

Diploma in Refrigeration and Air Conditioning Technician

Credits: 45

Program Description

The Diploma in Refrigeration and Air Conditioning Technician is designed to prepare students for entry-level employment in one of Florida's most in-demand technical fields. The program provides students with the knowledge and hands-on skills necessary to install, maintain, and repair residential and commercial ventilation, air conditioning, and refrigeration systems.

The curriculum integrates classroom instruction, laboratory practice, and work-based learning to ensure students develop technical expertise, safety awareness, and professional competencies. Coursework covers occupational safety and environmental practices, applied mathematics, electrical systems, refrigeration principles, and cooling systems, ductwork and air distribution, piping and brazing techniques, troubleshooting, and system start-up procedures.

In addition, students receive specialized training in automotive refrigeration and air conditioning systems. This component equips graduates with the skills to service and repair automobile climate control systems, expanding their career opportunities beyond traditional residential and commercial refrigeration fields.

Students gain practical experience in state-of-the-art labs, using industry-standard equipment and tools. The program emphasizes compliance with federal, state, and local regulations, including EPA Section 608 requirements for refrigerant handling, OSHA safety standards, and relevant building and energy codes. In addition, students develop employability skills such as teamwork, communication, customer service, and professional ethics that are essential to success in the refrigeration and air conditioning industry.

Graduates of the program will be prepared to sit for industry-recognized certifications, including:

- EPA Section 608 Universal Certification (mandatory)
- OSHA 10 Safety Certification

Program Outcomes

Students will be able to:

- Apply Health, Safety, and Environmental Standards
- Demonstrate Technical Knowledge of refrigeration and air conditioning systems
- Utilize Diagnostic and Troubleshooting Skills
- Integrate Emerging Technologies and Energy Efficiency Practices
- Exhibit Professionalism and Employability Skills

Program sequence will be available at the time of enrollment.

The language of instruction and program delivery modality are subject to availability.

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Course	Title	Credits	Prerequisites
MATH 1200N	College Algebra	3	
OCSE 101	Occupational Safety / OSHA	2	
ELEC 100	Fundamentals of Electricity	1	
ELEC 100L	Fundamentals of Electricity Laboratory	4	
REFR 101	Fundamentals of Refrigeration and Air Conditioning	1	
REFR 101L	Fundamentals of Refrigeration and Air Conditioning Laboratory	4	
REFR 102	Motors and Electrical Controls	1	ELEC 100, ELEC 100L
REFR 102L	Motors and Electrical Controls Laboratory	4	ELEC 100, ELEC 100L
REFR 103	Domestic Refrigeration and Air Conditioning	1	ELEC 100, ELEC 100L, REFR 101, REFR 101L
REFR 103L	Domestic Refrigeration and Air Conditioning Laboratory	4	ELEC 100, ELEC 100L, REFR 101, REFR 101L
REFR 104	Commercial and Industrial Refrigeration and Air Conditioning	1	ELEC 100, ELEC 100L, REFR 101, REFR 101L
REFR 104L	Commercial and Industrial Refrigeration and Air Conditioning Laboratory	4	ELEC 100, ELEC 100L, REFR 101, REFR 101L
REFR 105	Fundamentals of Automobile Air Conditioning	1	REFR 103
REFR 105L	Fundamentals of Automobile Air Conditioning Laboratory	4	REFR 103L
REFR 106	Principles of Renewable Energy and Energy Management	3	
REFR 107	Fundamentals of Hvac Inverters and Variable Refrigerant Volume System (Vrv/Vrf)	3	REFR 103, REFR 103L
REFR 108	EPA 608 - 609 Certification Prep	4	REFR 102, REFR 102L, REFR 103, REFR 103L
TOTAL CREDITS		45	

Notes:

1. This program may be offered in English or Spanish according to demand. COMPLETING A COURSE OR PROGRAM IN A LANGUAGE OTHER THAN ENGLISH MAY REDUCE EMPLOYABILITY WHERE ENGLISH IS REQUIRED.
2. Students must abide with the minimum required hours and policies set by the state and local education agencies for practicum experiences, as applicable.
3. Students must comply with state and local education certification requirements for the diploma program, as applicable.
4. Classification of Instructional Programs (CIP Code): 47.0201 Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician (HAC, HACR, REFR, REFRR).
5. To practice the profession, it is required that the graduate take and pass the exam offered by the Examining Board for Refrigeration and Air Conditioning Technicians of the government of Florida (EPA 608).
6. Graduation GPA: 2.00