

Air Conditioning and Refrigeration Certificate

Advisors - Ayers Campus: VACANT, Air Conditioning Refrigeration Building (256.835.5418)

Valley Street Campus: Tim Hardy, Air Conditioning Refrigeration Building (256.549.8662) thardy@gadsdenstate.edu

NOTICE(s): For the certificate in Air Conditioning and Refrigeration, the student must complete a minimum of 47 credit hours – 41 hours in technical and 6 hour in general education courses – all of which must be approved by the advisor. Required courses may vary to provide options and to meet student needs. Admission Requirement: High school diploma or GED.

The courses in this program of study may not be offered every semester. It is important to consult with your advisor to determine course schedules to stay on track to graduate.

Area I – Written Composition

| Item # | Title | Hours | Grade | Term Completed |
|---------|-----------------------|-------|-------|----------------|
| ENG 101 | English Composition I | 3 | | |
| | Sub-Total Credits | 3 | | |

Area III – Natural Sciences and Mathematics

| Item # | Title | Hours | Grade | Term Completed |
|--------|--|-------|-------|----------------|
| | MTH 100: Intermediate College Algebra OR numerically higher | 3 | | |
| | Sub-Total Credits | 3 | | |

Area V - Required Technical Courses

| Item # | Title | Hours | Grade | Term Completed |
|---------|-------------------------------------|-------|-------|----------------|
| ACR 111 | Principles of Refrigeration | 3 | | |
| ACR 112 | HVACR Service Procedures | 3 | | |
| ACR 113 | Refrigeration Piping Practices | 3 | | |
| ACR 121 | Principles of Electricity for HVACR | 3 | | |
| ACR 122 | HVACR Electric Circuits | 3 | | |
| ACR 123 | HVAC/R Electrical Components | 3 | | |
| ORI 101 | Orientation to College | 1 | | |
| WKO 101 | Workplace Skills Development I | 1 | | |
| | Sub-Total Credits | 20 | | |

Additional Coursework

Choose 21 credit hours from the list below:

| Item # | Title | Hours | Grade | Term Completed |
|----------|--|-------|-------|----------------|
| ACR 119 | Fundamentals of Gas Heating Systems | 3 | | |
| ACR 120 | Fundamentals of Electric Heating Systems | 3 | | |
| ACR 125 | Fundamentals of Gas and Electrical Heating Systems | 6 | | |
| ACR 126 | Commercial Heating Systems | 3 | | |
| ACR 127 | HVACR Electric Motors | 3 | | |
| ACR 128 | Heat Load Calculations | 3 | | |
| ACR 130 | Computer Assisted HVAC Troubleshooting | 1 | | |
| ACR 132 | Residential Air Conditioning | 3 | | |
| ACR 133 | Domestic Refrigeration | 3 | | |
| ACR 134 | Ice Machines | 3 | | |
| ACR 135 | Mechanical/Gas/Safety Codes | 3 | | |
| ACR 138 | Customer Relation in HVAC | 3 | | |
| ACR 144 | Basic Drawing and Blueprint Reading in HVAC | 3 | | |
| ACR 147 | Refrigerant Transition and Recovery Theory | 3 | | |
| ACR 148 | Heat Pump Systems I | 3 | | |
| ACR 149 | Heat Pump Systems II | 3 | | |
| ACR 150 | Basic Sheet Metal Processes | 6 | | |
| ACR 151 | Duct Design and Fabrication | 6 | | |
| ACR 152 | Heat Pump Systems | 6 | | |
| ACR 181 | Special Topics in ACR I | 3 | | |
| ACR 182 | Special Topics in ACR II | 3 | | |
| ACR 183 | Special Topics in ACR | 1 | | |
| ACR 184 | Special Topics In ACR | 1 | | |
| ACR 185 | Special Topics in ACR | 2 | | |
| ACR 186 | Special Topics in ACR | 2 | | |
| ACR 192 | HVAC Apprenticeship/Internship | 3 | | |
| ACR 193A | Co-Op | 1 | | |
| ACR 193B | Co-Op | 1 | | |
| ACR 193C | Co-Op | 1 | | |
| ACR 194 | Co-Op | 2 | | |
| ACR 195 | Co-Op | 3 | | |
| ACR 200 | Review for Contractors Exam | 3 | | |
| ACR 202 | Special Refrigeration Systems | 3 | | |
| ACR 203 | Commercial Refrigeration | 3 | | |
| ACR 205 | System Sizing and Air Distribution | 3 | | |
| ACR 209 | Commercial Air Conditioning Systems | 3 | | |

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|---------|--|-----------|
| ACR 210 | Troubleshooting HVACR Systems | 3 |
| ACR 211 | Building Automation and Engineering I | 3 |
| ACR 212 | Building Automation and Engineering II | 3 |
| CIS 146 | Computer Applications | 3 |
| | INT 101 or EET 103 | 3 |
| | INT 103 or EET 104 | 3 |
| MDT 105 | Introduction to Computer-Aided Design (CAD) | 3 |
| SPH 106 | Fundamentals of Oral Communication | 3 |
| | Sub-Total Credits | 129 |
| | | 47 |