

HEATING AND AIR CONDITIONING

Associate in Applied Science Option

The following advisement plan is a recommended course of study. An academic advisor may alter course sequence to meet individual student needs. In addition, an academic advisor may recommend additional or different courses depending upon student career plans and/or requirements of the college or university to which the student plans to transfer.

Freshman Year

Fall Semester Credit Hours

SSP 1002 Smart Start Pathway.....	2
CTE 1143 NCCER Core	3
ACT 1124 Basic Compression Refrigeration.....	4
ACT 1133 Brazing and Piping.....	3
ACT 1713 Electricity for Heating , Ventilation, Air Conditioning & Refrigeration.....	3
ACT 2433 Refrigerants, Retrofit and Regulations.....	3
Total Hours.....	18

Spring Semester Credit Hours

ACT 1214 Controls.....	4
ACT 1313 Refrigeration System Components.....	3
ACT 2414 Air Conditioning I.....	4
ACT 2513 Heating Systems	3
ENG 1113 English Comp. I.....	3
Total Hours.....	17

Sophomore Year

Fall Semester Credit Hours

ACT 2325 Commercial Refrigeration.....	5
ACT 2424 Air Conditioning II.....	4
ACT 2624 Heat Load and Air Properties.....	4
ACT 2914 Special Project.....	4
Total Hours.....	17

Spring Semester Credit Hours

ENG 1123 English Comp. II.....	3
MAT 1313 College Algebra.....	3
PSC 1113 American National Government or PSY 1513 General Psychology.....	3
Instructor Approved Academic Elective	3
Total Hours.....	12

NOTE: Baseline competencies are taken from the high school Heating and Air Conditioning program. Students who can document mastery of the competencies will not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.

HEATING AND AIR CONDITIONING TECHNOLOGY

ACT 1124 – Basic Compression Refrigeration – An introduction to the field of refrigeration and air conditioning. Emphasis is placed on principles of safety, first aid, thermodynamics, and heat transfer, recovery and lubricants. Four semester credit hours: One hour lecture and six hours lab.

ACT 1133 – Tools and Piping – Various tools and pipe connecting techniques. Covers tools and test equipment required in heating, ventilation, air conditioning, and refrigeration. Three semester credit hours: One hour lecture and four hours lab.

ACT 1214 – Controls – Fundamentals of gas, fluid, electrical, and programmable controls. Four semester credit hours: One hour lecture and six hours lab.

ACT 1313 – Refrigeration System Components – An in depth study of the components and accessories of a sealed system including metering devices, evaporators, compressors, and condensers. Three semester credit hours: One hour lecture and four hours lab.

ACT 1713 – Electricity for Heating, Ventilation, Air Conditioning and Refrigeration – Basic knowledge of electricity, power distribution, components, solid state devices, and electrical circuits. Three semester credit hours: One hour lecture and four hours lab.

ACT 1813 – Professional Service Procedures – Business ethics necessary to work with both the employer and customer. Includes resume, record keeping, and service contracts. Three semester credit hours: One hour lecture and four hours lab.

ACT 2325 – Commercial Refrigeration – A study of various commercial refrigeration systems. It includes installation, servicing, and maintaining systems. Five semester credit hours: Two hours lecture and six hours lab.

ACT 2414 – Air Conditioning I – Residential air conditioning including indoor air quality. Three semester credit hours: One hour lecture and four hours lab.

ACT 2424 – Air Conditioning II – A continuation of Air Conditioning I as an in depth course in the installation, startup, and maintenance of air conditioning systems to include residential and commercial. Four semester credit hours: Two hours lecture and four hours lab.

ACT 2433 – Refrigerant, Retrofit, and Regulations – This course covers regulations and standards for new retrofit and government regulations. Includes OSHA regulations, EPA regulations, local, and state codes. Three semester credit hours: One hour lecture and four hours lab.

ACT 2513 – Heating Systems – This course covers various types of residential and commercial heating systems. Includes gas, oil, electric, compression, and hydraulic heating systems. Four semester credit hours: Two hour lecture and four hours lab.

ACT 2624 – Heat Load and Air Properties – Introduction to heat load calculations for residential and light commercial heating, ventilation, air conditioning, and refrigeration systems. Includes air distribution, duct sizing, selection of grills and registers, types of fans, air velocity, and fan performance. Introduces air testing instruments and computer usage. Four semester credit hours: Two hours lecture and four hours lab.