

After Dark - Automotive Technology

Program Information

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.

Grade 11

Required

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.

Grade 12

Required

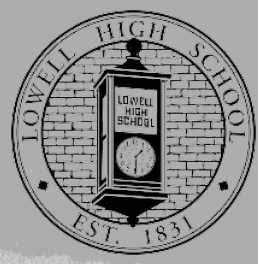
6413/6414 AUTOMOTIVE TECHNOLOGY 2 - Advanced 12 5/5 Cr.

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.

Potential outcomes post graduation: brake and exhaust repair person, general automotive technician, new car warranty technician, and more.



GREATER LOWELL
TECHNICAL HIGH SCHOOL



After Dark - Heating, Ventilation, Air Conditioning, & Refrigeration

Program Information

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Grade 11

Required

6456/6457 HEATING, VENTILATION, AIR CONDITIONING & REFRIGERATION SHOP 1 - Honors 11 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.

Grade 12

Required

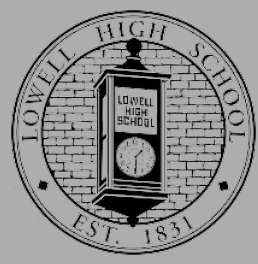
6458/6459 HEATING, VENTILATION, AIR CONDITIONING & REFRIGERATION SHOP 2 - Honors 12 5/5 Cr.

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.

Potential outcomes post graduation: apprentice refrigerator technician, oil burner technician, installers apprentice and more.



GREATER LOWELL
TECHNICAL HIGH SCHOOL



After Dark - Metal Fabrication

Program Information

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.

Grade 11

Required

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.

Grade 12

Required

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.

Potential outcomes post graduation: apprentice fabricator, arc welder, iron worker, shear operator, sheet metal worker, and many more.



GREATER LOWELL
TECHNICAL HIGH SCHOOL

Lowell High School Air Force JROTC MA-771 Pathway



Enhancement Courses

9381 Cadet Leadership Course (CLC)

9397 Cadet Internship (Assistant Instructor)



Pathway Outcomes Post Graduation

Student who complete 3 years of programming will receive a certificate of completion upon graduation and a higher rank pay if you enlist in Active Duty Military.

Eligible students may enter into a scholarship or non-scholarship college ROTC program which results in commissioning as a US military officer, entry on active duty in one of six US military services, or into a reserve component during continuing education

Freshman - Gr. 9 - Optional

9321 Aviation History



Sophomore - Gr. 10

9323 Science of Flight



Junior - Gr. 11

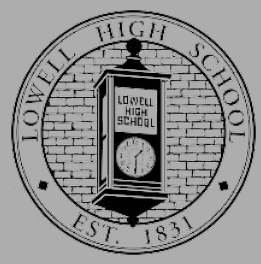
9325 Life Skills/Careers
Or
9351 Flight Commander



Senior - Gr. 12

9327 Management of the Corps
Or
9337 Principles of Management





Lowell High School Biotechnology Pathway

Required

3618 - Careers in Health & Bioscience

And

3607 - Medical Law & Current Health
Issues

Choose One

Biology Course:

3548 - Genetics
3605 - Nutrition & Disease
3783 - Microbiology
3611/3612 - Principles of BioMedical
Science

Each

Anatomy & Physiology Course:

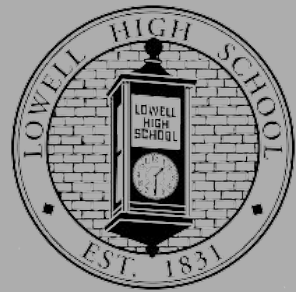
3541 - Introduction to Anatomy
3543/3544 - Anatomy & Physiology
3601/3602 - Medical Terminology &
Body Systems

Choose One

Elective Course:

3250 - General Biology (MCC/EC)
3731/3732 - Life Science I/II (UML/DE)
3721/3722 - Chemistry (UML/DE)
3723/3724 - Chemistry Lab (UML/DE)
3735 - Environmental Studies (MCC/EC)
3623 - Intro to STEM Teaching (UML/DE)

Future Health & Bioscience Leaders in progress...



Lowell High School Business ~ CTE Marketing Pathway



Enhancement Courses

6211/6212 Business Law 1 C
6213/6214 Business Law 2 H

6111/6112 Accounting C
6113/6114 Accounting H

6141 Personal Finance C
6143 Personal Finance H



Pathway Outcomes Post Graduation

Entry-level position in the retail industry.
Preparedness for 2 or 4 year college
degree in Business. Employment
opportunities in all business fields.

*Chapter 74 Program

Freshman - Gr. 9

6230 Business Explorations C

AND

6309 Marketing C



Sophomore - Gr. 10

6350 Sports & Entertainment Marketing C

AND

6217 Digital/Social Media Marketing H



Junior - Gr. 11

6313 Entrepreneurship H

AND

6015 Microsoft Office C



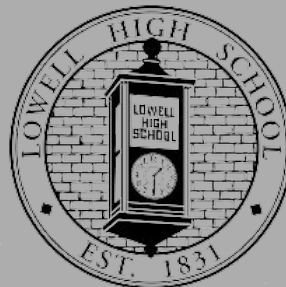
Senior - Gr. 12

6315 Retail Marketing* H

AND/OR

Externship





Lowell High School Business ~ Finance Pathway



Enhancement Courses

6309 Marketing C

66211/6212 Business Law 1 C
6213/6214 Business Law 2 H

6317 Digital Social Media Marketing H

6313 Entrepreneurship H

6350 Sports & Entertainment Marketing C



Pathway Outcomes Post Graduation

Entry-level positions in the business field like a bank teller or accounting clerk. Preparedness for 2 or 4 year college degree in Business. Employment opportunities in all business fields.
*Non-Chapter 74 Program

Freshman - Gr. 9 - Optional

6230 Business Explorations C



Sophomore - Gr. 10

6111/6112 Accounting C

OR

6113/6114 Accounting H



Junior - Gr. 11

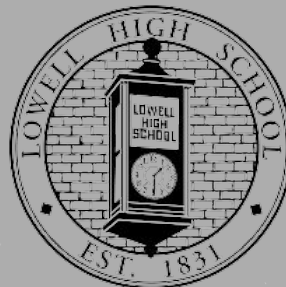
6015 Microsoft Office Specialist C
AND
6141 Personal Finance C
6143 Personal Finance H



Senior - Gr. 12

6161 Intro to Financial Services H





Lowell High School Culinary Arts Pathway

Pathway Courses By Year - N74*

(2 Period/Double Block Classes - 100 Mins Total)
(Take 20 Credits or 2 Years of Pathway Courses)



**Enhance your Culinary Skills
with any elective below!**

Cuisine/Food Electives

5101 - The Science of Cooking Gr. 9-12
5102 - Nutrition and Dietary Choices Gr. 9-12
5103 - Regional Cuisine - Gr. 10-12
5104 - International Foods - Gr. 10-12
5201/5202-Unified Foods

Business Related Electives

6111/6112 - Accounting - College
6113/6114 - Accounting - Honors
6309 - Marketing - College
6313 - Entrepreneurship - Honors
6230 - Business Explorations - College

Freshman - Gr. 9 - Optional

Join the Culinary Arts Club (Open to Grades 9-12)

Recommended Optional Electives

5101 - The Science of Cooking
5102 - Nutrition and Dietary Choices

Sophomore - Gr. 10

5311/5312 - Culinary Arts - Beginners

Recommended Optional Electives

5103 - Regional Cuisine
5104 - International Foods

Certification
of Allergen
Awareness

Junior - Gr. 11

5313/5314 -
Culinary Arts - Intermediate

Recommended Optional Electives

Business Related Elective



Senior - Gr. 12

5315/5316 - Culinary Arts - Advanced
6802 - Internship (Spring semester Only)

Recommended Optional Electives

Business Related Elective



Pathway Outcomes Post Graduation

Entry-level culinary position in food service industry. Preparedness for 2 or 4 year college culinary/hospitality degree. Employment opportunities in restaurants, bakeries, institutional food service, hotels, schools, hospitals, catering, food trucks.

*Non-Chapter 74 Program



Lowell High School Education Pathway

Just 5 Classes away for
being set up for success!

Choose
One



Education Courses:

3623 - UTCH 1030 Intro to Stem Education (DE)

4701 - EDUC 1100 Intro. To Teaching in an Inclusive Classroom (DE)

4703 - Discover Teaching EDU 150: (EC)

****A capstone internship experience is required - either within UML or LHS****

Choose
One



Development Courses:

4437 - Sociology of Education (DE)

4431/4435 - Intro to Sociology - H/EC

4451 - Childhood & Adolescent Development (H)

4443/4447/4445/4446 - Intro to Psychology - (H)/(EC)(AP)

Choose
One



Social Justice Courses:

4570 - Seminar on American Diversity (H)

4513 -Facing History & Ourselves (H)

0552/0553 - Race and Ethnicity (H)

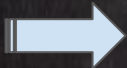
0567 - Gender and Identity (H)

4386/4387 - American History Through Our Eyes (H)

0580 - Social Justice and Modern Media (H)

0580 - Diverse Voices (H)

Choose
Two



Elective Courses:

4371 - Education in America (H)

3250 - General Biology (EC)

3731/3732 - Life Science A/B (DE) - **this counts as 2**

0463/0463 - English I Composition I/II (EC) - **this counts as 2**

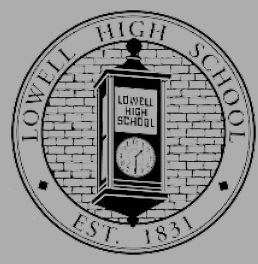
9110 - Unified Physical Education (H)

0601 - Public Speaking (EC)

Future Education Leaders in progress...



Learning with Purpose



Lowell High School Engineering Technology Pathway

Required

3911/3912 - PLTW Intro to Eng

3921/3922 - PLTW Principles of Eng

Or

3441/3442 - Physics
3461 - AP Physics

Choose Two

3945/3946 - Architectural Design
3953/3954 - Robotics

Or

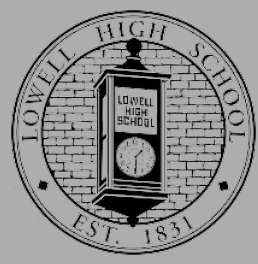
3971 - Intro to Eng (MCC/EC)
***A capstone experience is required ***

Choose One

Elective Course:

3250 - General Biology (MCC/EC)
3731/3732 - Life Science I/II (UML/DE)
3721/3722 - Chemistry (UML/DE)
3723/3724 - Chemistry Lab (UML/DE)
3735 - Environmental Studies (MCC/EC)
3623 - Intro to STEM Teaching (UML/DE)

Future Engineering Leaders in progress...



Lowell High School Environmental Science & Technology Pathway

Required

3552/3553 - Sustainability
Careers Explorations

3735 - Environmental Studies
(MCC/EC)

Or

3736 - Environmental Science

Choose One

Earth Science Course:

3535 - ESS: Geology
3536 - ESS Meteorology
3537 - ESS Oceanography

Each

Chemistry Course:

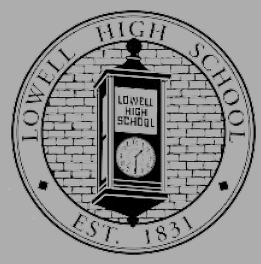
3331/3332/3341/3342 - Chemistry
3721/3722 - Chemistry (UML/DE)
3723/3724 - Chemistry Lab (UML/DE)

Choose One

Elective Course:

3548 - Genetics
3250 - General Biology (MCC/EC)
3731/3732 - Life Science I/II (UML/DE)
3735 - Environmental Studies (MCC/EC)
3721/3722 - Chemistry (UML/DE)
3723/3724 - Chemistry Lab (UML/DE)
3623 - Intro to STEM Teaching (UML/DE)

Future Environmental Leaders in progress...



Communications

Required

Or

Choose One

Each

Choose One