

AIR CONDITIONING AND REFRIGERATION, AS

Technology and Health Division

Degree S0909

The Air Conditioning and Refrigeration (AIRC) Degree Program prepares students for entry level employment or for advancement of existing skills/knowledge without requiring any prior knowledge or experience. In addition to exposing students to core topics such as mechanical and electrical fundamentals, the Program includes coursework in heat loads, advanced electrical and mechanical, welding, math, codes and standards, and air properties. Hands-on labs throughout the program expose students to a cross-section of systems and equipment used in the industry.

The Program is designed to prepare the student for employment in the broad field of air conditioning, heating, and refrigeration and leads to occupations in design, manufacturing, operation, sales, distribution, installation, maintenance, repairs and controls. There are no prerequisites and/or enrollment limitations.

This degree requires the completion of General Education coursework plus the following:

Required Courses

| Course Prefix | Course Name | Units |
|---------------|--|-------|
| AIRC 10 | Technical Mathematics in Air Conditioning and Refrigeration | 2 |
| AIRC 11 | Welding for Air Conditioning and Refrigeration | 2 |
| AIRC 12 | Air Conditioning Codes and Standards | 3 |
| AIRC 20 | Refrigeration Fundamentals | 4 |
| AIRC 25 | Electrical Fundamentals for Air Conditioning and Refrigeration | 5 |
| AIRC 26 | Gas Heating Fundamentals | 2 |
| AIRC 30 | Heat Load Calculations and Design | 4 |
| AIRC 31 | Commercial Electrical for Air Conditioning and Refrigeration | 4 |
| AIRC 32A | Air Properties and Measurement | 1.5 |
| AIRC 34 | Advanced Mechanical Refrigeration | 4 |
| Total Units | | 31.5 |

Air Conditioning and Refrigeration Website (<http://www.mtsac.edu/airconditioning>)

The Air Conditioning and Refrigeration program is accredited by the Partnership for Air-Conditioning, Heating, Refrigeration Accreditation (PAHRA).

Contact:

Partnership for Air-Conditioning, Heating, Refrigeration Accreditation (PAHRA)

2111 Wilson Blvd., Suite 500

Arlington, VA 22201-3001

(703) 524-8800

Contacts:

Warren Lupson (AHRI)

Wanda Wilkinson (AHRI)

Program Learning Outcomes

Upon successful completion of this program, a student will be able to:

- Properly handle refrigerants based on Section 608 of the clean air act.
- Evaluate, troubleshoot, and modify the electrical, mechanical and air side operation of an air conditioning or refrigeration system.
- Perform a residential heat load calculation, select the equipment, and size the ductwork based on ACCA's Manual J8 and Manual D.
- Select equipment and components for commercial refrigeration systems.

Review Student Learning Outcomes (SLOs) (<http://www.mtsac.edu/instruction/outcomes/sloinfo.html>) for this program.