



Lowell High School

2019-2020

Pathways

LHS PATHWAYS

The Lowell High School Pathway Programs are directly connected to the skills and knowledge students need for post-secondary education and careers in some of the fastest growing professions in the world today.

Our Pathway Programs provide opportunities for all students and their different abilities, interests and talents. Whether a student is planning to work immediately after high school, or will continue learning by attending a training program, a technical institute, a college or university, there are courses in our Pathway Programs that are right for every student.

LHS PATHWAY PROGRAMS:

Air Force Junior ROTC
Business: Finance & Marketing
Vocational Marketing
Civics, Citizenship & Communities
Communications
Culinary Arts
Education
Engineering (STEM)
Environmental Sustainability (STEM)
Health & Bioscience (STEM)
Fine Arts

Our Pathway Programs use an applied, hands-on/minds-on approach to learning that is connected to real-world work experiences. Students in these programs have access to some unique facilities, including: a newly renovated restaurant, the J'eanne D'Arc Credit Union, the 1826 School Store, an in-house television/media center, and state-of-the-art robotics equipment and MakerSpace. We also partner with local employers as we grow our internship/internship programs providing students an opportunity to apply the classroom skills to intern positions in the workplace.

Benefits of the Pathway Programs include:

- Courses tailored to a specific area of study, with a strong poste-secondary and career focus.
- Teachers with industry experience as well as educational certifications.
- Skill-building around career trajectories and paths of study.
- Opportunities for students, parents, teachers and community members to be partners in the educational process.
- Internships within the community and Dual-Enrollment opportunities with UML and Middlesex Community College.
- Opportunities for independent learning and research.

For more information about our Pathway Programs, please contact:

David Robinson, Coordinator of Student Support Services at (978) 937-8901

AIR FORCE JUNIOR ROTC PATHWAY

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 JROTC 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 AFJROTC 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 space exploration. 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 get a taste of management organizing, planning, and coordinating numerous activities, cadets get “hands on” application of lessons learned in class.

In addition to the classroom curriculum, AFJROTC Pathway students have the opportunity to get involved in the community through a myriad of community service projects that are organized and led by cadets. Students are also eligible for learning field trips that enhance and supplement the classroom environment.

Curriculum opportunities include:

- Academic studies
- Character education
- Life skills education
- Leadership opportunities
- Team-building experiences
- Intramural competition
- Extracurricular activities including Drill Team and Honor Guard
- Field trips and other training opportunities

AFJROTC CORE COURSES (Years 1 & 2):

9321/9322 AFJROTC 1 - Aviation History
9323/9324 AFJROTC 2 - Science of Flight

AFJROTC CORE COURSES (Years 3 & 4)

9325/9326 AFJROTC 3 - Life Skills/Careers
9327/9328 AFJROTC 4 - Management/Cadet Corps or
9337/9338 AFJROTC 4 - Principles of Management

ELECTIVE COURSES AVAILABLE:

9351/9352 Flight Commander
9393/9394 Aviation Ground School
9381 Cadet Leadership Course

***Air Force Junior ROTC Pathway students must earn a minimum of 10 credits in the above courses to receive the designation of Air Force Junior ROTC Concentration status on the student’s final transcript.**

BUSINESS: FINANCE PATHWAY

The Lowell High School Business Department offers a Pathways with a concentration in Finance for students interested in majoring in Business Administration in college or entering the workforce in the areas of finance, banking or accounting. Students in this Pathway are eligible to join Business Professionals of America (BPA). This co-curricular student organization provides students with the opportunity for educational and leadership development, personal and professional growth, and career related competencies.

The Business Pathways offer students authentic learning opportunities. Our students have the ability to work in the 1826 School Store, with a site in the high school and another in the downtown. Students experience the excitement and challenges of being a small business owner. Our partnership with the Jeanne D'Arc Credit Union allows students to work in the LHS branch of the Jeanne D'Arc Credit Union where students learn the day-to-day operations of the banking industry. All of these valuable business opportunities allow students to earn high school credit and real world experiences at the same time.

The Business Department has recently articulated a number of its courses with Middlesex Community College, providing students an opportunity to complete entry-level requirements for MCC while earning credit for these courses at LHS.

Financial Concentration

Survey Courses:

6013	Google This - College
6111/6112	Accounting 1 - College
6113/6114	Accounting 1 - Honors
6141	Personal Finance - College
6143	Personal Finance - Honors
6211/6212	Business Law - College
6213/6214	Business Law - Honors

Upper-level/Concentrated Courses:

6161/6162	Intro to Financial Services (JDCU) - H
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***Business Finance Pathway students must earn a minimum of 10 credits in the above courses to receive the designation of Financial or Marketing Concentration status on the student's final transcript.**

MARKETING PATHWAY

The Marketing Pathway offered through the Business Department is geared toward students interested in majoring in Business Administration in college or entering the workforce in the areas of Marketing, Accounting and Finance. This is a Massachusetts Department of Elementary and Secondary Education CTE program and students are required to apply for this pathway through their guidance counselor and fulfill the requirements of the program to receive the full designation on their transcripts.

The Marketing Pathway offers students authentic learning opportunities in the 1826 School Store and the LHS branch of the Jeanne D'Arc Credit Union. Students also benefit from the opportunity to achieve industry certification with OSHA training.

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

The Business Department also has articulated a number of its courses with Middlesex Community College, providing students an opportunity to complete entry-level requirements for MCC while earning credit for these courses at LHS.

Marketing Program Courses:

{ 6309	Marketing - College
{ 6350	Sports and Entertainment Marketing - College
{ 6141	Personal Finance - College
{ 6143	Personal Finance - Honors
{ 6211/6212	Business Law - College
{ 6213/6214	Business Law - Honors
{ 6353	Tourism and Hotel Management - College
{ 6352	Fashion Merchandising - College
6313/6314	Entrepreneurship - Honors
6111/6112	Accounting 1 - College
6113/6114	Accounting 1 - Honors
6315/6316	Retail Marketing - Honors (1826 School Store)
6161/6162	Intro to Financial Services - College (Jeanne D'Arc Credit Union)

*** Marketing Pathway students must earn a minimum of 20 credits in the above courses to receive the designation of Marketing Program status on the student's final transcript.**

CIVICS, CITIZENSHIP & COMMUNITIES PATHWAY

The Civics, Citizenship, and Communities Pathway is dedicated to educating student to be competent citizens who understand the rights and responsibilities of individuals in their community at the local, state, national, and international level. Within the Pathway, students will examine the various communities that make up Lowell and the United States, in order to probe the voice, contributions, and responsibilities of citizens in the 21st century. By providing students with challenging, thought-provoking courses grounded in the humanities and the social sciences, students will be prepared to pursue academic and professional goals in the fields of social services, community advocacy, conflict resolution, law, and education. Using a curriculum that adheres to state and national standards - and emphasizes issues of moral and responsible citizenship - students within the CCC Pathway will be prepared to participate in all aspects of our civic democratic structures. Pathway students will have requirements to fulfill each semester of their junior and senior year. During their senior year, students in the CCC Pathway will participate in a senior seminar and an internship, designed to prepare students for college, careers, and active citizenship.

- The CCC Pathway strives to provide a respectful learning community that allows students to realize their potential as compassionate and knowledgeable citizens who impact and support communities both locally and globally.
- The CCC Pathway nurtures the following critical skills in students before graduation:
 - Enhanced critical thinking, literacy, research, and technological skills;
 - Deep awareness of local, national, and global issues and cultural diversity;
 - Understanding of the complexity of social action and reaction;
 - Recognition of the consequences of individual choice in society; and,
 - The ability to apply coursework to real life experiences in the community.

CIVICS, CITIZENSHIP & COMMUNITIES PATHWAY COURSES:

Required Courses:

Grade 11:

4382	We the People: The Citizen and the Constitution - Honors (semester 1)
4563	The City of Lowell and American Industrialization and Immigration - Honors

Grade 12:

4570	Seminar on American Diversity - Honors
4571	Internship and Capstone Project in CCC - Honors

Recommended Electives (Optional):

0542	Race and Ethnicity and the Written Word - Honors
0544	Literature of the Holocaust - Honors
4371	Education in American - Honors
4431 or 4435	Introduction to Sociology - H or DE (MCC)
4524	Cambodia: Culture and Conflict - Honors
4513	Topics in Facing History and Ourselves - Honors
4541/4542	Political Science - Honors
4566	Gender and Identity - Honors

***Civics, Citizenship & Communities Pathway students must earn a minimum of 10 credits in the required courses to receive the designation of Civics, Citizenship, and Communities Concentration status on the student's final transcript.**

COMMUNICATIONS PATHWAY

The Communications Pathway provides an opportunity for students to explore the art of communication, with an emphasis on inquiry, reading, writing, research, and presentation skills. Advanced-level multimedia instruction will include journalism, video production, graphic design and digital photography. The Communications Pathway is not just textbook learning; students generate finished products such as video documentaries, magazines, and live-aired television. Students who participate in the TV Production courses will have the opportunity to engage in pre-production, production, and post-production processes as well as participate in the creation of the Red Raider Report, which airs at LHS daily.

Communications/Media Core Courses:

7747/7748	Introduction to Graphic Design - Honors
7758/7759	Advanced Graphic Design - Honors
7760	Graphics 1 (DE-MCC)(S2)
7825/7826	Introduction Digital Media Production - Honors
7829/7830	Advanced Digital Media Production - Honors
7833/7834	TV Newsroom: The Live Broadcast/The Raider Report - Honors
7871	Introduction to Film Studies & Analysis (DE)
7872	Film Studies I
7873	Film Studies II: The Director's Cut
7835/7836	Digital Film Production
7715/7716	Digital Photography - Honors
7363/7364	Digital Audio Production - Honors
7773	Animation - Honors

Related Media Electives (Optional):

4568	Digital Journalism – Honors
0523	Public Speaking, Persuasion and Presentations – College
0524	Public Speaking, Persuasion and Presentations - Honors

***Communications Pathway students must earn a minimum of 10 credits in the above courses to receive the designation of Communications Concentration status on the student's final transcript.**

CULINARY ARTS PATHWAY

The Culinary Arts Department is designed for students interested in careers within the Food Service Industry, one of the largest and fastest growing industries in the world. This Pathway is ideally a three-year program that can be tailored to one or two years on an individual basis. This Pathway integrates a rigorous academic curriculum, but it also provides “hands-on” training in a student-operated restaurant. Students are exposed to different baking and cooking techniques, a variety of table services, and customer relations. This Pathway provides a professional environment so students will culminate a basic, well-rounded education in Culinary Arts. All students complete the program with a portfolio and enough experience to secure an entry-level position within the Food Service Industry or pursue careers through higher education. Students also have the opportunity to train and test for the ServeSafe Certification.

Restaurant-Based Courses:

Year One:

5311/5312 Culinary Arts Beginners - Honors

Year Two:

5313/5314 Culinary Arts Intermediate - Honors

Year Three:

5315/5316 Culinary Arts Advanced - Honors

Related Food Electives (Optional): (1 semester courses)

5085 The Science of Cooking - College
5087 Nutrition and Dietary Choices - College
5086 Regional Cuisine - College
5088 International Foods - College

***Culinary Pathway students must earn a minimum of 20 credits in Restaurant-Based Culinary Arts courses to receive the designation of Culinary Arts Concentration status on the student’s final transcript.**

EDUCATION PATHWAY

The Education Pathway is dedicated to opening up the world of education to students who are drawn to teaching. Within the Pathway, students will examine the various ways in which public education has developed, how it is practiced across different disciplines, what types of jobs exist in education, and what the day to day reality of being a teacher or other education professional looks like. In this Pathway, students will learn that there are many different approaches to education, as well as many different settings (public, private, parochial, and homeschooling) in which education exists. The Pathway is closely partnered with UML's School of Education; students will participate in UML's program through special events on and off the UML campus. Students who successfully complete the two junior-year required courses will be able to participate in the Senior Education Pathway Internship, which consists of in-the-classroom experience at an elementary school in the Lowell Public Schools. Further, Education Pathway students will have a special liaison to help them with the UML application, if they intend to apply to the undergraduate education program at UML.

- *The Education Pathway strives to prepare students to be educators in a diverse urban environment, like Lowell, respectful of the many different ways in which students encounter the educational process. Its outlook is progressive and cross-disciplinary. As much as possible, core courses are taught as co-constructed experiences for Education Pathway students.*
 - *The Education Pathway nurtures the following critical skills in students before graduation*
 - *Enhanced critical thinking, literacy, research, and technological skills*
 - *Deep awareness of pedagogical trends and practical instructional techniques*
 - *Understanding of the complexity and diversity of the human experience*
 - *Recognition of the fundamental role that public education plays in the basic fabric of society*
 - *The ability to apply coursework to real life experiences in the classroom*

EDUCATION PATHWAY COURSES:

Grade 11:

4371	Education in America - H (Required)
3621	STEM Education - H (Required)
4524	Intro to Sociology - H/DE (Recommended)
4431	Intro to Psychology - H/DE (Recommended)

Grade 12:

4570	Seminar on American Diversity - H (Required)
4572	Internship and Capstone Project in Education - H (Required)
4452	Early Childhood and Adolescent Behavior & Development - H (Recommended)
0567	Gender in Literature - H (Recommended)

Related Electives (Optional):

0569/0570	Psychology & Literature - C/H
4453	Childhood & Adolescent Development - H
4513	Facing History & Ourselves - H
0542	Race and Ethnicity and the Written Word - H
4563	Lowell: Immigration and Industrialization - H

***Education Pathway students must earn a minimum of 10 credits in the above courses to receive the designation of Education Concentration status on the student's final transcript.**

ENGINEERING PATHWAY (STEM)

The Lowell High School Engineering Pathway provides students the opportunity to investigate engineering-related courses for career exploration and future interest in engineering. Students are provided a combination of academic and hands-on activities to build their subject knowledge and develop the skills of teamwork, verbal and written communication and project management.

Articulation: Students may receive college credits upon enrolling at colleges that acknowledge articulation with the LHS course. Eligibility to receive college credit varies by the specific agreement with each college.

ENGINEERING PATHWAY COURSE OFFERINGS:

Electives for grades 10, 11 and 12:

3953/3954	Robotics (LS) - Honors
3945/3946	Architectural Design (LS) - Honors
3911/3912	PLTW- Introduction to Engineering Design (LS) - Honors
3921/3922	PLTW- Principles of Engineering (LS) - Honors

Grade 12 Electives:

3971	Introduction to Engineering (DE-MCC) (LS) - Advanced
3978	Engineering Internship - Honors - Strongly Recommended

**Students must first complete 10 credits in the Engineering Pathway courses before enrolling in the Engineering Internship*

***Engineering Pathway students must earn a minimum of 10 credits in the above courses to receive the designation of Engineering Concentration status on the student's final transcript.**

ENVIRONMENTAL SUSTAINABILITY PATHWAY

The Environmental Sustainability Pathway at Lowell High School provides an interdisciplinary approach to the study of human interactions with the environment. The goal of the Environmental Sustainability Pathway is to equip students with the knowledge, intellectual tools and learning experiences that are necessary to understand the causes and consequences of our environmental challenges and to function as highly responsible and engaged citizens. The Environmental Sustainability Pathway seeks to develop in students the creative problem solving skills necessary to design and develop a more sustainable relationship between humans and the rest of the natural world, by guiding students through an exploration of environmental resources, problems, and solutions. This pathway also offers students a unique opportunity to gain essential classroom knowledge along with practical industry experience within the growing field of Clean Energy.

ENVIRONMENTAL SUSTAINABILITY PATHWAY COURSES:

Survey Courses:

3535	ESS: Geology- Honors
3537	ESS: Oceanography- Honors
3536	ESS: Meteorology-Honors
3735	Environmental Studies (DE- MCC) (LS) - Advanced

Grade 11 & 12 Concentrated Courses:

3552	Sustainability Career Explorations A- Honors
3553	Sustainability Career Explorations B- Honors

*After completion of Clean Energy Career Explorations A & B, students will be eligible to participate in a spring/summer internship in the field of Clean Energy.

*Environmental Sustainability Pathway students must earn a minimum of 10 credits in the above courses to receive the designation of Environmental Sustainability Concentration status on the student's final transcript.

FINE ARTS PATHWAY

The mission of the Fine Arts Pathway is to provide all students with a wide variety of high quality artistic experiences in Dance, Music, Theater and Visual Arts and to encourage creativity, the development of a unique artistic voice, and the enthusiastic pursuit of excellence in the Arts.

Performing Arts Courses

Instrumental:

7137/7138	Band (FR)
7139/7140	Band
7121	Piano & Music Theory
7131	Guitar & Music Theory
7133	World of Drums

Choral:

7341/7342	Concert Chorus
7297/7298	Show Choir (FR)
7301/7302	Show Choir

Dance:

7905/7906	Dance 1/Dance 2
7907/7908	Dance 3/Dance 4*
7953/7954	Advanced Dance Studies*
7983/7984	Senior Dance Project*

*Articulated Course with MCC

Theater:

7411	Theater 1
74122	Theater 2

Visual Arts Courses:

7513/7514	Introduction to Studio Art
7523/7524	Intermediate Studio Art
7543/7544	Studio Art Portfolio
7591/7592	Drawing
7621/7622	Sculpture
7715/7716	Digital Photography
7773	Animation

7747/7748	Introduction to Graphic Design
7758/7759	Advanced Graphic Design
7760	Graphics I (DE-MCC)(S2)
7825/7826	Introduction to Digital Media Production
7829/7830	Advanced Digital Media Production
7871	Introduction to Film Studies & Analysis (DE MCC)
7872	Film Studies I
7873	Film Studies II: The Director's Cut
7835/7836	Digital Film Production
7715/7716	Digital Photography
7773	Animation
7363/7364	Digital Audio Production

***Fine Arts Performing Arts & Visual Arts Pathway students must earn a minimum of 10 credits in the above courses to receive the designation of Fine Arts Concentration status on the student's final transcript.**

HEALTH & BIOSCIENCE PATHWAY

The Health and Bioscience Pathway is designed for students with an interest in the fields of allied health and/or the emerging field of biotechnology. The Health and Bioscience Pathway offers students a unique opportunity to gain essential classroom knowledge and practical experience within the local medical or biotechnological community. Courses taken in this Pathway will provide students the foundation of knowledge necessary to enter into college majors in the areas of nursing, medicine, biotechnology and other diversified health fields. The course of study culminates senior year with an internship in the Lowell community for eligible Pathway students.

HEALTH & BIOSCIENCE PATHWAY COURSES:

Survey Courses:

3783	Microbiology (LS)
3601/3602	Medical Terminology & Body Systems
3618	Careers in Health & Bioscience
3541	Introduction to Anatomy
3543/3544	Anatomy & Physiology (LS)
3607	Medical Law & Current Health Issues
3548	Genetics (LS)
3605	Nutrition & Disease

12th Grade Concentrated Courses:

3611/3612	Principles of Biomedical Science (PLTW)
3619	Senior Internship (Strongly Recommended)

*Students must first complete 10 credits in the Health & Bioscience Pathway courses before enrolling in the Health & Bioscience Internship

***Health & Bioscience Pathway students must earn a minimum of 10 credits in the above courses to receive the designation of Health & Bioscience Concentration status on the student's final transcript.**



LOWELL HIGH SCHOOL **CORE VALUES**

- RESPONSIBILITY**
- INTEGRITY**
- DETERMINATION**
- ENGAGEMENT**
- RESPECT**