

CONSTRUCTION TECHNOLOGIES, CERTIFICATE OF ACHIEVEMENT

Heating, Ventilation, Air Conditioning/ Refrigeration (HVAC/R)

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.

Outcomes

Students completing the certificate will:

Incorporate workforce safety principals while performing basic tasks of a Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) technician.

Interpret electrical/mechanical schematics on HVAC/R equipment to diagnose mechanical or electrical problems in a residential or light commercial environment.

Diagnose and repair electrical or mechanical problems on commercial air conditioning equipment; critical systems; chillers.

Gainful Employment

While all of the educational programs at Truckee Meadows Community College are designed to lead to either employment or transfer, the Department of Education requires that we provide information on specific certificate programs. More information on Gainful Employment (<http://www.tmcc.edu/financial-aid/consumer-information/gainful-employment>) is available on the TMCC website. We hope this information is helpful to you as you make your career and educational choices.

Click here for program costs. (<http://www.tmcc.edu/financial-aid/consumer-information/gainful-employment/subjects/heating-ventilation>)

Certificates of Achievement are a set of courses that can serve as 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 AAS (<http://catalog.tmcc.edu/degrees-certificates/general-education/aas>).

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 111	Heat Pumps	
AC 121	Sheet Metal I	
AC 200	Commercial Refrigeration I	
AC 210	Boiler Operation and Maintenance	
Total Units		31
1st semester		
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		
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. (<http://catalog.tmcc.edu/degrees-certificates/general-education/aas>)

² See program recommendations or requirements.