

Construction Electrician - Upgrading Online

A Guide to Course Content

Construction Electricians install, repair, test and maintain wiring, controls, motors and other electrical devices in a variety of locations.

Training Requirements:

All candidates applying for upgrading training must be eligible to challenge the Construction Electrician Interprovincial Journeyperson examination.

This program is designed to prepare individuals to challenge the Construction Electrician Interprovincial Journeyperson examination.

Upgrading for apprentice Construction Electricians is designed to help apprentices learn and reinforce those skills needed to become competent Journeyperson Electricians.

The upgrading program has a rigorous training schedule. Individuals must be able to manage a large volume of reading material in a short period of time. Completion of all assignments is integral to success.

As there is no practical component to the upgrading training program, additional study is recommended in areas where individuals have minimal on-the-job experience.

Important Notes:

Upgrading is available as a theory-only program. This program is taken online. The online course is based on the eight-week in-class session (for calculation of tuition), delivered by the training provider, Saskatchewan Polytechnic.

The courses will begin at the end of August, with the enrollment for the courses closing November 30th. This program course has an end date for the technical training year and students must complete the entire course by May 31st.

Interested candidates must contact SATCC, not Saskatchewan Polytechnic, when applying for this program.

Participants will be required to complete timed multiple-choice quizzes for each of the 12 sections. The candidate will also have the opportunity to complete a practice 100 question exam with a four-hour time limit.

Computers used by participants for this program must meet certain minimum technical requirements. This information will be provided upon successful application to this program. This document briefly summarizes the training delivered in the upgrading program.

The content of the technical training components is subject to change without notice.

CODE REQUIREMENTS AND TRADE SIZE COMPONENTS

- Branch circuit layouts, calculations and associated components
- Balanced feeder layouts, calculations and associated components
- Unbalanced feeder layouts, calculations and associated components
- Service layouts, calculations and associated components
- Low voltage transformer layouts, calculations and associated components

ELECTRICAL FUNDAMENTALS

- Series circuits, components, diagrams, analysis and related calculations
- Parallel circuits, components, diagrams, analysis and related calculations
- Delta circuits, components, diagrams, analysis and related calculations
- Star circuits, components, diagrams, analysis and related calculations
- Magnetic and electromagnetic operations, principles, terms and related calculations
- Cell and battery operation, principles, terms and related calculations
- Basic electronic circuits and components – including dimmers, rectifiers, solid state switching devices, speed controls, timers and voltage regulators

ELECTRIC MOTORS AND MOTOR STARTERS

- Motor principles
- Motor types and operation
- Motor characteristics
- Motor component and connection diagrams
- Motor starters, pilot devices and speed control

WIRING CIRCUITS, DEVICES AND PRACTICES

- Common lighting and receptacle circuits, components, terms and installation standards
- Residential and commercial lighting layouts, terms, calculations and installation standards
- Conductor insulations, imperial measuring methods, square and circular mil area
- Calculations and conversions, allowable ampacity, and common de-rating factors
- One-shot and segmental 90 degree conduit bending procedures, terms, calculations and installation standards
- Wiring methods, terms, boxes, fittings, trade size for specific applications and installation standards
- Fire alarm circuits and heating controls

PREPARING FOR AND WRITING EXAMINATIONS

- Study techniques
- Reading and comprehension
- Understanding examination items
- Examination strategies
- Multiple choice examinations
- Examination practice

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