

# Heating, Ventilation, Air Conditioning, and Refrigeration Technology, AAS

Modern residential, commercial, institutional and manufacturing operations depend on carefully monitored temperature conditions and well-trained installation and service technicians. Government researchers say graduates of training programs that emphasize hands-on experience will have a definite advantage when seeking employment in heating, ventilation and air conditioning technology. JCCC provides you the opportunity to work on actual equipment while pursuing a degree or certificate program. The 64-credit-hour associate of applied science degree program focuses on developing an awareness of basic mathematical and scientific principles. The curriculum is concerned with the manner by which these principles affect the control of temperature and the quality of air, design, testing, installation and development of heating and cooling systems.

If you select the residential degree, you will learn the theory of operation as well as installation, duct design, service and repair of gas and electric furnaces, heat pumps and central air conditioners. In addition to the 31 core hours, the following courses are required for the A.A.S. degree, residential option.

(Major Code 2860; State CIP Code 47.0201)

- Heating, Ventilation and Air Conditioning Technology (<http://www.jccc.edu/academics/industrial-technology/hvac>)

## Associate of Applied Science Degree

### First Semester

ENGL 121	Composition I*	3
INDT 155	Workplace Skills	1
HVAC 105	HVAC Fundamentals	4
HVAC 110	Electrical Fundamentals	4
HVAC 136	Heating System Fundamentals	3
HVAC 164	EPA 608 Refrigerant Management	1
<b>Total Hours</b>		<b>16</b>

### Second Semester

EMS 121	CPR I - Basic Life Support for Healthcare Provider	1
INDT 125	Industrial Safety/OSHA 30	3
HVAC 142	Load Calculations	3
HVAC 201	Cooling Systems*	3
MATH 130	Technical Mathematics I* (or higher)	3
Humanities Elective ^		3
<b>Total Hours</b>		<b>16</b>

^ See all AAS general education electives (<http://catalog.jccc.edu/degreerequirements/associate-applied-science>)

### Third Semester

Technical Electives		3
NOTE: Technical electives are any courses with the AUTO, CET, DRAF, ELEC, ELTE, HVAC, INDT or MFAB prefix.		
HVAC 167	Sheet Metal Layout and Fabrication	3
HVAC 231	HVAC Rooftop Units*	3
HVAC 242	Duct Design and Equipment Selection*	3
Communications Elective ^		3
<b>Total Hours</b>		<b>15</b>

^ See all AAS general education electives (<http://catalog.jccc.edu/degreerequirements/associate-applied-science>)

### Fourth Semester

Technical Electives		2
NOTE: Technical electives are any courses with the AUTO, CET, DRAF, ELEC, ELTE, HVAC, INDT or MFAB prefix.		
HVAC 236	Advanced Heating Applications*	3

HVAC 250	HVAC Installation and Start-up Procedures*	3
HVAC 275	HVAC Code Review*	3
HVAC 277	HVAC Control Systems*	3
Social Science and/or Economics Elective ^		3
<b>Total Hours</b>		<b>17</b>

^ See all AAS general education electives (<http://catalog.jccc.edu/degreerequirements/associate-applied-science>)

**Total Program Hours: 64**