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, Ventilation, 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

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

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<th>5th Semester</th>
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<td>IND 137 Team Concepts/Problem Solving</td>
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<tr>
<td>HIS 112 History of World Civilization II</td>
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<td>PHI 220 Ethics</td>
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<td>CAD 201 Computer Aided Drafting and Design I</td>
<td>3</td>
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<tr>
<td>IND 190 Coordinated Internship II</td>
<td>3</td>
<td>IND 197 See Note 3</td>
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<tr>
<td><strong>Total Credits</strong></td>
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### Total Credits For Program

15

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### 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.
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