

HEATING, VENTILATION, AIR CONDITIONING/ REFRIGERATION (HVAC/R), COA

Program Code: Heating Vent AC Refrig-CoA

Program Description

The Certificate of Achievement, Heating, Ventilation, Air Conditioning/Refrigeration prepares students to install, maintain, service, troubleshoot, and repair critical systems such as in data process centers and hospitals. The program enables students to learn how to maintain, troubleshoot, and repair HVAC equipment for equipment cooling and other related machinery. Instruction includes classroom, laboratory, and hands-on work in the laboratory or in the field. Along with core classes, academic skills emphasizing related math, science, and human relations components are stressed to help students prepare to meet challenges commonly found in the workplace.

Air Conditioning Career Map (<https://sites.tmcc.edu/flipbook/career-maps/>)

Recommended Course Schedule

1st semester		Units
AC 102	Refrigeration Theory	3
AC 107	Electrical and Controls for HVAC	6
Communications	¹	3
Mathematics	¹	3
OSH 222	General Industry Safety	1
Semester Total		16
2nd semester		Units
AC 150	Basic Refrigeration Servicing	6
Electives	²	6
Human Relations	²	3
Semester Total		15
Total Units		31

¹ See approved General Education list for the AAS Degree. (<https://catalog.tmcc.edu/degrees-certificates/general-education/aas/>)

² See program recommendations or requirements.

Program Requirements

Certificates of Achievement can be a stepping stone to an associate degree or allow students to enter the workforce. Certificates of Achievement have a general education component.

To earn a Certificate of Achievement, students must:

1. Maintain a minimum cumulative GPA of 2.0 (see requirements for graduation.)

2. Complete a minimum of 15 semester credit hours within the college.
3. Satisfy General Education requirements for the Certificate of Achievement (<https://catalog.tmcc.edu/degrees-certificates/general-education/coa/>).
4. Have no financial or library obligation to the college.

Code	Title	Units
General Education Requirements		
<i>Communications</i>		3
<i>Human Relations</i>		3
Recommended:		
CE 201	Workplace Readiness	
<i>Mathematics</i>		3
Certificate Requirements		
AC 102	Refrigeration Theory	3
AC 107	Electrical and Controls for HVAC	6
AC 150	Basic Refrigeration Servicing	6
OSH 222	General Industry Safety	1
Elective Requirements		
Select 6 units from the following:		6
AC 106	Residential Gas Heating	
AC 200	Commercial Refrigeration I	
AC 108	Motors for HVAC/R	
AC 113	Schematic Reading for HVAC/R	
AC 210	Boiler Operation and Maintenance	
Total Units		31

Program Outcomes

Students completing the certificate will:

- PSLO1: Incorporate workforce safety principles while performing basic tasks of a Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) technician.
- PSLO2: Interpret electrical/mechanical schematics on HVAC/R equipment to diagnose mechanical or electrical problems in a residential or light commercial environment.
- PSLO3: Diagnose and repair electrical or mechanical problems on commercial air conditioning equipment.