

ASSOCIATE OF APPLIED SCIENCE - CONSTRUCTION TECHNOLOGIES - HEATING, VENTILATION, AIR CONDITIONING/ REFRIGERATION (HVAC/R) EMPHASIS

The AAS degree in heating, ventilation, air conditioning and refrigeration trains technicians to design and maintain complex heating, cooling and refrigeration systems in structures of all sizes and functions, from homes to casino resort hotels. The HVAC/R program combines classroom instruction with hands-on practice and provides industry upgrade training on an on-going basis.

Degree Outcomes

Students completing the degree will:

- Fulfill the requirements of the Associate of Applied Science.
- Demonstrate competency in their specified emphasis.

Emphasis Outcomes

Students completing the emphasis will:

- Demonstrate a comprehensive understanding of HVAC/R principles and applications and the skills to work safely and efficiently in the HVAC industry.
- Design residential and commercial HVAC/R systems.
- Gain knowledge and practical skills to troubleshoot and repair residential and commercial HVAC/R systems.

AAS degrees are generally non-transfer degrees that are designed for students to enter the workforce.

To earn an AAS degree, students must:

1. Maintain a minimum cumulative GPA of 2.0 (see requirements for graduation.)
2. Complete a minimum of 15 units 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.

General Education Requirements

Diversity ¹	[3]
Communications/English	6
Fine Arts/Humanities/Social Science	3
Human Relations	3
Recommended:	
CE 201 Workplace Readiness	
Mathematics	3
Recommended:	

MATH 108	Math for Technicians	
Science		3
U.S. and Nevada Constitutions		3
Degree Requirements		
Core		
CONS 111	Commercial Building Codes	3
CONS 120	Print Reading and Specification	3
OSH 222	General Industry Safety	1
Emphasis		
AC 102	Refrigeration Theory	3
AC 107	Electrical and Controls for HVAC	6
AC 121	Sheet Metal I	3
AC 150	Basic Refrigeration Servicing	6
ENRG 130	Introduction to Solar Energy	3
AC 106 or AC 200	Residential Gas Heating Commercial Refrigeration I	6
Electives		
Select 6 units from the following:		6
AC 111	Heat Pumps	
AC 122	Sheet Metal II	
AC 210	Boiler Operation and Maintenance	
AC 295	Internship HVAC Career	
CONS 121	Principles of Construction Estimating	
ENRG 142	Solar Thermal Technologies	
Any other AC courses not listed		
Total Units		61

¹ May also count toward additional college requirements. Please consult with Academic Advisement.

² The student must complete all topics for Modular Courses (M) in order to meet degree or certificate requirements.

Course	Title	Units
1st semester		
AC 102	Refrigeration Theory	3
AC 107	Electrical and Controls for HVAC	6
CONS 120	Print Reading and Specification	3
Mathematics ³		3
OSH 222	General Industry Safety	1
Semester Total		16
2nd semester		
AC 121	Sheet Metal I	3
Communications ²		3
CONS 111	Commercial Building Codes	3
ENRG 130	Introduction to Solar Energy	3
Science ²		3
Semester Total		15
3rd semester		
AC 150	Basic Refrigeration Servicing	6
Elective ³		3
English ²		3
U.S. and Nevada Constitutions ²		3
Semester Total		15

4th semester

AAD 201	History of the Built Environment (Social Science/Diversity)	3
AC 106 or AC 200	Residential Gas Heating or Commercial Refrigeration I	6
Elective ³		3
Human Relations ³		3
Semester Total		15
Total Units		61

² See approved General Education list for the AAS Degree. (<http://catalog.tmcc.edu/degrees-certificates/general-education/aas>)

³ See program recommendations or requirements.