

ELECTRIC MOTOR SYSTEM TECHNICIAN (*WINDER ELECTRICIAN*)

Credential Issued:

ITA Certificate of Qualification (Winder Electrician)

Inter-Provincial Red Seal Endorsement (Electric Motor System Technician)

(Persons completing a formal apprenticeship also receive a Certificate of Apprenticeship)

Occupational Description:

“Winder Electrician” means a person who tests, rewinds, reconditions, rebuilds, replaces and generally services electric motors, generators, alternators, transformers, control equipment, mobile machines and other related components in commercial, institutional and industrial establishments, and any other work that is usually performed by a journey person Winder Electrician.

Program Duration & Structure:

The program will be delivered in a variety of formats combining in-school and work-based training, all designed to meet the competency standards and profile defined by the industry, and will generally take 4 years to complete. The program includes:

- In-school: 40 weeks* (approximately 10 weeks per level)
- Work-based: 6,000 hours

*The in-school / technical training requirement is typically met through block release training delivered by an ITA approved training provider. It can also be met through approved alternative training models (e.g. distance education, part-time) and / or level challenge exam where these options are available.

Program Completion Requirements:

Completion of 6,000 workplace hours:

- Sponsor attestation

Completion of technical training*: (Requirement can be met through challenging a level exam where available)

- Level 1 - practical assessments and written level examination
- Level 2 - practical assessments and written level examination
- Level 3 - practical assessments and written level examination
- Level 4 - practical assessments and written level examination

*Trainees registered in Winder Electrician program currently complete the first 3 years of electrician technical training and a 4th Specialty year when available. Level 4 Electrical may be substituted for the Specialty year when not available. See Electrician profile for level 4 technical information.

Inter-Provincial Red Seal Examination

Program Challenge Requirements:

- 9,000 documented hours of directly related work experience required to challenge Inter-Provincial Red Seal examination.

Program Pre-requisites:

- Recommended Education: Grade 12 or equivalent including English 12, Mathematics 11 and Physics 11.

Assessment Methods:

- In-school assessments (practical and written exams)
- Work-based assessments (practical)
- Final Assessment (Inter-Provincial Red Seal written examination)
- Levels 1, 2 & 3 exams available for challenge

Linkages to Other Credentials:

Cross Program Credit

- Holders of a BC Certificate of Qualification in Electrician and Industrial Electrician may be eligible to receive practical experience credit and technical training credit.

Prior Learning Assessment:

n/a

Program Standards Documentation:

- National Occupational Analysis (1999) www.red-seal.ca
- Program Outline

Industry Program Standards Mechanism:

TBA

Program Providers:

Institution-based component of the program is delivered by public post-secondary institutions (see www.educationplanner.bc.ca/apprenticeship.cfm for a list of schools), private training institutions, and secondary schools that have been approved by ITA .

Technical Training Content:

Level 1

Fundamentals
DC Circuits
Electromagnetism & Applications
Meters & Test Equipment Part 1
Prints & Drawings
AC Motor Control – Part 1
Electrical Code & Wiring Part 1
Industrial Power Electronics Part 1

Level 2

AC Fundamentals
Meters & Test Equipment Part 2
Single Phase AC Circuits
Circuit Protection Devices
Single Phase Transformers
AC Motor Controls Part 2
Lighting
Industrial Power Electronics Part 2
Electrical Code and Wiring – Part 2

Level 3

Three Phase AC Circuits
Three Phase Transformers
DC Machines & Controls
AC Machines
AC Motor Controls - Part 3
Industrial Power Electronics - Part 3
Electrical Code & Wiring - Part 3

Level 4

Tools and Test Equipment Part 1
Tools and Test Equipment Part 2
Bearings, Bushings and Seals
Applied Trade Concepts
Repair & Rewind AC Rotating Machines - Part 1
Repair & Rewind AC Rotating Machines – Part 2
Welding Principles
Repair & Rewind AC Rotating Machines – Part 3
Repair & Rewind AC Rotating Machines – Part 4
Repair & Rewind Static Machines – Part 1
Repair & Rewind Static Machines – Part 2
Tools and Test Equipment - Part 3
Repair & Rewind DC Rotating Machines – Part 1
Repair & Rewind DC Rotating Machines – Part 2

IP Examination Competencies:

1. Technical Occupational Skills and Procedures
2. Rotating Equipment
3. Stationary Equipment

Approved: March 2002(ITAC)
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