

Refrigeration & Air Conditioning Mechanic

The Refrigeration and Air Conditioning program is designed to train individuals in the knowledge, skills, and experience necessary to mechanics in the field.

The Provincial Apprenticeship and Certification Board through legislative authority is responsible for the registration of apprentices and trade qualifiers into the designated occupations.

The registration of an apprentice will take place when an individual is employed in a field of work directly relating to a designated occupation, and has a Memorandum of Understanding (MOU) signed between the Division of Institutional and Industrial Education, an employer and the apprentice.

After successful completion of this program, and the required work experience, the apprentices qualify to write the Journeyman's Examination.

ENTRANCE REQUIREMENTS

Comprehensive Arts and Science Certificate (College Transition program),

OR

High School Graduation,

OR

Grade XI Certificate (Public Examinations or equivalent),

OR

Adult Basic Education (Level III) Graduation,

OR

Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:

1. Mathematics MA3107A, MA3107B, MA3107C

2. Science 3101, 3102, 3103

OR

Persons 19 years of age or older who do not possess the educational prerequisite for this program may be considered on an individual basis under the Mature Student Clause.

CERTIFICATE

- One year
- Start date varies
- Ridge Road Campus

COURSES

CODE	TITLE	Hrs
Block 1 Entry Level		
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
RF1160	Safety Orientation	12
RF1170	Hand/power Tools and Fasteners	20
RF1210	Tube, Pipe, Fittings, Soldering and Brazing	40
RF1220	Refrigeration Fundamentals	80
RF1230	Refrigeration Tools and Instruments	35
RF1240	Refrigerants, Oils and Refrigerant Management	35
RF1250	Refrigeration System Valves and Accessories	35
RF1260	Leak Testing, Evacuation and Charging	30
RF1270	Electrical Fundamentals	40
RF1280	Single and Three Phase Motor Fundamentals	30
RF1310	Electrical Components	20
RF1320	Control Fundamentals	30
RF1330	Air Conditioning Fundamentals	15
RF1340	Rigging Techniques	20
RF1350	System Analysis with Pressure Enthalpy Diagrams	35
RF1360	Compressors	30
RF1370	Condensers	20
RF1380	Evaporators	25
RF1390	Metering Devices	30
RF1400	Automatic Flow Controls and Application	30
RF1410	System Ancillary Components	25
RF1440	Refrigerant Recovery and Recycling Procedures	10
RF1450	Refrigeration and A/C Installation I	30
RF1460	Troubleshooting Techniques	20
RF1470	Industry and Relevant Codes	15
RF1480	Control Circuits and Wiring Diagrams	30
RF1490	Motor Controls, Relays and Transformers	30
RF1510	Air Conditioning Equipment	20
RF1520	Refrigeration Load Calculations	30
MA1060	Basic Math	60
CM2150	Workplace Communications	45
MR1220	Customer Service	30
SP2330	Quality Assurance/Quality Control	30
MC1050	Introduction to Computers	30
SD1700	Workplace Skills	30
SD1710	Job Search Techniques	15
SD1720	Entrepreneurial Awareness	15
Block 2 Advanced Level		
RF1420	Evaporative Condensers and Cooling Towers	20
RF1430	Fluid Dynamics and Pumps	15
RF1500	Refrigeration Equipment	30
RF1530	Refrigeration System and Pipe Design	30
RF1540	Refrigeration and A/C Installation II	30
RF1550	System Capacity Control	30
RF1560	Compressor Diagnostics and Repair	20
RF1570	Troubleshooting Systems and their Components	20
RF1640	Understanding, Interpreting and Troubleshooting Wiring Diagrams	30
RF1760	Basic Electronics	15
Block 3 Advanced Level		
RF1580	Psychrometrics	25
RF1590	Air Conditioning System Design	25
RF1600	Heat Pump Systems	30
RF1610	Fans, Mechanical Drives and Air Filtration	25
RF1620	Air Measuring Instruments and System Balancing	15
RF1630	Control Applications and Components	25
RF1660	Air Conditioning Load Calculations	15
RF1670	Duct Systems and Design	25
RF1680	Humidification and DeHumidification Equipment	15



RF1690	Installation of Air Conditioning Equipment	20
RF1700	Air Conditioning System Troubleshooting	20

Block 4	Advanced Level	Hrs
RF1650	Industrial System Components	25
RF1710	Energy Management and Indoor Air Quality	20
RF1720	Chillers and Chiller Systems	30
RF1730	Multiplex Refrigeration Systems	35
RF1740	Specialty Systems (Ultra-low, Cryogenic)	15
RF1750	Control Application and Components	15
RF1770	Wiring Diagrams	30
RF1780	Specialized Control Systems	30
RF1790	Industrial Refrigeration Systems	40