Students are expected to handle increasingly complex reading materials and academic tasks, through the continued use of projects, computer-based instruction, and content-based material. This course satisfies an English graduation requirement. ***PREREQUISITE: A pretest indicating limited English proficiency, successful completion of*** **course, ESL 3, and/or other considerations approved by the Department Head.**

0709/0710 ESL 5 - College 9, 10, 11, 12 5/5 Cr.

ESL 5 is for students transitioning to everyday use of the English Language. EL students at this level follow a curriculum that includes the standards as outlined in the Massachusetts English Language Arts Curriculum and the WIDA CAN DO Descriptors and/or the WIDA Model Test. Reviews of grammatical skills, techniques of composition and vocabulary development are supplemented by instruction in the skills of expository and creative writing. A survey of the forms of literature presented in mainstream college level courses is an integral part of the course. This includes mythology, the novel, short story, drama, poetry and non-fiction essays, biography, and autobiography. This course satisfies an English graduation requirement. ***PREREQUISITE: A pretest indicating limited English proficiency, successful completion of course, ESL 4, and/or other considerations approved by the Department Head.***

ENGLISH LANGUAGE DEVELOPMENT (ELD)

0911/0912 BEGINNING READING & WRITING Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

This course provides extra writing and reading practice for beginning English Learners at the Entering and low-Emerging language proficiency levels (WIDA Access scores ＜ 1.3). The course will use picture stories to promote vocabulary development and sentence comprehension. Students will demonstrate achievement of the course's learning objectives through the skills featured in the Entering level of Performance "Can-Do Descriptors" of the WIDA standards. ***PREREQUISITE: Enrollment in ESL 1, ESL 2 or Department Head approval.***

0865/0866 THE SOUNDS OF ENGLISH - College 9,10,11,12 2.5/2.5 Cr.

Throughout the course, students will develop phonemic awareness. That is, they will improve their ability to focus on and manipulate individual sounds of the English language, with an emphasis on those sounds that do not appear in their native languages. In addition, they will practice to master over a dozen lists of sight words. ***PREREQUISITE: Enrollment in ESL 1, ESL 2 or Department Head approval.***

0913/0914 INTERMEDIATE READING AND WRITING – College 9, 10, 11, 12 2.5/2.5 Cr.

Intermediate Reading and Writing is a basic reading and writing course for identified EL students who need specialized reading and writing instruction. An eclectic approach to word attack skills will enable students to learn to read for information as well as pleasure. A practical approach to reading and writing skills, such as determining meaning from context, skimming and scanning, will be combined with activities designed to enhance pleasure in reading and writing as lifelong activities. The course will also focus on writing paragraphs for various purposes: description, narration, summary, comparison, contrast, and argument. Reading and writing journals and book conferences will be included, and the use of computers for writing will be emphasized. ***PREREQUISITE: Enrollment in ESL 3, recommendation by ESL teacher and/or ~~the~~ Department Head approval.***

0915/0916 ADVANCED READING AND WRITING – College 9,10, 11, 12 2.5/2.5 Cr.

Advanced Reading and Writing is identified for students who need specialized reading and writing instruction. An eclectic approach to word attack skills will enable students to learn to read for information as well as pleasure. A practical approach to reading and writing skills, such as determining meaning from context, skimming and scanning, will be combined with activities designed to enhance pleasure in reading and writing as lifelong activities. The course will also focus on writing paragraphs for various purposes: description, narration, summary, comparison, contrast, and argument. Reading and writing journals and book conferences will be included, and the use of computers for writing will be emphasized. ***PREREQUISITE: Enrollment in ESL 4, ESL 5, recommendation by ESL teacher and/or ~~the~~ Department Head approval.***

0931/0932 TUTORIAL/STUDY SKILLS - College 9, 10, 11, 12 2.5/2.5 Cr.

Tutorial/Study Skills is for ELL students who require extra academic support to succeed in their classes. Study and organizational skills are taught using the content of the student's regular academic classes and learning style. Students are required to bring daily work and long-term assignments to class at every scheduled session. Class size is limited to no more than 15 students per section. ***PREREQUISITE: Enrolled in ELL courses and/or recommendation of Department Head.***

MATHEMATICS

1027/1028 INTRODUCTION TO MATHEMATICS - College 9, 10, 11 2.5/2.5 Cr.

Introduction to Mathematics is an introduction to algebra integrated with a review of immediately pertinent prerequisite skills. The course includes the material of the Massachusetts Mathematics Framework in preparation for the MCAS. It includes constants and variables, functions, open phrases and sentences, postulates, and properties of real numbers and linear equations. ***PREREQUISITE: Department Head Approval***

1137/1138 ALGEBRA 1 - College 10, 11, 12 2.5/2.5 Cr.

Algebra 1 introduces standard topics of algebra including constants and variables, functions, open phrases and sentences, postulates and properties of real numbers, linear equations, signed numbers, operations with polynomials, word problems leading to linear equations, and factoring.

1237/1238 GEOMETRY - College 10, 11, 12 2.5/2.5 Cr.

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. Transformations are studied; properties and measurements of polygons and circles are included. ***PREREQUISITE: Successful completion of one year of high school math, covering topics included in Algebra 1 or Department Head Approval.***

SCIENCE

3027/3028 INTRODUCTION TO SCIENCE College Dept. Head Approval 2.5/2.5 Cr.

Introduction to Science develops language proficiencies that are necessary for learners to perform successfully in academic contexts, specifically in the content area of Science. Instruction concentrates on the acquisition of academic vocabulary and developing oral academic discourse proficiency. Students learn to use specialized vocabulary, grammar, language functions, related discourse structures, and text types. ***PREREQUISITE: Department Head Approval***

3137/3138 INTEGRATED SCIENCE - College 9, 10 2.5/2.5 Cr.

Integrated 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. The course will also cover the cell and cell functions including photosynthesis and cellular respiration. 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. ***PREREQUISITE: Department Head Approval***

3237/3238 BIOLOGY - College 10, 11, 12 2.5/2.5 Cr.

Biology provides students a basic understanding of the scientific processes that make up the unified principles of life. Topics include cellular physiology and function, DNA and protein synthesis, cell reproduction, genetics, anatomy and physiology, evolution and ecology. Emphasis is placed on the diversity and unity of the living world, genetic continuity, and changes in organisms over time. ***PREREQUISITE: Department Head Approval***

3347/3348 BIOCHEMISTRY - College 11, 12 2.5/2.5 Cr.

Biochemistry focuses on the interplay between chemistry and the biological molecules that make life possible, and how these molecules interact. ***PREREQUISITE: Department Head Approval***

SOCIAL STUDIES

4091/4092 INTRODUCTION TO WORLD STUDIES - College 9, 10 2.5/2.5 Cr.

Introduction to World Studies is a course that provides students with a multidisciplinary and global perspective on various aspects of the world, including its geography, history, cultures, societies, economies, and environments. This course aims to provide foundational knowledge, foster critical thinking, cultural awareness, and a broad understanding of various countries and cultures. This course satisfies the World History graduation requirement. ***PREREQUISITE: Enrollment in ESL 1, ESL 2 or Department Head approval.***

4137/4138 WORLD HISTORY - College 9, 10 2.5/2.5 Cr.

World History begins with a review of the fall of Rome and ends with the Late Middle Ages. 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.

4191/4192 AMERICAN CUSTOMS - College 9, 10, 11, 12 2.5/2.5 Cr.

American Customs acclimates the student to the customs and norms of American culture and manners in various settings. Students will bring their own experiences and cultures into the class to enhance conversations and promote dialogue of culture and etiquette. The class will discuss topics, such as expressing emotions, dealing with different kinds of people, and other interesting aspects of American life. Students will engage in project-based learning and must be able to engage in basic English conversation in order to enroll in this course. ***PREREQUISITES: Successful completion of ESL 1 and ESL 2.***

4235/4236 INTRODUCTION TO U.S. HISTORY - College 10, 11, 12 2.5/2.5 Cr.

Introduction to U.S. History is a course that provides students with foundational knowledge on major events in the history of the United States with an emphasis on the American Revolution, the Constitution, Expansion, and the Civil War and Reconstruction. The course integrates history, geography, economics, and government. This course satisfies a U.S. History graduation requirement. ***PREREQUISITE: Enrollment in ESL 1, ESL 2 or Department Head approval.***

4237/4238 U. S. HISTORY 1 - College 10, 11, 12 2.5/2.5 Cr.

U. S. History 1 emphasizes the major events in the history of the United States from the American Revolution to the Civil War and Reconstruction. 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.***

4337/4338 U. S. HISTORY 2 - College 11, 12 2.5/2.5 Cr.

US History 2 covers the history of the United States from the Industrial Revolution through the 1920's. Students study the effects of the free enterprise system and look at the Constitutional issues involved in government regulation of big business. They also examine American foreign policy as the U.S. becomes involved in international events. The course, designed in accordance with the Massachusetts Curriculum Frameworks, integrates history, geography, economics, and government. This course satisfies a U.S. History and Civics graduation requirement. ***PREREQUISITE: Successful completion of U.S. History 1 or Department Head Approval.***

NATIVE LANGUAGE ARTS

Native Language Arts courses are offered in Spanish through the Foreign Language Department as Heritage Speaker courses.

2503/2504 SPANISH 1 - HERITAGE SPEAKER - Honors 9, 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Placement through exam or consultation with the Department Head.***

2507/2508 SPANISH 2 - HERITAGE SPEAKER - Honors 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Successful completion of Spanish 1 - Heritage Speaker.***

2651/2652 PORTUGUESE 1 - HERITAGE SPEAKER - Honors 9, 10, 11, 12 2.5/2.5 Cr.

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. ***PREREQUISITE: Placement through exam or consultation with the Department Head***

2653/2654 PORTUGUESE 2 HERITAGE SPEAKER- Honors 10, 11, 12 2.5/2.5 Cr.

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 the eight Portuguese-speaking nations (Angola, Brasil, Cabo Verde, Guiné Bissau, Moçambique, Portugal, São Tomé & Principe, and Timor Leste) and some territories such as Macau and Goa.

The model will be a combination of traditional and nontraditional (experiential-based) and all participants will be exposed to proven language learning strategies. **PREREQUISITE: Placement through exam or consultation with the Department Head.**

SPECIAL EDUCATION PROGRAM

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.

DEPARTMENT SUPPORT

6813 SPECIAL EDUCATION AIDE - Honors 11, 12 2.5 Cr.

Aides offered by the Special Education Department provide valuable opportunities for students wishing to explore a career in the Special Education field. Students have the opportunity to be placed in classrooms with teachers and/or specialists overseeing their experience in working students who have intensive special needs, students with autism, and students who have intellectual disabilities. In addition, students wishing to specialize in Speech and Language, Occupational Therapy and/or Physical Therapy have the opportunity to work with these specialists. Students are also expected to be role models for the special needs students. All candidates must present themselves to the Special Education Department Chair and complete an interview process to determine eligibility.

FUNDAMENTAL COURSES

Students in Fundamental courses are working towards a high school diploma including the successful completion of the standard MCAS exam.

ENGLISH

8001/8002	English 1 (SP) - College	9	2.5/2.5
8055/8056	American Experience (SP) - College	10, 11	2.5/2.5
8007/8008	English 4 (SP) - College	12	2.5/2.5

LITERACY SUPPORT

8063/8064	Literacy (SP) - Non-Weighted	9, 10, 11, 12	2.5/2.5

MATH

8101/8102	Foundations of Algebra 1(SP) - College	9	2.5/2.5
8109/8110	Algebra 1 (SP) - College	9,10, 11, 12	2.5/2.5
8105/8106	Geometry (SP) - College	10, 11, 12	2.5/2.5
8151/8152	Financial Math (SP) - College	11, 12	2.5/2.5

SCIENCE

8301/8302	Science (SP) - College	9	2.5/2.5
8303/8304	Biology 1 (SP) - College	10	2.5/2.5
8305/8306	Biology 2 (SP) - College	11	2.5/2.5

SOCIAL STUDIES

8401/8402	Topics in World History (SP) - College	9	2.5/2.5
8403/8404	Topics in US History (SP) - College	10	2.5/2.5
8407/8408	Struggles for Equality (SP) - College	11	2.5/2.5

TRANSITIONAL SUPPORT

8557/8558	Transitional Seminar (SP) - College	10, 11, 12	2.5/2.5

ENGLISH

8001/8002 ENGLISH 1 (SP) - College 9 2.5/2.5 Cr.

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. Student 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.

8055/8056 AMERICAN EXPERIENCE (SP) - College 10, 11 2.5/2.5 Cr.

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 skill along with strategies to further develop skills in reading, speaking, and writing.

8007/8008 ENGLISH 4 (SP) - College 12 2.5/2.5 Cr.

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.

LITERACY SUPPORT

8063/8064 LITERACY (SP) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

MATH

8101/8102 FOUNDATIONS OF ALGEBRA (SP) - College 9 2.5/2.5Cr.

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.

8109/8110 ALGEBRA 1 (SP) - College 9,**10, 11, 12 2.5/2.5 Cr.**

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 solution of quadratic equations, expressions, and graphing. Some Geometry standards will also be introduced to prepare students for the MCAS.

8105/8106 GEOMETRY (SP) - College 10, 11, 12 2.5/2.5 Cr.

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.

8151/8152 FINANCIAL MATH (SP) - College 11, 12 2.5/2.5 Cr.

Financial Math is for students that have passed Algebra I and Geometry**. Students** will be able to explore real-life Math applications. 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.

SCIENCE

8301/8302 SCIENCE (SP) - College 9 2.5/2.5 Cr.

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.

8303/8304 BIOLOGY 1 (SP) - College 10 2.5/2.5 Cr.

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.

8305/8306 BIOLOGY 2 (SP) - College 11, 12 2.5/2.5 Cr.

Biology 2 provides a further in depth study of ecology, systems of the human body, diversity of living organisms, including viruses, bacteria, protest, fungi, plants, sponges, worms, mollusks, arthropods, echinoderms, fishes, amphibians, reptiles, birds, mammals, and animal behavior.

SOCIAL STUDIES

8401/8402 TOPICS IN WORLD HISTORY (SP) - College 9 2.5/2.5 Cr.

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.

8403/8404 TOPICS IN US HISTORY 1 (SP) - College 10 2.5/2.5 Cr.

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.

8407 STRUGGLES FOR EQUALITY A (SP) - College 11 2.5 Cr.

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.

8408 STRUGGLES FOR EQUALITY B (SP) - College 11 2.5 Cr.

Struggles For Equality B 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.

TRANSITIONAL SUPPORT

8557/8558 TRANSITIONAL SEMINAR (SP) – College 10, 11, 12 2.5/2.5 Cr.

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 opportunity to integrate and generalize the skills taught, and will increase their capacity to assimilate into the community.

SUPPORT COURSES

8851/8852	Instructional Support 1 - Non-Weighted	9	2.5/2.5
8853/8854	Instructional Support 2 - Non-Weighted	9 non-clustered, 10	2.5/2.5
8855/8856	Instructional Support 3 - Non-Weighted	11	2.5/2.5
8857/8858	Instructional Support 4 - Non-Weighted	12	2.5/2.5
8859/8860	Instructional Support (HI) - Non-Weighted	9, 10, 11, 12	2.5/2.5

8851/8852 INSTRUCTIONAL SUPPORT 1 - Non-Weighted 09 2.5/2.5 Cr.

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 take the MCAS tests required for high school graduation.

8853/8854 INSTRUCTIONAL SUPPORT 2 - Non-Weighted 10 2.5/2.5 Cr.

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 take the MCAS tests required for high school graduation.

8855/8856 INSTRUCTIONAL SUPPORT 3 - Non-Weighted 11 2.5/2.5 Cr.

Instructional Support 3 focuses on preparing students for independent functioning and using self-advocacy strategies to access the curriculum and navigate the school environment. Through direct instruction, scripts/role play and guided assistance, the special education teacher assists the students in time management tasks, approaching teachers and other support personnel and monitoring their progress in class. Discussions about career goals and plans for life after high school begin to take shape as students explore resources for part time employment opportunities, career options, and skills needed for independence such as obtaining a driver's license, navigating public transportation or researching college or training opportunities. This course is most appropriate for students in Grade 11.

8857/8858 INSTRUCTIONAL SUPPORT 4 - Non-weighted 12 2.5/2.5 Cr.

In Instructional Support 4, seniors refine their college/career choices and plans for life beyond high school. While some students work on passing course graduation requirements and required MCAS tests, others are busy contacting vocational training programs that do not require a high school diploma. 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. This course is most appropriate for students in Grade 12.

8859/8860 INSTRUCTIONAL SUPPORT HI - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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 take the MCAS tests required for high school graduation.

ADJUSTMENT COURSES

Students in Adjustment courses are working towards a high school diploma including the successful completion of the standard MCAS exam.

ENGLISH

8021/8022	English 1 (AD) - College	9	2.5/2.5
8023/8024	English 2 (AD) - College	10	2.5/2.5
8025/8026	English 3 (AD) - College	11	2.5/2.5
8027/8028	English 4 (AD) - College	12	2.5/2.5
8051	Literature & Contemporary Youth (AD) - College	10, 11, 12	2.5
8052	Iconic Children's Literature (AD) - College	10, 11, 12	2.5
8061/8062	Balanced Literacy (AD) - College	9	2.5/2.5

MATH

8123/8124	Algebra 1 (AD) - College	9	2.5/2.5
8125/8126	Geometry (AD) - College	10	2.5/2.5
8153/8154	Financial Mathematics & Application (AD) - College	11, 12	2.5/2.5
8129/8130	Math 4 (AD) - College	11, 12	2.5/2.5

SCIENCE

8317/8318	Explorations in Life Science (AD) – College	9	2.5/2.5
8313/8314	Biology (AD) - College	10	2.5/2.5
8330	Earth Science (AD) - College	11, 12	2.5
8331	Human Impact (AD) - College	11, 12	2.5

SOCIAL STUDIES

8411/8412	World History (AD) - College	9	2.5/2.5
8413/8414	US History 1 (AD) - College	10	2.5/2.5
8422	Geography and The United States (AD) – College	11	2.5
8423	American Foreign Policy since 1776 (AD) – College	11	2.5
8419	Know Your World (AD) - College	10, 11, 12	2.5
8420/8421	Civil Liberties (AD) - College	10, 11	2.5/2.5

SUPPORT

8543	Leadership Through Adventure (AD) - College	10, 11, 12	2.5
8547/8548	Social Dynamics 1 (AD) - College	9R, 10	2.5/2.5
8549/8550	Social Dynamics 2 (AD) - College	10R, 11	2.5/2.5
8873/8874	Instructional Support (AD) - Non-Weighted	9R, 10, 11, 12	2.5/2.5
8981/8982	Freshman Seminar (AD) – Non-Weighted	9	2.5/2.5

PHYSICAL EDUCATION

8903/8904	Physical Education (AD) - Non-weighted	9, 10, 11, 12	2.5/2.5

HEALTH

8911	Health 1 (AD) - Non-weighted	9, 10, 11, 12	2.5/2.5
8912	Health 2 (AD) - Non-weighted	9, 10, 11, 12	2.5/2.5

ENGLISH

8021/8022 ENGLISH 1 (AD) - College 9 2.5/2.5 Cr.

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.

8023/8024 ENGLISH 2 (AD) - College 10 2.5/2.5 Cr.

English 2 offers students an in-depth exploration of the various genres of literature through a survey of world literature, with a focus on short stories and the novel. Emphasis will be on the development of critical thinking skills and strategies for the purposes of improving reading, speaking, and writing. Writing will be examined for adequate development, unity, and coherence with increased attention to style, diction, and sentence variety. This course will also place a strong emphasis on MCAS preparation. This course satisfies an English graduation requirement.

8025/8026 ENGLISH 3 (AD) - College 11 2.5/2.5 Cr.

English 3 is an extensive survey of American Literature. Emphasis is placed developing writing, with a focus on sentence style and organization, paragraph development, vocabulary skills and encouraging the student to attain increasing levels of competence in mechanics, content, organization and style in various types of writing situations. This course satisfies an English graduation requirement.

8027/8028 ENGLISH 4 (AD) - College 12 2.5/2.5 Cr.

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.

8051 LITERATURE & CONTEMPORARY YOUTH (AD) - College 10, 11, 12 2.5 Cr.

Students enrolled in this English elective are inspired to independently read books on topics of their own choosing; and to select from literary genres that will invigorate their desire to read for enjoyment and self-interest. In the early part of the course, students will explore the various motivations for personal reading, as well as the multitude of benefits that come with reading a good book. In conjunction with the Lowell High School and Lowell Public Libraries, students will receive guidance on how to select genres and books that will foster enjoyable reading. The primary objective for the course is to engage students in frequent and routine independent reading. Throughout the semester, students will read self-selected books, participate in reading discussions, engage in character analysis, summarize story lines, and critique main ideas.

8052 ICONIC CHILDREN'S LITERATURE (AD) - College 10, 11, 12 2.5 Cr.

There are many beautiful and powerful Children's books that are deeply rooted in our society. The symbolism of these stories can be found in our politics, movies, adult literature, television, advertising, and in the college classroom. This course will examine a variety of children's literature with emphasis on parables, fables and allegories. The sophisticated themes and morals of these works will be analyzed and discussed by students with activities that provide text-to-life connection.

8061/8062 BALANCED LITERACY (AD) - College 9 2.5/2.5 Cr.

Balanced Literacy is an intensive reading intervention program designed to meet the needs of 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.

MATH

8123/8124 ALGEBRA 1 (AD) - College 9 2.5/2.5 Cr.

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.

8125/8126 GEOMETRY (AD) - College 10 2.5/2.5 Cr.

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.

8153/8154 FINANCIAL MATHEMATICS (AD) - College 10R, 11, 12 2.5/2.5 Cr.

Students that have passed Algebra I and Geometry will be able to explore real-life Math applications in 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 in to 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. PREREQUISITE: Successful completion of Algebra 1 and Geometry.

8129/8130 MATH 4 - College (AD) - College 11, 12 2.5/2.5 Cr.

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.

SCIENCE

8317/8318 EXPLORATIONS IN LIFE SCIENCE (AD) - College 9 2.5/2.5 Cr.

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.

8313/8314 BIOLOGY (AD) - College 10 2.5/2.5 Cr.

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.

8330 EARTH SCIENCE (AD) - College 11, 12 2.5 Cr.

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.

8331 HUMAN IMPACT (AD) - College 11, 12 2.5 Cr.

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.

SOCIAL STUDIES

8411/8412 WORLD HISTORY (AD) - College 9 2.5/2.5 Cr.

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.

8413/8414 US HISTORY 1 (AD) - College 10 2.5/2.5 Cr.

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.

8422 GEOGRAPHY AND THE UNITED STATES (AD) - College 11 2.5 Cr.

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.**

8423 AMERICAN FOREIGN POLICY SINCE 1776 (AD) - College 11 2.5 Cr.

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.

8419 KNOW YOUR WORLD (AD) - College 10, 11, 12 2.5 Cr.

The Know Your World course will create a learning opportunity for students to explicitly engage in processes that expose them to learning about where they live (Lowell, Massachusetts, New England) and all of the rich background information derived from studying their surroundings. The course will combine research and study in the classroom with hands-on exploration during community trips and field studies. Students in the classroom will study a selected topic through a variety of medium - web based research, books, magazines, videos, maps, etc. Once completed, the class does a site visit to further the study of a topic and to immerse adjustment students in an authentic, motivating environment that builds knowledge through experiential learning.

8420/8421 CIVIL LIBERTIES (AD) - College 10, 11 2.5 /2.5 Cr.

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.

PHYSICAL EDUCATION

8903/8904 PHYSICAL EDUCATION (AD) - Non-weighted 10, 11, 12 2.5/2.5 Cr.

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 successful 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

8911 HEALTH 1 (AD) - Non-Weighted 9, 10, 11, 12 2.5 Cr.

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).

8912 HEALTH 2 (AD) - Non-Weighted 9, 10, 11, 12 2.5 Cr.

Health Education B strengthens and reviews topics and concepts introduced in Health A. It studies, in depth, such topics as wellness and complementary medicine, stress management, mental and emotional health, the environment and physical health, and the consumer and health care system. Human Sexuality issues include: relationships, gender and orientation, commitment and marriage, family life, conception through parenting, pregnancy and STI prevention, mature life, aging, and death.

SUPPORT

8543 LEADERSHIP THROUGH ADVENTURE (AD) - College 10, 11, 12 2.5 Cr.

Leadership Through Adventure engages students through various games and initiatives. Within the context of these activities, students explore the themes of effective communication, productive teamwork, creating trust, and successful problem-solving. Participants work collaboratively to develop and utilize strategies to accomplish the tasks and goals of presented challenges. Students will evaluate and debrief adventure activities in order to make connections to effective leadership. This course utilizes both low and high energy activities and is primarily based outdoors.

8547/8548 SOCIAL DYNAMICS 1 (AD) - Non-Weighted 9R, 10 2.5/2.5 Cr.

Social Dynamics 1 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. This course is intended to be a full year course for a total of 5 credits.

8549/8550 SOCIAL DYNAMICS 2 (AD) - Non-Weighted 11, 11R 2.5/2.5 Cr.

Social Dynamics 2 builds upon the themes introduced in of Social Dynamics I, including in-depth analysis of social/emotional issues and how these issues impact everyday life. A major focus of FSD 2 is fostering greater independence and planning for life after high school. This course also introduces students to various community services and resources. In addition to group discussions and reflective writing, students will participate in authentic learning activities.

8873/8874 INSTRUCTIONAL SUPPORT (AD) - Non-Weighted 9R, 10, 11, 12 2.5/2.5 Cr.

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 take the MCAS tests required for high school graduation.

8981/8982 FRESHMAN SEMINAR (AD) - Non-Weighted 9 2.5/2.5 Cr.

Freshman Seminar provides students with an opportunity for "self-study". Throughout the year, students will explore career interests, establish goals, and explore possibilities for post-secondary pathways. This introductory course infuses a PBIS framework and develops students' organizational skills and study habits in order for them to navigate through their Freshman Year successfully. In addition, Freshman Seminar focuses on enhancing student literacy: functional literacy, digital literacy, and financial literacy.

EC-MCC: IDS110 General Education: The Choices We Make *- With a focus on Personal and Professional Development, this class is designed to assist students in identifying and understanding the choices they make and how their choices positively and negatively impact their ability to reach their academic and personal goals. Through dynamic storytelling, students will explore a variety of real-world choices and outcomes. This course is embedded in the Fall semester. (1 Credit)*

IDU106 General Education Seminar: Career Exploration *will introduce students to the main components of brainstorming, identifying, and planning for potential career paths. Additionally, students will self-assess their competency with MCC's Institutional Student Learning Outcomes (ISLOs) and engage with MCC's academic, student support and co-curricular services, along with other Lowell High School and college resources, to develop and strengthen those skills and abilities. This Course is embedded in the Spring semester. (1 Credit)*

LEAP COURSES

8065/8066	Functional Literacy (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8095/8096	Functional ELA (LEAP) - Non-Weighted	9, 10	2.5/2.5
8133/8134	Functional Math (JP) - Non-Weighted	9, 10	2.5/2.5
8155/8156	Real World Math 1 (JP) – Non-Weighted	11, 12	2.5/2.5
8161/8162	Real World Math 2 (JP) – Non-Weighted	11, 12	2.5/2.5
8315/8316	Functional Science (JP) - Non-Weighted	9, 10	2.5/2.5
8507/8508	Pre-Vocational Education (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8515/8516	Vocational Education (JP) – Non Weighted	11, 12	2.5/2.5
8441/8442	R.A.I.S.E. (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8551/8552	Social Dynamics (JP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8561/8562	Activities of Daily Living (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8577/8578	Transportation and Mobility (JP) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8603/8604	Everyday Technology (JP) - Non-Weighted	11, 12	2.5/2.5
8921/8922	Health (JP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
9133/9134	Physical Education (JP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8914/8915	Recreation and Leisure (JP) – Non-Weighted	11, 12	2.5/2.5
8067/8068	Functional Literacy (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8095/8096	Functional ELA (LEAP) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8135/8136	Functional Math (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8157/8158	Real World Math 1 (IN) – Non-Weighted	11, 12	2.5/2.5
8163/8164	Real World Math 2 (IN) – Non-Weighted	11, 12	2.5/2.5
8323/8324	Functional Science (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8441/8442	R.A.I.S.E. (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8509/8510	Pre-Vocational Education (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8517/8518	Vocational Education (IN) – Non Weighted	11, 12	2.5/2.5
8553/8554	Social Dynamics (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8563/8564	Activities of Daily Living (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8579/8580	Transportation and Mobility (IN) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8605/8606	Everyday Technology (IN) - Non-Weighted	11, 12	2.5/2.5
8923/8924	Health (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
9136/9137	Physical Education (IN) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8915/8916	Recreation and Leisure (IN) – Non-Weighted	11, 12	2.5/2.5
8069/8070	Functional Literacy (CSA) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8137/8138	Functional Math (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8159/8160	Real World Math 1 (CSA) – Non-Weighted	11, 12	2.5/2.5
8165/8166	Real World Math 2 (CSA) – Non-Weighted	11, 12	2.5/2.5
8325/8326	Functional Science (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8443/8444	R.A.I.S.E. (CSA)	9, 10, 11, 12	2.5/2.5
8511/8512	Pre-Vocational Education (CSA) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8519/8520	Vocational Education (CSA) – Non Weighted	11, 12	2.5/2.5
8555/8556	Social Dynamics (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8565/8566	Activities of Daily Living (CSA) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8581/8582	Transportation and Mobility (CSA) – Non-Weighted	9, 10, 11, 12	2.5/2.5
8607/8608	Everyday Technology (CSA) - Non-Weighted	11, 12	2.5/2.5
8925/8926	Health (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
9138/9139	Physical Education (CSA) - Non-Weighted	9, 10, 11, 12	2.5/2.5
8917/8918	Recreation and Leisure (CSA) – Non-Weighted	11, 12	2.5/2.5

8065/8066 FUNCTIONAL LITERACY (JP) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8095/8096 FUNCTIONAL ELA (LEAP) - Non-Weighted 9, 10 2.5/2.5 Cr.

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 within the general education curriculum.

8133/8134 FUNCTIONAL MATH (JP) - Non-Weighted 9, 10 2.5/2.5 Cr.

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.

8155/8156 REAL WORLD MATH 1 (JP) – Non-Weighted 11, 12 2.5/2.5 Cr.

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.

8161/8162 REAL WORLD MATH 2 (JP) – Non-Weighted 11, 12 2.5/2.5 Cr.

Real World Math 2 expands upon the concepts taught in Real World Math 1. Additional concepts include creating a household budget, calculating and paying taxes, keeping financial records, and using credit responsibly.

8315/8316 FUNCTIONAL SCIENCE (JP) - Non-Weighted 9, 10 2.5/2.5 Cr.

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.

8507/8508 PRE-VOCATIONAL EDUCATION (JP) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8515/8516 VOCATIONAL EDUCATION (JP) – Non-Weighted 11, 12 2.5/2.5 Cr.

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.

8441/8442 RAISE: RESPONSIBIITY, ADVOCACY, AND INTERPERSONALSKILLS EDUCATION (JP) – Non-Weighted 9, 10, 11, i2 2.5/2.5 Cr.

In the RAISE course, students will learn about personal responsibility and how one's behavior affects others. Students will also work on identifying their own needs and develop the skills to communicate these needs to others. Through participation in a variety of activities, students will practice both their communication and listening skills. This course also covers disability awareness and disability rights.

8551/8552 SOCIAL DYNAMICS (JP) - Non-Weighted 9, 10 2.5/2.5 Cr.

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.

8561/8562 ACTIVITIES OF DAILY LIVING (JP) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8577/8578 TRANSPORTATION AND MOBILITY (JP) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8603/8604 EVERYDAY TECHNOLOGY (JP) – Non-Weighted 11, 12 2.5/2.5 Cr.

Students will learn how to manage and utilize technology effectively to help them succeed at home and on the job. This course will introduce students to different types of technology (such as computers, cell phones, tablets, etc.) based on individual readiness.

8921/8922 HEALTH (JP) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

9133/9134 PHYSICAL EDUCATION (JP) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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, whiffle ball and jump rope.

8913/8914 RECREATION AND LEISURE (JP) – Non-Weighted 11, 12 2.5/2.5 Cr.

Recreation and leisure activities provide students will 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.

8067/8068 FUNCTIONAL LITERACY (IN) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8095/8096 FUNCTIONAL ELA (LEAP) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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 within the general education curriculum

8135/8136 FUNCTIONAL MATH (IN) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8157/8158 REAL WORLD MATH 1 (IN) – Non-Weighted 11, 12 2.5/2.5 Cr.

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.

8163/8164 REAL WORLD MATH 2 (IN) – Non-Weighted 11, 12 2.5/2.5 Cr.

Real World Math 2 expands upon the concepts taught in Real World Math 1. Additional concepts include creating a household budget, calculating and paying taxes, keeping financial records, and using credit responsibly.

8323/8324 FUNCTIONAL SCIENCE (IN) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8442/8443 RAISE: RESPONSIBIITY, ADVOCACY, AND INTERPERSONALSKILLS EDUCATION (IN) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

In the RAISE course, students will learn about personal responsibility and how one's behavior affects others. Students will also work on identifying their own needs and develop the skills to communicate these needs to others. Through participation in a variety of activities, students will practice both their communication and listening skills. This course also covers disability awareness and disability rights.

8509/8510 PRE-VOCATIONAL EDUCATION (IN) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8517/8518 VOCATIONAL EDUCATION (IN) – Non-Weighted 11, 12 2.5/2.5 Cr.

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.

8553/8554 SOCIAL DYNAMICS (IN) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8563/8564 ACTIVITIES OF DAILY LIVING (IN) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8579/8580 TRANSPORTATION AND MOBILITY (IN) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8605/8606 EVERYDAY TECHNOLOGY (IN) – Non-Weighted 11, 12 2.5/2.5 Cr.

Students will learn how to manage and utilize technology effectively to help them succeed at home and on the job. This course will introduce students to different types of technology (such as computers, cell phones, tablets, etc.) based on individual readiness.

8923/8924 HEALTH (IN) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

9136/9137 PHYSICAL EDUCATION (IN) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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, whiffle ball and jump rope.

8915/8916 RECREATION AND LEISURE (IN) – Non-Weighted 11, 12 2.5/2.5 Cr.

Recreation and leisure activities provide students will 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.

8069/8070 FUNCTIONAL LITERACY (CSA) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8137/8138 FUNCTIONAL MATH (CSA) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8159/8160 REAL WORLD MATH 1 (CSA) – Non-Weighted 11, 12 2.5/2.5 Cr.

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.

8165/8166 REAL WORLD MATH 2 (CSA) – Non-Weighted 11, 12 2.5/2.5 Cr.

Real World Math 2 expands upon the concepts taught in Real World Math 1. Additional concepts include creating a household budget, calculating and paying taxes, keeping financial records, and using credit responsibly.

8325/8326 FUNCTIONAL SCIENCE (CSA) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8443/8444 RAISE: RESPONSIBIITY, ADVOCACY, AND INTERPERSONALSKILLS EDUCATION (CSA) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

In the RAISE course, students will learn about personal responsibility and how one's behavior affects others. Students will also work on identifying their own needs and develop the skills to communicate these needs to others. Through participation in a variety of activities, students will practice both their communication and listening skills. This course also covers disability awareness and disability rights.

8511/8512 PRE-VOCATIONAL EDUCATION (CSA) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8519/8520 VOCATIONAL EDUCATION (CSA) – Non-Weighted 11, 12 2.5/2.5Cr.

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.

8555/8556 SOCIAL DYNAMICS (CSA) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8565/8566 ACTIVITIES OF DAILY LIVING (CSA) – Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8581/8582 TRANSPORTATION AND MOBILITY (CSA) – Non-Weighted
9, 10, 11, 12 2.5/2.5 Cr.

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.

8607/8608 EVERYDAY TECHNOLOGY (CSA) – Non-Weighted 11, 12 2.5/2.5 Cr.

Students will learn how to manage and utilize technology effectively to help them succeed at home and on the job. This course will introduce students to different types of technology (such as computers, cell phones, tablets, etc.) based on individual readiness.

8925/8926 HEALTH (CSA) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

9138/9139 PHYSICAL EDUCATION (CSA) - Non-Weighted 9, 10, 11, 12 2.5/2.5 Cr.

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.

8917/8918 RECREATION AND LEISURE (CSA) – Non-Weighted 11, 12 2.5/2.5 Cr.

Recreation and leisure activities provide students will 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.

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 H-Integrated Science H-Algebra 1 or HH-Geometry H-Latin FA Seminar Physical Education/Health*
Grade 10	HH-English 2 AP European History H-Biology H-Geometry or HH-Geometry or HH-Algebra 2/Trig H-Latin 2 Physical Education/Health*
Grade 11	HH-American Studies 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 and sustains continued learning and mutual respect. Our goal is to ensure that all students who enter as freshmen successfully leave with the skills and knowledge needed to enter grade 10. The Freshman Academy operates on a cluster model composed of teams of 8 -12 academic teachers and student support services staff. These teams provide instruction and support addressing the importance of academics, discipline, and attendance to further academic growth and achievement for all students. The cluster model nurtures individual students to become active participants in a community of learners. This learning environment 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.

The cluster teams are comprised of teachers from four core courses: English, Social Studies, Math, and Science. Three levels of courses are offered: 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 MCAS 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 to a cluster cannot be routinely granted. Our past experience indicates that proper initial placement within the freshman cluster 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.

FRESHMAN ACADEMY

~ Sample Schedules ~

College – Level College – Level

0131/0132	English 1
4121/4122	Essential Skills in World History
1121/1122	Algebra 1
3131/3132	Integrated Science
9201/9202	Freshman Seminar
9001/9011*	Physical Education/Health
xxxx/xxxx	Elective

(English and Math Assigned)

0111/0112	Explorations in English
4121/4122	Essential Skills in World History
1111/1112	Transitions to Algebra
3131/3132	Integrated Science
9201/9202	Freshman Seminar
9001/9011*	Physical Education/Health
xxxx/xxxx	Elective

Honors – Level

0141/0142	English 1
4141/4142	World History
1141/1142	Algebra 1
3141/3142	Integrated Science
9201/9202	Freshman Seminar
9005/9011*	Physical Education/Health
xxxx/xxxx	Elective

High Honors – Level

0151/0152	English 1
4181/4182	World History
1251/1252	Geometry
3141/3142	Integrated Science
9201/9202	Freshman Seminar
9005/9011*	Physical Education/Health
xxxx/xxxx	Elective

Latin Lyceum

0151/0152	English 1
4181/4182	World History
1141/1142	Algebra 1 or **1251/1252** Geometry & Analytic Geometry
3141/3142	Integrated Science
9205/9206	Latin Lyceum Seminar
9005/9011*	Physical Education/Health
2113/2114	Latin

Students will be placed in Geometry and Analytic Geometry based on their Math Placement Exam score.

Elective Offerings: Please see the LHS Course Catalog for a full listing of course electives.

* Band (7141/7142), Dance (7901/7902) or Show Choir (7301/7302) can substitute for Physical Education. ROTC (9321/9322) can substitute for Physical Education and Health***

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.

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	11, 12	5/5
4261/4262	U. S. History 1 - AP	Social Studies	10	2.5/2.5
4361/4362	U. S. History 2 - AP	Social Studies	11	2.5/2.5
4561/4562	European History - AP	Social Studies	11, 12	2.5/2.5
4661/4662	U.S. Government and Politics AP	Social Studies	12	2.5/2.5
4445/4446	Psychology AP	Social Studies	12	2.5/2.5
4663/4664	African American Studies AP	Social Studies	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)

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)

- Students begin taking classes in Grade 9
- Students taking classes as Juniors or Seniors must be in good standing
- Students must have a minimum SAT or PSAT score of 480 in Evidenced Based Reading and Writing or an overall GPA of 2.7 or better.
- Students must receive recommendation from most recent ELA teacher through the Multiple Measures Form
- Instruction provided by Lowell High School teachers who are also adjunct MCC faculty

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 101	General Education Seminar: First Year Experience	1	9
1081	N-Math Seminar A	IDS 101	General Education Seminar: First Year Experience	1	9
9202	N-Freshman Seminar B	IDS 106	General Education Seminar: Career Exploration	1	9
1082	N-Math Seminar B	IDS 106	General Education Seminar: Career Exploration	1	9
0231	C-English 2 A	IDS 110	General Education Seminar: The Choices We Make	1	10
0241	H-English 2 A	IDS 110	General Education Seminar: The Choices We Make	1	10
0251	HH-English 2 A	IDS 110	General Education Seminar: The Choices We Make	1	10

IDS 101 General Education Seminar: First Year Experience 9 1 Cr.

The First-Year Experience (FYE) seminar is a one-credit course that can be linked with a three-credit, introductory college-level course to form a first-year experience learning community. Students learn essential student success skills, behaviors, and habits of mind in the FYE course that they are then able to apply to increase their success in the linked course and other courses throughout their college careers. With an emphasis on self-assessment and reflection, students will work to generate a personalized academic plan for their time at MCC and beyond. Students will also be introduced to MCC's Institutional Student Learning Outcomes (ISLOs), and engage with the college's academic, student support and co-curricular services, along with other college resources, to develop and strengthen those skills and abilities.

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

This course 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 mapping and organization research to formulate a real-world perspective on current jobs and the requirements needed to achieve them.

IDS 110 General Education Seminar: The Choices We Make 10 1 Cr.

With a focus on Personal and Professional Development, this class is designed to assist students in identifying and understanding the choices they make and how their choices positively and negatively impact their ability to reach their academic and personal goals. Through dynamic storytelling, students will explore a variety of real-world choices and outcomes.

3 & 4 MCC Credit Courses

LHS Course	LHS Course Description	MCC Course	MCC Course Description	MCC Credits	Grade
7760	A-Graphics I	ART 151	Graphic 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 Psychology	3	11, 12

ART 151 Graphic Design I 11,12 3 Cr.

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.

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.

COM 103 Public Speaking and Professional Presentations 11, 12 3 Cr.

This course presents basic communication skills required for effective composition and delivery in both public speaking and professional presentations. Students engage in creating, delivering, and evaluating informative and persuasive speeches including extemporaneous and impromptu delivery.

COM 106 Film & Society 11, 12 3 Cr.

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.

EDU 150 Discover Teaching 11, 12 3 Cr.

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.

EGR 101 Introduction to Engineering 11, 12 4 Cr.

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. Tools will include software packages such as Microsoft Excel, AutoCAD and MATLAB. The different disciplines within engineering will be discussed. Skills required for career success such as teamwork, written and oral communication, and problem solving will be emphasized.

ENG 101 Composition I 11, 12 3 Cr.

English Composition 1 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.

ENG 102 Composition II 12 3 Cr.

Building 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. Using a writing process that includes pre-writing, drafting, instructor and peer feedback, and revision, 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.

ENG 120 Literature of the Holocaust 11, 12 3 Cr.

Remember. We must remember. That is the single clearest message we have from the literature of the Holocaust. In this course, students will learn about and remember the events surrounding WWII and the Nazi era through the literature: memoirs, diaries, essays, poetry, and histories. Topics such as racism, anti-Semitism, homosexuality, genocide, propaganda, heroism, and post-war traumatic stress syndrome will be explored. Although generalities will be drawn, the focus will be on how the Holocaust affected individuals and families.

ENG 161 Modern American Literature 11, 12 3 Cr.

This course introduces students to representative American authors from the mid-19th century to the present day. Selections vary and may include Whitman, Dickinson, Hughes, Hemingway, O'Brien, Morrison, Viet Thanh Nguyen, and others.

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.

Dual Enrollment (UML)

3 UML Credit Courses

LHS Course	LHS Course Description	UML Course	UML Course Description	UML Credits	Grade
3721	A-Chemistry A	CHEM 1350	Honors Chemistry I	3	11, 12
3722	A-Chemistry B	CHEM 1360	Honors Chemistry II	3	11, 12
3723	A-Chemistry Lab A	CHEM 1230L	Chemistry Lab I	1	11, 12
3724	A-Chemistry Lab B	CHEM 1240L	Chemistry Lab II	1	11, 12
4701	A-Teaching In The Inclusive Classroom	EDUC 1100	Teaching In The Inclusive Classroom	3	10, 11, 12
3731	A-Life Science 1	LIFE 1010	Life Science I	3	11, 12
3732	A-Life Science 2	LIFE 1020	Life Science II	3	11, 12
4437	A-Sociology of American Education	SOCI 2010	Sociology of American Education	3	11, 12
3623	A-Introduction to STEM Teaching	UTCH 1030	Introduction to STEM Teaching	3	11, 12

CHEM 1350 Honors Chemistry I 11, 12 3 Cr.

A more in-depth view of topics covered includes chemical reactions and calculations, atomic history and structures, the behavior of gasses and bonding theory.

CHEM 1360 Honors Chemistry II 11, 12 3 Cr.

A more in-depth view of the topics covered includes solutions, kinetics, thermodynamics, acids and bases, chemical equilibrium, electrochemistry and solubility.

CHEM 1230L Chemistry I Lab 11, 12 3 Cr.

Studies experimental chemical principles and chemical transformation that is coordinated with topics considered in CHEM 1350. Some of the more important reactions of elements, oxides, acids, bases, and salts are examined. Other topics include chemical separation, purification, preparation of inorganic salts, quantitative determinations dealing with the formula of a compound, gas laws, and colligative properties. Careful techniques and precise measurements are stressed. *Taken concurrently with CHEM 1350 Chemistry 1*

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.

SOCI 2010 Sociology of American Education 11, 12 3 Cr.

Course introduces students to ongoing debates in the field of Sociology regarding the American educational system, its structures and functions and how it relates to issues of inequality by race, class and gender. Students are expected to explore, examine and evaluate the current issues relating to the system of education in the United States.

UTCH 1030 Introduction to STEM Teaching 11, 12 3 Cr.

This course provides an exploration into teaching as a career, emphasizing inquiry-based science, mathematics, and engineering. You will use your knowledge and skills you have acquired from your STEM content area and use these attributes to plan and teach 3 lessons to students in Grades 6 -8, and then reflect on your experience, and students' learning.

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

Dance

7907/7908 Dance 3 & Dance 4	DAN 101 Introduction to Modern Dance	3 Cr

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

Lowell High School recognizes students sometimes fall behind in their studies. When this happens, students may be eligible to take additional courses in our Credit Recovery Program during the school day, after school or at The Engagement Center within Lowell Public Schools. Student's eligible for this program take courses in the evening with additional support from a teacher. The goal for the Credit Recovery Program is to provide students with the opportunity of success and return to school day classes with their peers as they plan to graduate on time.

Students must be pre-approved to participate in the Credit Recovery Program.

COURSE BY ARRANGEMENT

There are times when a student's interests are outside of standard LHS Programming. In these situations, students may qualify for a Course by Arrangement. Students must be self-motivated and able to meet all stated outcomes with minimal supervision. Generally, students propose a topic reflecting their own learning interests and outline the way in which they will acquire and demonstrate knowledge. Coordination with a teacher, Department Head and school counselor are required.

Students must be in Grade 12 and pre-approved to participate in the Credit Recovery Program.

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 can be released to their work place as part of their schedule.

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 NHS 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.

INTERNSHIP PROGRAM

At Lowell High School, the Internship experience assists students in furthering their education and knowledge within the “real world”. The main focus is to ensure that all students gain experience in the workforce and become more informed about possible career choices. Another focus is to help students be more independent and prepare them for the responsibilities of either the college experience or the world of work. The goal of the program is to provide students with a 100 hour plus experience that will help shape their decisions regarding possible college majors and career direction.

There are many benefits of the Internship experience:

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

AFTER DARK

After Dark is a collaboration between Lowell High School and Greater Lowell Technical High School that provides more students the opportunity of a technical education. The program requires a two-year commitment.

Lowell High School students will take academic classes during the regularly scheduled school day before attending classes at GLTHS from 2:30 to 5:30. The After Dark Program is currently being offered for Metal Fabrication / Welding, Automotive Technology, and HVAC (Heating, Ventilation and Air Conditioning).

6411/6412	Automotive Technology 1 – Honors	11	5/5
6413/6414	Automotive Technology 2 – Honors	12	5/5
6456/6457	HVAC 1 - Honors	11	5/5
6458/6459	HVAC 2 - Honors	12	5/5
6460/6461	Metal Fabrication/Welding 1	11	5/5
6462/6463	Metal Fabrication 2	12	5/5

6411/6412 AUTOMOTIVE TECHNOLOGY 1 - Advanced 11 5/5 Cr.

Upon entering the automotive technology program, students will be introduced to the safety protocols and requirements. This will be achieved through instructor demonstration, OSHA 10 General training, and SP2 Safety training.

The class is divided into both classroom/computer studies and live hands-on work on a variety of vehicles available for training. Areas of concentration will include automotive tools, measurement tools, and hardware and torque applications. As students become familiar with the basic hand tools and applications, they will focus on an in-depth study of under car systems, maintenance procedures, fluids, tire servicing and Hunter alignment systems.

The students are familiarized with the practices and customs used in industry. Areas of concentration include electrical, engine performance, engine mechanical, engine measurement, and digital multimeters. Along with computer-based training, students are prepped with employability skills enabling them to prepare for employment and in the automotive field.

The automotive shop program is enhanced with all latest state of the art equipment, tools and computer access including: IDENTIFIX, ALLDATA, and Mitchell Computer Based Learning. The course is aligned to Massachusetts State Frameworks for Automotive Technology.

6413/6414 AUTOMOTIVE TECHNOLOGY 2 - Advanced 12 5/5 Cr.

Automotive Technology year two builds on technical competencies students learned year one. Students are able to achieve an entry level ASE Certification, OSHA 10 General certification, Valvoline Credentials, along with factory Ford Certifications. All of these enable the students to be prepared to enter employment positions through area businesses and automotive dealerships. Students who are eligible may enter cooperative education programs semester two of year two of the program.

6456/6457 HEATING, VENTILATION, AIR CONDITIONING & REFRIGERATION SHOP 1 - Honors
12 5/5 Cr.

The After Dark HVAC student works on soldering, brazing, PVC piping, simple electrical circuits, and working with a VoltOhm-Meter, safety, PPE and tools of the trade. Students work with copper tubing, torches, brazing, and electrical components in order to become more familiar with these types of tools and fittings. Simple electrical circuits are built for the students to become familiar with schematic review, circuit testing, and circuit tracing. The program expands to include basic refrigeration systems and various types of refrigerants. Students cover in detail both the electrical and refrigeration systems of a domestic refrigerator and window air conditioning units. Students will complete employability skill assignments; employability skills are stressed throughout the program. Students will receive OSHA 10 credential.

6458/6459 HEATING, VENTILATION, AIR CONDITIONING & REFRIGERATION SHOP 2 - Honors
12 5/5 Cr.

Year 2 concentrates on commercial refrigeration. Specific areas of study covered are refrigerants, refrigeration oil, system installation and servicing, methods of oil return, electrical wiring, and the installation and service of electrical components. This course concentrates on the acquisition of the skills necessary to use the basic tools of the trade and troubleshooting of the trade. The program expands to include basic refrigeration systems, various types of refrigerants, and the use of refrigerant recovery equipment. Students cover in detail both the electrical and refrigeration systems of a domestic refrigerator as well as window air conditioners. Students prepare for EPA Section 608 and have the potential for cooperative education opportunities in the second half of the year.

6460/6461 METAL FABRICATION/WELDING 1 - Honors 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 - Honors 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

STUDENT AMBASSADOR PROGRAM

6841/6842 Student Ambassador- Honors 10, 11, 12 2.5/2.5 Cr.

Mission Statement:

- At Lowell High School, our Student Ambassadors act as mentors, facilitators, and a friendly support network for students new to our school community. The Ambassadors consist of a select group of sophomores, juniors, and seniors who apply to be a part of the program and can commit fully to our meetings and event schedule. Student ambassadors have an opportunity to gain professional and life skills that will positively impact the Lowell High community and transfer to post-high school experiences.

Self-development for Student Ambassadors includes:

- Attend a one-day training session.
- Attend meetings during Flex Block once per quarter.
- Check in with their assigned new students weekly.
- Provide tours for prospective families during the 8th-grade Open House.
- Participate in ninth-grade orientation the day before school starts.
- Participate in campus events: (Curriculum Night, Parent/Teacher Conferences).
- Plan activities or Flex Blocks to help new students acclimate to Lowell High School.
- Ambassadors will have check-ins periodically with the Ambassador Program administration to assess data, share concerns, and have group consultations on varying student concerns.

Student Ambassadors' duties include:

- Assisting students to find classrooms, lockers, and major areas of high school.
- Teaching them how to navigate lunch.
- Answering questions about activities, classes, building facilities, and school rules.
- Positively representing the LHS student body.
- Improving the environment of the school visually through educational bulletin boards which are geared to SEL.
- Working with School Counselors and tutoring students when needed.

Application Process

- As school leaders, LHS Ambassadors must remain in good standing to remain in the program (academics, behavior, attendance). Expectations and tentative activities are subject to modification by our Ambassador Program Advisor and administration based on the needs of Lowell High School.

Qualities of a Student Ambassador:

- Relatable. Students who represent the entire student body. Relatability is important because the student's unique story, personality, and interests will hopefully create a genuine and authentic student ambassador culture.
- Multilingual and multicultural.
- Transfer students. Students who may have been transfer students themselves can understand what it is like for the new student.
- Students who are eager to help out, comfortable with answering questions, and have interpersonal skills.

- Students who are involved in an extracurricular activity, sports, or have friends who are involved in the school. This knowledge will be important to provide insight and experience to new students who inquire about getting involved.
- Student leaders or students who are looking to develop leadership skills.
- Maybe students who have yet to be very involved, but are looking for ways to be connected and want to help out and develop these skills.
- Students who are doing well in school. They don’t have to be the top achieving students but can be someone who has demonstrated improvement and could serve as a good role model for a new student.

LOWELL HIGH SCHOOL
CORE VALUES

- ☑ RESPONSIBILITY
- ☑ INTEGRITY
- ☑ DETERMINATION
- ☑ ENGAGEMENT
- ☑ RESPECT