

Electrical Trades Courses: Part 1

Introduction to Electrical Trades Technology

Course Code: 9055 (20S)

This course will begin with a thorough introduction to workplace health and safety, common trade tools and material used in residential electrical installations. Health and safety topics covered will be Workplace Hazardous Material Information System (WHMIS), Material Safety Data Sheets (MSDS), Personal Protective Equipment (PPE), Ladder safety, Safe Work Procedures and Electrical Licenses. Students will be introduced to the Canadian Electrical Code book and will learn to wire a variety of electrical circuits found in typical Residential Installations. The students will perform the actual wiring in a series of projects, from simple circuits to the more complex circuits. Proper wiring methods as well as wiring in accordance with the Canadian Electrical Code will be stressed.

Electrical Trades DC Fundamentals

Course Code: 9056 (30S)

This course begins with a review of the relevant Mathematics required for the Electrical Trades program. This review will cover fractions, decimals, ratios, algebra, area, volume, perimeter and right angle trigonometry. Areas of study will include Atomic structure, Ohm's law, Electronic Measurement, Voltage, Current, Resistance and Power in Series, Parallel, and Combination circuits. Students will practice what they have learned by performing experiments using the Lab Volt equipment.

Residential Wiring

Course Code: 9057 (30S)

Students will research, locate topics and interpret the CEC. Students will learn how to perform the calculations required to install various types of conduit as outlined in the CEC.

Advanced Residential Wiring

Course Code: 9059 (40S)

Students will build on the knowledge and skills developed in residential wiring. Students will work with home automation technologies, residential blueprint reading, as well as demand load and service calculations.

Electrical Trades Courses: Part 2

Electrical Wiring Methods

Course Code: 9058 (30S)

Students will research various wiring methods and perform necessary calculations according to the CEC rules associated with them. They will learn to interpret blueprints, install various types of raceways and cables.

Electrical Trades AC Fundamentals
Course Code: 9060 (30S)

This course deals with the principles of Alternating Current and its application in Electrical Circuits. Students will study Alternating Current theories, sine waves magnetism, magnetic induction, and solve AC Circuit problems. In this course students will solve AC circuit problems using right angle trigonometry and the Pythagoras theory for AC series and parallel circuits that contain resistors, capacitors and inductors.

Advanced Electrical Wiring Methods
Course Code: 9061 (40S)

Students will build on the knowledge and skills learned in Electrical Wiring Methods. Students will be introduced to generators, motors, motor controls, relays, timers. This course will involve blueprint reading, research projects, and hands on experience in the classroom and lab facility.

Applied Electrical Trades Technology
Course Code: 9062 (40S)

Review professional and Apprenticeship Manitoba guidelines and requirements. WHMIS training, First Aid and CPR instruction are incorporated into this course to prepare students for the workforce. Students will receive training in various areas including human relations, customer service, organizational skills, small business operation and apprenticeship applications.