

Technical Studies – Heating, Ventilation, and Air Conditioning (HVAC), AAS Degree

Purpose

This program is designed to build upon the HVAC certificate and to create a pathway to upper division studies or a competitive resume advantage for students planning to work as technicians in Heating, Venting, and Air Conditioning (HVAC). Students will have the opportunity to earn a nationally recognized credential through the EPA certification examination. Classes count toward the Journeyman and Master state license in HVAC.

Program Learning Outcomes

Students will:

- *Read and interpret electrical diagrams, wire control systems from electrical diagrams, and repair faults in electrical control systems.*
- *Properly size and install HVAC systems using current and appropriate codes and industry practices.*
- *Diagnose, repair faults, and perform maintenance on HVAC systems.*
- *Demonstrate an understanding of quality control principles.*

Program Curriculum and Suggested Sequence of Courses

1st Semester	Credits	Course Options
SDV 101 Student Dev Orientation to Engineering and	1	SDV 100
ENG 111 College Composition I	3	
MTH 130 Fundamentals of Reasoning	3	MTH 111 See Note 2
AIR 121 Air Conditioning and Refrigeration I	3	See Note 5
IND 103 Industrial Methods	2	
SAF 130 Industrial Safety – OSHA 10	1	
AIR 276 Refrigerant Usage EPA Certification	2	See Note 5
<i>Total Credits</i>	<i>15</i>	
2nd Semester	Credits	Course Options
ENG 115 Technical Writing	3	
ITE 115 Microcomputers/Programming/Software	3	
HLT 106 First Aid and Safety	2	HLT 100
AIR 138 Small Hermetic Commercial Systems	3	
AIR 154 Heating Systems	3	
<i>Total Credits</i>	<i>14</i>	
3rd Semester		
IND 116 Applied Technology	3	
IND 190 Coordinated Internship I	3	IND 197 See Note 3
<i>Total Credits</i>	<i>6</i>	
4th Semester	Credits	Course Options
HIS 111 History of World Civilization I	3	
ELE 118 Practical Electricity	2	See Note 6
ELE 156 Electrical Control Systems	3	See Note 6
IND 101 Quality Assurance Technology I	3	
AIR 235 Heat Pumps	3	

<i>Total Credits</i>	<i>14</i>	
5th Semester	Credits	Course Options
IND 137 Team Concepts/Problem Solving	3	
HIS 112 History of World Civilization II	3	
PHI 220 Ethics	3	
CAD 201 Computer Aided Drafting and Design I	3	See Note 4
IND 190 Coordinated Internship II	3	IND 197 See Note 3
<i>Total Credits</i>	<i>15</i>	
Total Credits For Program	64	

Notes and Additional Curriculum Options

1. Part-time students should consult their faculty advisors regarding appropriate course sequences.
2. Students who have completed MTH 103 have satisfied this requirement.
3. Internship is a total of 6 credits taken over two semesters.
4. Alternate courses: ITE119, ETR113, ETR150, ETR160
5. AIR 121 and AIR 276 are co-requisites and should be taken together.
6. ELE 118 is a pre- or co-requisite for ELE 156

Certifications

Courses in this program may help students attain the following license(s) or certification(s):

- EPA Section 608 Technician Certification, U.S. Environmental Protection Agency
- Journeyman Heating, Ventilation & Air Conditioning, Virginia Department of Professional and Occupational Regulation
- Master Heating, Ventilation & Air Conditioning, Virginia Department of Professional and Occupational Regulation