

## Construction Electrician – Online Upgrading *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 Interprovincial Journeyman examination.

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

Upgrading for apprentice electricians is designed to help apprentices learn and reinforce those skills needed to become competent journeyman 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:**

This program uses continuous enrollment so candidates may apply to begin at any time. Participants will have a maximum of eight months to complete the entire course.

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.

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

This pamphlet 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, trade size components
- balanced feeder layouts, calculations, trade size components
- unbalanced feeder layouts, calculations, trade size components
- service layouts, calculations, trade size components
- low and high voltage transformer layouts, calculations, trade size components

## **Electrical Fundamentals**

- series circuits, components, diagrams, analysis, calculations
- parallel circuits, components, diagrams, analysis, calculations
- delta circuits, components, diagrams, analysis, calculations
- wye circuits, components, diagrams, analysis, calculations
- AC theory and RLC circuits
- magnetic and electromagnetic operations, principles, terms, calculations
- cell and battery operation, principles, terms, calculations
- basic electronic circuits and components – dimmers, rectifiers,
- solid state switching devices, speed controls, timers, 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, common de-rating factors
- wiring methods, terms, boxes, fittings, trade size for particular applications, 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

**Saskatchewan Apprenticeship & Trade Certification Commission**

2140 Hamilton St Regina SK S4P 2E3

Tel: (306) 787-2444

Fax: (306) 787-5105

Toll Free: 1-877-363-0536

web site: [www.saskapprenticeship.ca](http://www.saskapprenticeship.ca)

**District Offices**

Estevan (306) 637-4930

La Ronge (306) 425-4385

Moose Jaw (306) 694-3735

North Battleford (306) 446-7409

Prince Albert (306) 953-2632

Saskatoon (306) 933-8476

Swift Current (306) 778-8945

Yorkton (306) 786-1394