HEATING, VENTILATION & AIR CONDITIONING

Why HVAC?

EXTENDED PROGRAM INFORMATION

Overview

HVAC is a high demand, recession-proof career. People and businesses depend on these systems and must keep them in good working order, regardless of economic conditions.

The Heating, Ventilation and Air Conditioning (HVAC) program will provide you with the education and training to begin your career as a climate control technician. With a flexible structure, the program can be completed in as little as 18 months or over a standard two-year period, depending on the students' schedule and goals.

Degree & Certificate Options

This program offers one Associate of Applied Science degree and four certificates. See more information on back.

Program Goals

This multi-disciplinary program includes heating, ventilation, refrigeration, air conditioning and electricity. Through problem solving, inquiry and analysis skills gained while in the program, you will be prepared to enter the field to design, install, service, maintain and troubleshoot residential and commercial HVAC systems.

Acquired Skills

Students who graduate from this program will be able to:

- Read and interpret electrical diagrams, wire control systems from electrical diagrams, set controls, design controls systems and diagnose and repair faults in electrical control systems.
- Properly size HVAC systems, design HVAC systems, correctly install HVAC system components, install HVAC systems following the relevant codes and industry practice.
- Articulate the purpose and operation of HVAC system components, the operation of HVAC systems, diagnose, repair faults and perform maintenance on HVAC systems.
- Demonstrate positive work traits and good customer skills, and continue to upgrade their knowledge and skills.

Admissions Requirements

It is recommended that students complete courses in algebra I, algebra II and science. Advanced levels of mathematics and a physics course are preferred.

Technical Standards:

- Physical strength to maneuver and/or lift heavy objects
- Good manual dexterity and the ability to climb a ladder
- Adequate vision for reading instructions and blueprints and should not have color blindness (adaptive equipment acceptable)
- Students should be aware that many employers will require criminal background checks and a clean driving record

Accreditation/Certification Info

Students will complete the educational training portion of the State of NH Gas Fitters gas piping installer's license while in the program. Students will also be prepared for and offered the opportunity to obtain their NORA Bronze Certification and Section 608 (EPA) Certification.

Outcomes

Potential Jobs

- Residential/Commercial HVAC Service Technician
- Residential/Commercial HVAC Installation Technician
- Commercial Refrigeration Service and Installation Technician
- HVAC System Designer
- HVAC Sales Professional

Average Median Annual Wage

Graduates with an associate degree in HVAC from MCC are prepared for a variety of potential job positions within the HVAC industry. Because of this, the salary range one could expect upon graduation can vary greatly. Graduates have seen salary ranges up to $67,000 a year to start, not including overtime opportunities! For further information about potential salaries please contact a member of the HVAC Department.

Degree & Certificate Curriculum Requirements

Stackable Credentials

More information about HVAC degree and certificates are available online.
Visit mccnh.edu/hvac or scan the QR code.

› Advanced HVAC Certificate (41)
› Heating Services Certificate (30)
› AC & Refrigeration Certificate (26)
› HVAC Certificate (48)
› HVAC Associate Degree (66)

	FIRST YEAR	**FALL SEMESTER**						
	HVAC101 XXX	HVAC Elective (HVAC101 or HVAC230)		*				
	HVAC109	Related Electricity I Theory		3	3	3	3	3
	HVAC110	Related Electricity I Lab		1	1	1	1	1
	HVAC111	Fundamentals of Refrigeration I Theory		3	3	3		
	HVAC112	Fundamentals of Refrigeration I Lab	CLE–NORA	1	1	1		
	HVAC114	Fundamentals of Heating I Theory	CLE–NORA	3	3		3	
	HVAC115	Fundamentals of Heating I Lab		1	1		1	
	FIRST YEAR	**SPRING SEMESTER**						
	HVAC119	Related Electricity II Theory		3	3	3	3	3**
	HVAC120	Related Electricity II Lab		1	1	1		1**
	HVAC121	Fundamentals of Refrigeration II Theory		3	3	3		
	HVAC122	Fundamentals of Refrigeration II Lab		1	1	1		
	HVAC134	Fundamentals of Gas Heating and Piping Installation Theory	CLE–NHGFL	3	3		3	
	HVAC135	Fundamentals of Gas Heating and Piping Installation Lab	CLE–NHGFL	1	1		1	
	ENGL110/110x	College Composition I or College Composition I with Corequisite		4/5				
		Mathematics Elective		3				
	SECOND YEAR	**FALL SEMESTER**						
	HVAC211	Commercial Refrigeration Theory		3	3	3		
	HVAC212	Commercial Refrigeration Lab		2	2	2		
	HVAC223	Warm Air and Steam Systems Theory		3	3		3	3
	HVAC224	Warm Air and Steam Systems Lab		2	2		2	2
	HVAC230	Gas Equipment Installation and Service Theory	CLE–NHGFL	*	4		4	
		Liberal Arts Elective		3				
		Social Science Elective		3				
	SECOND YEAR	**SPRING SEMESTER**						
	HVAC221	Residential and Commercial AC and Heat Pumps Theory		3	3	3		3
	HVAC222	Residential and Commercial AC and Heat Pumps Lab		2	2	2		2
	HVAC213	Hydronic Systems Theory		3	3		3	3
	HVAC 214	Hydronic Systems Lab		2	2		2	2
		Science Elective		3				
		Foreign Language/Humanities/Fine Arts Elective		3				
	ADVANCED HVAC CERTIFICATE							
	FIRST YEAR	**FALL SEMESTER**						
	HVAC243	DDC and Building Automation Controls I						4
	HVAC256	HVAC Equipment Operation, Maintenance, & Optimization						4
	HVAC260	HVAC Project Management						3
	FIRST YEAR	**SPRING SEMESTER**						
	HVAC244	DDC and Building Automation Controls II						4**
	HVAC258	Advanced Air & Hydronic Systems						4
	HVAC259	Mechanical / HVAC Project Cost Estimation						3
		TOTAL ACCUMULATED CREDITS WITH EACH TRAINING		66*	48	26	30	41

Adding up HVAC Credits

Course Selection

* **HVAC, AAS:** Choose HVAC101 **or** HVAC230.
HVAC 101 is only for high school students through the Early College program.

** **Advanced HVAC, Cert.:** Choose HVAC109 & HVAC110 **or** HVAC244

Get the Credits You Deserve!

Field Experience/ Industry Trainings:

- Earn up to 40 credits with Credit for Life Experience (CLE)
- Minimum of 25% of total credits must be completed through residency. Minimum level 200.

Credits received depends on general education elective chosen. Minimum level 100 with 3 credit minimum.

All courses and degree requirements are subject to change. For the most current information on MCC programs, **see mccnh.edu/programs**.