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REFRIGERATION AND AIR CONDITIONING TECHNICIAN CERTIFICATE COURSE



Program Length: 158 Hours
Mode of Learning: Online
Students: Domestic / International
Credential: Certificate
NOC



REFRIGERATION AND AIR CONDITIONING TECHNICIAN CERTIFICATE COURSE

Program Overview

The *Refrigeration and Air Conditioning Technician Certification Program* is a modular, Red Seal-aligned training course designed to prepare students for success in the HVAC/R (Heating, Ventilation, Air Conditioning, and Refrigeration) industry. As buildings, homes, and industrial facilities rely on efficient climate control, skilled HVAC/R technicians play a vital role in ensuring comfort, safety, and energy efficiency across residential, commercial, and industrial sectors.

This program delivers a progressive learning experience, starting with foundational knowledge in refrigeration cycles, electrical systems, and equipment installation, and advancing into system design, programmable controls, and eco-friendly practices. Students will gain hands-on experience in diagnosing, repairing, and maintaining a wide range of refrigeration and air conditioning systems, from basic residential units to advanced commercial and specialized equipment.

Graduates will be equipped with the skills required to pursue Red Seal Certification in the Refrigeration and Air Conditioning Mechanic trade. With this nationally recognized endorsement, students can unlock broader employment opportunities, higher wages, and mobility across provinces, making this certification a powerful step toward long-term success in a growing and essential trade.

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Modules:

Module 1: HVAC/R Fundamentals and Safety (39.5 hours)

- Introduction to HVAC/R systems and industry overview
- Refrigeration cycle and component functions
- Workplace and electrical safety, refrigerant handling
- Basic electrical theory and troubleshooting

Module 2: System Installation and Diagnostics (39.5 hours)

- Equipment installation and maintenance procedures
- Leak detection and refrigerant recovery
- Electrical diagram interpretation and component servicing
- Tool usage, maintenance, and calibration

Module 3: Intermediate Systems and Design Principles (39.5 hours)

- Commercial and industrial refrigeration systems
- Air conditioning units (split, window, central systems)
- Intermediate electrical systems and PLC introduction
- Load calculations, sizing, and environmental standards

Module 4: Advanced HVAC/R Applications and Communication (39.5 hours)

- Specialized refrigeration systems and VRF troubleshooting
- Advanced electrical circuits and programmable controls
- Custom system design and efficiency optimization
- Client interaction, professionalism, and ethics

Admission Requirements

- Ontario Secondary School Diploma (OSSD) or equivalent
- Minimum age: 18 years
- Language proficiency (CLB Level 6 or IELTS 5.5 overall or equivalent)
- Strong interest in mechanical systems and hands-on work
- Background in electrical or mechanical trades is an asset



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Futures Canadian College of Business, Health, and Technology formerly Futures Academy of Health was founded in 2009 in Toronto, Ontario. Approved and accepted in November 2018 by the International Student Program, Futures Canadian College is now a Designated Learning Institution.

At FCC, we strive to provide the world-class education every student deserves. With well-crafted lesson plans, that are both informative and practical, we ensure that you learn all you need to know to jumpstart your career. Our co-op programs are relevant and supportive of your desire to land that dream job!

We are committed to providing you with a learning environment that is well-equipped to motivate you to pursue your studies and ultimately, achieve your long-term goals.