AIR CONDITIONING AND REFRIGERATION ASSOCIATE IN SCIENCE DEGREE

Division: Career Technical Education

PROGRAM CODE: 1S03774
Financial Aid Eligible

The **Air Conditioning and Refrigeration Associate in Science Degree** is designed as the bridge between Engineering and Service Technology. It will provide students with technical skills to support engineering applications. Graduates of the program will be at the leading edge of the application of new engineering solutions to production in industry. To earn an Associate Degree students must complete: (1) all 40 units of Air Conditioning & Refrigeration course requirements for the Certificate in Air Conditioning & Refrigeration with a grade of C or better; (2) Cypress College Native General Education requirements; California State University General Education Breadth requirements (CSU GE Breadth) or IGETC General Education requirements, including the cultural diversity and reading requirements and any elective courses to complete a minimum of 60 units; and, (3) have a minimum GPA of 2.0. At least 50% of all major course work must be completed at Cypress College. Courses that fulfill requirements for an Associate Degree at Cypress College might not be the same as those required for completing the major at a transfer institution offering a Baccalaureate Degree. For information on specific university requirements, please consult with your counselor, or visit the Transfer Center. This degree requires a total of 40 units.

Code	Title	Units
Required Courses are listed in suggested sequence (40 units):		
AC/R 100 C	Principles of Thermodynamics and Heat Transfer	3
AC/R 110 C	Air Flow Design & Psychrometrics	2
AC/R 120 C	Piping Practice, Tools and Safety	3
AC/R 137 C	Blueprints and Dimension Analysis (formerly AC/R 037 C)	2
AC/R 036 C	Refrigeration Certification Training (formerly titled Refrigerants, Charging and Recovery)	1
AC/R 055 C	Technician Customer Relations	1
AC/R 105 C	Electricity for Air Conditioning and Refrigeration I	3
AC/R 115 C	Gas Heat Transfer Systems	3
AC/R 135 C	Sustainability Design and Application (formerly Solar Energy for Heat and Cool)	2
AC/R 106 C	Electricity for Air Conditioning and Refrigeration II	3
AC/R 210 C	Commercial Refrigeration	3
AC/R 220 C	Introduction to Air Conditioning Controls (formerly A/C Controls and Energy Management)	2
AC/R 230 C	Heat Pumps	2
AC/R 205 C	Commercial Air Conditioning	3
AC/R 215 C	Codes and Commissioning (formerly Estimating for HVAC)	3
AC/R 245 C	Load Calculations for Heating and Cooling (formerly AC/R 145 C)	2
AC/R 235 C	Air Conditioning Capstone	2
Total Units		**40**

Program Student Learning Outcomes:

OUTCOME 1: Providing quality hands-on experiences on up-to-date equipment in a safe learning environment with training and observance of good safety practices.

OUTCOME 2: Providing the foundation of applied thinking skills and problem solving skills to succeed in the HVAC/R industry.

OUTCOME 3: Providing a platform for strong communication skills in every day life experiences.

OUTCOME 4: Providing a strong base of industry mandated knowledge, values and skills to be competitive in the economic environment.

OUTCOME 5: Providing an understanding of the varied and possible career paths in the HVAC/R industry.

OUTCOME 6: Providing those individuals currently working within the HVAC/R industry the opportunity to further their understanding, knowledge and skills in the field.

OUTCOME 7: Providing students with experiential training by experts in the field, as well as with direct contact with these industry professionals as a counseling and job placement tool.

OUTCOME 8: Providing students with an opportunity to obtain a certificate acknowledging their completion of the courses comprising the certificate, and a tool for obtaining gainful employment. The objective of this program is to provide these skills through traditional teaching methods with an emphasis on a practical, “hands-on” experiential education that will give the students an added “edge” in job market competition.

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