

LANSING COMMUNITY COLLEGE

Computer, Engineering/Manufacturing Industrial Technologies

Curriculum Code: 0836
(Effective Fall 2018 –
Summer 2023)

Heating and Air Conditioning A.A.S. Pathway

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).

For More 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.

Semester I	Course Title	Prerequisites	Credit/Billing Hours
Writing Core Area - <i>Select 1</i>			
ENGL 124	Technical Writing	Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)	3 / 3

Program of Study Requirements

Students who have already completed DCTM 102, ELTE 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for HVAC 102. Any of these courses may also be used to fulfill the prerequisite for HVAC 103, HVAC 105 and HVAC 110.

HVAC 100	Fundamentals of HVAC	Reading Level 3 and Writing Level 2	3 / 3
HVAC 102	Industrial/Construction Safety	Reading Level 3 and Writing Level 2	2 / 3
HVAC 103	HVAC/R Piping	Minimum 2.0 in (HVAC 102 or DCTM 102 or ELTE 102 or METS 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2	3 / 4
HVAC 105	Sheet Metal Fab & Installation	Minimum 2.0 in (HVAC 102 or DCTM 102 or ELTE 102 or METS 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	2 / 3
HVAC 110	Applied Electricity I	Minimum 2.0 in (HVAC 102 or DCTM 102 or ELTE 102 or METS 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 3 or minimum 2.0 in MATH 105 or MATH 106)	3 / 4
Credits			16 / 20

Semester II	Course Title	Prerequisites	Credit/Billing Hours
Math Core Area - <i>Select 1</i>			
MATH 115	Technical Math II	(Minimum 2.0 in MATH 114 within 2 years or Math Level 5 within 2 years) and Reading Level 5	4 / 4
Program of Study Requirements			
HVAC 111	Applied Electricity II	Minimum 2.0 in (HVAC 100 and HVAC 110) and Reading Level 3 and Writing Level 2 and Math Level 3	3 / 4
HVAC 120	Heating I	Minimum 2.0 in (HVAC 100 and HVAC 110) and Reading Level 3 and Writing Level 2 and Math Level 3	3 / 4
HVAC 130	Air Conditioning I	Minimum 2.0 in (HVAC 100 and HVAC 110) and Reading Level 3 and Writing Level 2 and Math Level 3	3 / 4
Electives- <i>Select 1</i> <i>Courses may not be duplicated</i>			
AEET 215	Geothermal Technology	Reading Level 3 and Writing Level 4	3 / 4
DCTM 100	Intro to the Built Environment	Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	3 / 4
DCTM 101	Drafting/Intro to CAD	Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	3 / 4
ELTE 141	National Electric Code I	Minimum 2.0 in (ELTE 109 or ELTE 110 or HVAC 110) and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 4
ELTE 150	Electric Motor Maintenance	Minimum 2.0 in (ELTE 109 or ELTE 110 or HVAC 110) and Reading Level 3 and Writing Level 2 and Math Level 3	2 / 3
WELD 103	Combination Welding	Reading Level 3 and Writing Level 2	4 / 6
Credits			15-17 / 19-22

Semester III	Course Title	Prerequisites	Credit/Billing Hours
Communication Core Area - <i>Select 1</i>			
COMM 130	Fund of Public Speaking	Reading Level 5 and Writing Level 6	3 / 3
Program of Study Requirements			
HVAC 220	Heating II	Minimum 2.0 in (HVAC 111 and HVAC 120) and Reading Level 3 and Writing Level 2 and Math Level 3	3 / 4
HVAC 221	Introduction to Hydronics	Minimum 2.0 in HVAC 120 and Reading Level 3 and Writing Level 2 and Math Level 3	3 / 4
HVAC 230	Air Conditioning II	Minimum 2.0 in (HVAC 111 and HVAC 130) and Reading Level 3 and Writing Level 2 and Math Level 3	3 / 4
HVAC 240	Refrigeration I	Minimum 2.0 in (HVAC 230 or concurrently) and Reading Level 3 and Writing Level 2 and Math Level 3	3 / 4

Electives - *Select 1**Courses may not be duplicated*

AEET 215	Geothermal Technology	Reading Level 3 and Writing Level 4	3 / 4
DCTM 100	Intro to the Built Environment	Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	3 / 4
DCTM 101	Drafting/Intro to CAD	Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	3 / 4
ELTE 141	National Electric Code I	Minimum 2.0 in (ELTE 109 or ELTE 110 or HVAC 110) and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 4
ELTE 150	Electric Motor Maintenance	Minimum 2.0 in (ELTE 109 or ELTE 110 or HVAC 110) and Reading Level 3 and Writing Level 2 and Math Level 3	2 / 3
WELD 103	Combination Welding	Reading Level 3 and Writing Level 2	4 / 6
Credits			18-19 / 23

Semester IV	Course Title	Prerequisites	Credit/Billing Hours
Global Perspectives and Diversity Core Area - <i>Select 1</i>			
GEOG 200	World Regional Geography	Reading Level 5 and Writing Level 6 and (Math Level 4 or (minimum 2.0 in MATH 105 or MATH 106))	4 / 4
Science Core Area - <i>Select 1</i>			
PHYS 120	The Art of Physics	Reading Level 5 and Writing Level 6 and (Math Level 5 or MATH 107 concurrently or MATH 109 concurrently)	4 / 5
Program of Study Requirements			
HVAC 201	Mechanical Code	Minimum 2.0 in (HVAC 120 and HVAC 130) and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 4
HVAC 231	Heat Pump	Minimum 2.0 in HVAC 130 and Reading Level 3 and Writing Level 2 and Math Level 3	3 / 4
HVAC 241	Refrigeration II	Minimum 2.0 in HVAC 240 and Reading Level 3 and Writing Level 2 and Math Level 3	3 / 4
HVAC 251	Fund of Direct Digital Control	Minimum 2.0 in (HVAC 230 or concurrently) and Reading Level 3 and Writing Level 2 and Math Level 3	3 / 4
Credits			21 / 25
Total Credits			70-73 / 87-90