



Heating and Air Conditioning A.A.S.

Career Community: Building and Construction Trades

Curriculum Code: 0836

Effective: Fall 2022 – Summer 2027

Description

Heating, Ventilating, Air Conditioning and Refrigeration (HVAC/R) technicians work on systems that control temperature, humidity, and air quality of enclosed spaces. They are required to design, install, service, and maintain the various types of equipment used to control human comfort, preservation of food products, critical medical supplies, and computer and mechanical processes in residential, commercial, industrial, and institutional environments. Technicians must have a strong mechanical aptitude, be self-motivated, willing to accept challenges, and have a structured approach to problem solving. They should also have good communication skills, the ability to work well with others, and understand all aspects of the construction trade. Students completing this curriculum may also be eligible to apply for a Certificate of Achievement in Heating and Air Conditioning (0832).

Milestone

In addition to the required General Education courses in Math and English, completion of HVAC 100 and HVAC 110) with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for HVAC 110, HVAC 113, and HVAC 115.

Contact Information

Contact the Heating and Air Conditioning Program, West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

General Education - Applied Degree, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*
GEOG 200, World Regional Geography, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics – *Select one*
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*
PHYS 120, The Art of Physics, 4 credits / 5 billing hours

Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
HVAC 100	Fundamentals of HVAC	3 / 3
HVAC 110	Applied Electricity I	3 / 4
HVAC 111	Applied Electricity II	3 / 4
HVAC 113	HVAC/R Piping	3 / 4
HVAC 115	Sheet Metal Fab & Installation	2 / 3
HVAC 120	Heating I	3 / 4
HVAC 130	Air Conditioning I	3 / 4
HVAC 201	Mechanical Code	4 / 4
HVAC 220	Heating II	3 / 4
HVAC 221	Introduction to Hydronics	3 / 4
HVAC 230	Air Conditioning II	3 / 4
HVAC 231	Heat Pump	3 / 4
HVAC 240	Refrigeration I	3 / 4
HVAC 241	Refrigeration II	3 / 4
HVAC 251	Fund of Direct Digital Control	3 / 4
TECH 102	General Industry Safety	2 / 3

Program of Study Required Courses, Limited Choice - *Select two*

Course Code	Course Title	Credit / Billing Hours
DCTM 100	Intro to the Built Environment	3 / 4
DCTM 101	Drafting/Intro to CAD	3 / 4
ELTE 141	National Electric Code I	4 / 4
ELTE 150	Electric Motor Maintenance	2 / 3
HVAC 140	Residential Energy	3 / 4
WELD 103	Combination Welding	4 / 6

Minimum Total Credit Hours

70 credits / 87 billing hours

Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
HVAC 100 – Milestone course
HVAC 110 – Milestone course
HVAC 113
HVAC 115
TECH 102

Semester II
Gen Ed – Mathematics or Applied Mathematics
HVAC 111
HVAC 120
HVAC 130
Limited Choice

Semester III
Gen Ed – English Composition (Second Course)/Communications
HVAC 220
HVAC 221
HVAC 230
HVAC 240
Limited Choice

Semester IV
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
HVAC 201
HVAC 231
HVAC 241
HVAC 251

LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.