

San José City College
Certificate of Achievement
Level 3
2021-2022

AIR CONDITIONING and REFRIGERATION TECHNOLOGY

San José City College offers two certificates in Air Conditioning/Refrigeration Technology. This program is designed to develop the appreciation, knowledge, and skills essential for employment in the air conditioning and refrigeration industry. Instruction includes both theory and practical work with refrigeration and air conditioning machinery, electrical equipment, and related mathematics.

Upon completion of this program, students will be able to:

- Recognize the components that constitute Residential and Commercial Air Conditioning and Refrigeration systems. Perform Maintenance and Repair on complex Air Conditioning and Refrigeration systems.
- Demonstrate competence in analyzing, maintaining, servicing and commissioning Air Conditioning and Refrigeration systems. Problem solve and troubleshoot complex Air Conditioning and Refrigeration systems using analytical and methodical practices.
- Interpret and process Wiring Diagrams and Pipe Diagrams. Demonstrate proficiency in writing service reports in both hard and soft copy.
- Demonstrate competence and skill in maintaining energy efficient Air Conditioning and Refrigeration equipment. Recognize and be capable of implementing modern technologies so as to maintain proper and efficient functionality of Air Conditioning and Refrigeration systems
- Demonstrate the ability to work as an individual and in groups of all social and economic backgrounds. Demonstrate awareness of Global Warming, Green House Gases Effect and Ozone Depletion as related to use of common Refrigerants.
- Demonstrate honesty and integrity when dealing with customers and employers. Exercise professional courtesy in the workplace

CAREERS OPTIONS:

Refrigeration Technician
Air Conditioning Technician
Facilities Technician
Estimator
Counter Sales

RELATED OCCUPATIONS:

Stationery Engineer
Sheet Metal Technician
Plumber and Pipe Fitter
Electrician
Facilities Maintenance Technician

FOR ADDITIONAL INFORMATION, SEE A COUNSELOR, VISIT THE CAREER/TRANSFER CENTER, OR CONTACT THE FOLLOWING:

Business and Workforce Development Division
San José City College Web Page

(408) 288-3131
www.sjcc.edu

AIR CONDITIONING and REFRIGERATION TECHNOLOGY

All major courses must be completed with a grade of "C" or better.

<u>CERTIFICATE OF ACHIEVEMENT - LEVEL 3:</u>			<u>UNITS</u>
AIRC	121	Air Conditioning Principles	4
AIRC	122	Refrigeration Principles	4
AIRC	131	Intermediate Air Conditioning	4.5
AIRC	132	Refrigeration Service	4.5
AIRC	133	EPA Section 608 Refrigerant Recovery Certification Preparation	2
AIRC	141	Hydronics and Air Distribution	3
AIRC	142	Air Conditioning Control Systems	4
FMT	100	Introduction to Facilities Maintenance	<u>3.5</u>
 <u>Plus one</u> of the following courses:			
AIRC	145	Sheet Metal Principles - OR -	2
FMT	105	Introduction to Industrial Electronics and Controls - OR -	2.5
FMT	130	Management of People in the Technical and Building Services Industries	<u>2</u>
APPROVED MAJOR ELECTIVES (from list below) if necessary to meet 32 units			0.5-4
TOTAL UNITS REQUIRED			<u>32</u>

APPROVED MAJOR ELECTIVES:

AIRC	138	Work Experience	1
CIS	041	Introduction to Computer Information Systems	3
CNSTR	102A	Residential Plumbing Systems	3
CNSTR	102B	Residential/Commercial Wiring	3
FMT	104	Electrical Concepts for Facilities Maintenance Technicians	2.5
FMT	120	Low and High Pressure Boilers	3
FMT	122	Introduction to Programmable Logic Controllers	4
FMT	123	Intermediate Programmable Logic Controllers	4