The Program

The purpose of the Air Conditioning and Refrigeration Program is to prepare students for gainful employment in the heating, air conditioning, and refrigeration industry. This program is designed to provide training in the repair, installation, and maintenance of heating, air conditioning, and refrigeration equipment. It includes the study of theory and development of skills needed to install and repair equipment ranging in size and complexity from small self-contained units to large commercial systems. The course strives to develop in all students an understanding of the requirements and opportunities in the heating and air conditioning industry, the practice of safety habits, pride in workmanship, and an understanding of the principles and accepted practices of the heating and air conditioning trade. In addition to classroom instruction, students are provided shop experiences designed to enhance their performance skills.

Program Goals

- To provide the students a safe learning environment emphasizing good safety practices
- To provide the student with hands-on experience utilizing up to date equipment
- To provide the student with a strong foundation of basic electrical concepts to enter into and succeed in various areas of the HVAC/R industry.
- To provide the student with a strong foundation of industry-mandated knowledge, professional values, skills and abilities for Heating, Ventilation, Air Conditioning & Refrigeration technician and installers.
Admissions Procedures

Students applying for this program should be aware that they will need to:

- Take the required school entrance examination OR provide ACT scores acceptable for entry into the college
- Complete an application for admissions
- Have all high school (GED) and college transcripts sent to the college

Core Curriculum
Diploma- Heating, Ventilation, and Air Conditioning Mechanic

General Education

COURSE DESCRIPTION: CREDITS
Area 1
Written Communication, Oral Communications, Humanities/Heritage 3

Area 2
Mathematics (MAT 105 and MAT 120 excluded) 3
Subtotal: 6

Technical Core

COURSE DESCRIPTION: CREDITS
Digital Literacy course OR demonstrated competency 0-3
ACR 100 Refrigeration Fundamentals 3
ACR 101 Refrigeration Fundamentals Lab 2
ACR 102 HVAC Electricity AND 3
ACR 103 HVAC Electricity Lab OR 2
Comparable Electrical Course (4-5)
ACR 130 Electrical Components 3
ACR 131 Electrical Components Lab 2
ACR 170 Heat Load/Duct Design OR 3
ACR 209 Manual N Commercial Load Calculations & Design (4)
ACR 250 Cooling and Dehumidification 3
ACR 251 Cooling and Dehumidification Lab 2
ACR 260 Heating and Humidification 3
ACR 262 Heating and Humidification Lab 2
ACR 270 Heat Pump Application AND 3
ACR 271 Heat Pump Application Lab OR 2
ACR 207 Commercial HVAC Systems (5)
ACR 291 Special Problems OR
ACR 298 Practicum Technical Electives

Subtotal Credits: 41-50
Total Credits: 47-56

PROGRAM PROCEDURES & PRACTICES

Basic Refrigeration Theory Tubing and Fittings
Brazing and Soldering
Refrigeration Applications
Electrical and Electronic Components
Ice Machines
Cooling and Dehumidification
Heating and Humidification
Duct Design
Shop Management
Computer Applications

Environmental Control System Servicer Certificate

General Education

COURSE DESCRIPTION: CREDITS
ACR 100 Refrigeration Fundamentals 3
ACR 101 Refrigeration Fundamentals Lab 2
ACR 102 HVAC Electricity AND 3
ACR 103 HVAC Electricity Lab OR 2
Comparable Electrical Course (4-5)
ACR 130 Electrical Components 3
ACR 131 Electrical Components Lab 2
ACR 250 Cooling and Dehumidification 3
ACR 251 Cooling and Dehumidification Lab 2
ACR 260 Heating and Humidification 3
ACR 261 Heating and Humidification Lab 3

Total Credits: 24-25
Domestic Air Conditioner and Furnace Installer Certificate

General Education
COURSE DESCRIPTION: CREDITS
ACR 100 Refrigeration Fundamentals 3
ACR 101 Refrigeration Fundamentals Lab 2
ACR 102 HVAC Electricity AND 3
ACR 103 HVAC Electricity Lab OR 2
Comparable Electrical Course (4-5)
ACR 130 Electrical Components 3
ACR 131 Electrical Components Lab 2
ACR 170 Heat Load/Duct Design OR 3
ACR 250 Cooling and Dehumidification 3
ACR 251 Cooling and Dehumidification Lab 2
ACR 260 Heating and Humidification 3
ACR 262 Heating and Humidification Lab 2
ACR 270 Heat Pump Application AND 3
ACR 271 Heat Pump Application Lab OR 2
ACR 290 Journeyman Preparation 3
Total Credits: 35-36

Refrigeration Mechanic Certificate

General Education
COURSE DESCRIPTION: CREDITS
ACR 100 Refrigeration Fundamentals 3
ACR 101 Refrigeration Fundamentals Lab 2
ACR 102 HVAC Electricity AND 3
ACR 103 HVAC Electricity Lab OR 2
Comparable Electrical Course (4-5)
ACR 200 Commercial Refrigeration 3
ACR 201 Commercial Refrigeration Lab 2
ACR 210 Ice Machines 3
ACR 250 Cooling and Dehumidification 3
ACR 251 Cooling and Dehumidification Lab 2
ACR 208 Chillers 5
ACR 209 Manual N Load Calculations & Design 5
Total Credits: 27-28

Chiller Maintenance Certificate

General Education
COURSE DESCRIPTION: CREDITS
ACR 100 Refrigeration Fundamentals 3
ACR 101 Refrigeration Fundamentals Lab 2
ACR 102 HVAC Electricity AND 3
ACR 103 HVAC Electricity Lab OR 2
ACR 208 Chillers 5
ACR 209 Manual N Load Calculations & Design 5
Total Credits: 35-36

Boiler Maintenance Certificate

General Education
COURSE DESCRIPTION: CREDITS
ACR 100 Refrigeration Fundamentals 3
ACR 101 Refrigeration Fundamentals Lab 2
ACR 102 HVAC Electricity AND 3
ACR 103 HVAC Electricity Lab OR 2
ACR 206 Boilers 5
ACR 207 Commercial HVAC Systems 5
Total Credits: 20

Environmental System Repair Helper Certificate

General Education
COURSE DESCRIPTION: CREDITS
ACR 100 Refrigeration Fundamentals 3
ACR 101 Refrigeration Fundamentals Lab 2
ACR 102 HVAC Electricity AND 3
ACR 103 HVAC Electricity Lab OR 2
Comparable Electrical Course (4-5)
ACR 130 Electrical Components 3
ACR 131 Electrical Components Lab 2
Total Credits: 9-10
Employment Opportunities

Employment in this profession can be found in a number of different settings, such as local HVAC companies that offer services to individuals and the community, and businesses/industries, municipalities. Some graduates choose to go into business for themselves.

Financial Aid

Students are eligible to apply for various types of financial aid. Call the school for an appointment with the financial aid administrator. 1-888-274-7322

Accreditation

Southeast Kentucky Community & Technical College is accredited by the Commission on Colleges, Southern Association of Colleges AND Schools. 1866 Southern Lane, Decatur, Georgia 30033, (404)679-4500.

Air Conditioning Technology

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