



**Lowell High School
Pathway Programs
2017 - 2018**

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
Civics, Citizenship & Communities
Communications (STEM)
Culinary Arts
Engineering (STEM)
Environmental Sustainability (STEM)
Fine Arts
Health & Bioscience (STEM)

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 externship/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 post-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:

Amy McLeod, Director of Curriculum, Instruction, and Assessment 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 - Mgmt/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

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

BUSINESS: FINANCE & MARKETING PATHWAYS

The Lowell High School Business Department offers Pathways with concentrations in Finance or Marketing for students interested in majoring in Business Administration in college or entering the workforce in the areas of management, finance, accounting, or marketing. Students in these Pathways 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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Marketing Concentration

Survey Courses:

6013	Google This - College
6311/6312	Marketing & Entrepreneurship - College
6313/6314	Marketing & Entrepreneurship - Honors
6350	Sports and Entertainment Marketing - College
6353	Tourism and Hotel Management - College
6352	Fashion Merchandising - College

Upper-level/Concentrated Courses:

6315/6316	Retail Marketing - Honors
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***All Pathway students must earn a minimum of 10 credits in either the Financial Concentration or the Marketing Concentration to receive the designation of Financial or Marketing Concentration 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:

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

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

COMMUNICATIONS PATHWAY (STEM)

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
7825/7826	Introduction Digital Media Production – Honors
7827/7828	Intermediate Digital Media Production - Honors
7829/7830	Advanced Digital Media Production – Honors
7833/7834	TV Newsroom: The Live Broadcast/The Raider Report - Honors
7871	Film, Society and Video (Dual Enrollment) - Advanced
7715/7716	Digital Photography - Honors
7363/7364	Digital Audio Production - Honors
7773	Animation - Honors

Related Media Electives:

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

***All Pathway students must earn a minimum of 10 credits in Communications Pathway 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:

5111/5112	Culinary Arts Beginners - College
5311/5312	Culinary Arts Beginners - Honors

Year Two:

5113/5114	Culinary Arts Intermediate - College
5313/5314	Culinary Arts Intermediate - Honors

Year Three:

5121/5122	Culinary Arts Advanced - College
5315/5316	Culinary Arts Advanced - Honors

Related Food Electives: (1 semester courses)

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

***All Pathway students must earn a minimum of 10 credits in Restaurant-Based Culinary Arts Pathway courses to receive the designation of Culinary Arts 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 - Honors
3945/3946	Architectural Design - Honors
3911/3912	PLTW- Introduction to Engineering Design - Honors
3921/3922	PLTW- Principles of Engineering - Honors

Grade 12 Electives:

3971	Introduction to Engineering (Dual-Enrollment) - Advanced
3978	Engineering Internship - Honors - Strongly Recommended

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

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

ENVIRONMENTAL SUSTAINABILITY PATHWAY (STEM)

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:

- 3547 ESS: Earth & Human Activity- Honors
- 3535 ESS: Geology- Honors
- 3537 ESS: Oceanography- Honors
- 3536 ESS: Meteorology-Honors
- 3735 Environmental Studies (Dual Enrollment- MCC) - Advanced

11th & 12th Grade Concentrated Courses:

- 3552 Clean Energy Career Explorations A- Honors
- 3552 Clean Energy 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.

***All Pathway students must earn a minimum of 10 credits in Environmental Sustainability Pathway 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:

7141/7142	Band 1
7143/7144	Band 2
7145/7146	Band 3
7147/7148	Band 4
7151/7152	Jazz Band 1
7153/7154	Jazz Band 2
7155/7156	Jazz Band 3
7157/7158	Jazz Band 4
7011/7012	String Ensemble 1
7013/7014	String Ensemble 2
7015/7016	String Ensemble 3
7017/7018	String Ensemble 4
7121/7122	Beginner Piano Keyboard & Theory
7123/7124	Advanced Piano Keyboard & Theory
7131/7132	Beginner Guitar/Theory
7133/7134	Advanced Guitar/Theory
7125/7126	World of Drums

Visual Arts Courses:

7513/7514	Intro to Studio Art
7523/7524	Intermediate Studio Art
7543/7544	Studio Art Portfolio
7451/7452	Art History
7591/7592	Drawing
7631/7632	Sculpture
7711/7712	Digital Photography
7773	Animation
	Fine Arts Independent Study

Choral:

7341/7342	Concert Chorus 1
7343/7344	Concert Chorus 2
7345/7346	Concert Chorus 3
7347/7348	Concert Chorus 4
7301/7302	Show Choir 1
7303/7304	Show Choir 2
7305/7306	Show Choir 3
7307-7308	Show Choir 4

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	Drama 1: Fundamentals of Acting
7412	Drama 2: The Technical Theater

7747/7748	Intro to Graphic Design
7758/7759	Advanced Graphic Design
7825/7826	Introduction to Digital Media Production
7827/7828	Intermediate Digital Media Production
7829/7830	Advanced Digital Media Production
7833/7834	TV Broadcast: The Live Broadcast
7871	Film, Society and Video (DE)
7715/7716	Digital Photography
7363/7364	Digital Audio Production

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

HEALTH & BIOSCIENCE PATHWAY (STEM)

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 externship in the Lowell community for eligible Pathway students.

HEALTH & BIOSCIENCE PATHWAY COURSES:

Survey Courses:

3783	Microbiology
9023/9024	Medical Terminology & Body Systems
9042	Careers in Health & Bioscience
9062	Current Health Issues
3541	Introduction to Anatomy
3543/3544	Anatomy & Physiology
9052	Medical Law & Ethics
3548	Genetics
9082	Nutrition, Disease, and You

12th Grade Concentrated Courses:

9092	Senior Internship (Strongly Recommended)
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*Students must first complete 10 credits in the Health & Bioscience Pathway courses before enrolling in the Health & Bioscience Internship

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

LHS 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 work force 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 an 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 work place 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

LHS INTERNSHIP PROGRAM

COMMUNITY PARTNERS

Students have the opportunities, thank to our community partners, to experience internships at a number of different organizations across the city of Lowell, including:

Anne Sullivan Center	McAvinnue Elementary School
Career Center of Lowell	Mental Health Association of Greater Lowell
Chelmsford Animal Hospital	Mill City Environmental
Coalition for a Better Acre	MITRE
Colleen Creegan TV Studio	Murkland Elementary School
Community Teamworks, Inc.	M2D2
Congressional Office of Niki Tsongas	New England Neurological Care
Courtyard Restaurant	North Shore Merrimack Valley Legal Services
Cultural Organization of Lowell	Rapid Microbiosystems
D'Youville Nursing Home	SCORE Mediation Program
Enterprise Bank	Trinity Ambulance
Greater Lowell Engineering Associates	Therafit Physical Therapy
International Institute	Town and Country Nursing Home
Jeanne D'Arc	Tsongas Center of Industrial History
Lowell City Hall	University of Massachusetts at Lowell
Lowell Community Health Center	Visiting Nurse Association of Greater Lowell
Lowell Dentistry for Children	VNA Nursing Association
Lowell General Hospital	Watermark Environmental
Lowell National Parks	Wingate Nursing Home
Lowell Police Department	Xenith Corporation
MACOM	WCAP

If you are interested in getting more information about the Internship program or you know another community partner who would be willing to host an intern, please contact: Angela Lawler-Brennan, Career Relations Counselor, at (978) 970-3377.