

CONSTRUCTION ELECTRICIAN

PROGRAM OBJECTIVES

The Construction Electrician program at Eastern College, is designed to provide students with the high quality training necessary to start their career in the Construction Electrician trade. Students will have the opportunity to combine classroom learning with the application of the skills in a shop setting.

The objective of this program is to prepare students with the skills necessary to gain employment in their trade. Instruction provided by industry experts ensures a balance between classroom theory and shop application. This means you will read and study how to do a job and then actually apply the skills in a work-like setting.

Students will develop skills in hand and power tools, fundamental wiring practices, pipe bending, service entrances, basic trouble shooting, application of the Canadian Electrical Code and other skills used by Construction Electricians.

Students will complete an industry work term of four weeks as part of their program and will be evaluated by the journey person/mentor during the work term.

CAREER OPPORTUNITIES

Graduates of the Construction Electrician program are entering the field at a time when industry demand is high. Graduates have opportunities in residential, commercial and industrial construction, oil and gas fields, alarm installation, pulp and paper industry, power generation and public utilities.

Following graduation from the program, those graduates who go on to complete apprenticeship and obtain a Certificate of Qualification with Red Seal can become project supervisors, project managers and even self-employed.

PREREQUISITES

- High School Diploma or
- Mature student status or
- Adult High School Diploma or
- High School Equivalency (GED)

GRADUATION REQUIREMENTS

A student must obtain an overall grade, in each module of at least 70% in order to graduate and receive a diploma. A student must complete all requirements of the Student Success Strategies and Career Planning and Preparation modules as well as the field placement requirements.

APPRENTICESHIP AND OCCUPATIONAL CERTIFICATION

Construction Electrician is an apprenticeship trade in New Brunswick and compulsory. This means that people working in the trade are required to be registered apprentices or holders of a Certificate of Qualification (CQ) in the Construction Electrician trade.

Graduates of this program may qualify for credit toward their apprenticeship upon registering as an apprentice with their trade employer and Apprenticeship and Occupational Certification, Government of New Brunswick. Graduates may also be eligible to challenge the apprenticeship level one exam and upon successful completion of that exam and meeting the on the job requirements for their trade will become second year apprentices.

Please visit the Federal Government web-site at: www.servicecanada.gc.ca/en/gov/apprenticeship.htm for information on how to receive a government of Canada Apprentice Incentive Grant (AIG) of \$1000.00 for completion of level one of apprenticeship (includes both exam and on the job requirements), and for information on how to receive another \$1000.00 grant for completion of level two of apprenticeship.

NOTE: In order to continuously improve our programs, Eastern College reserves the right to modify programs at any time. Program delivery order may vary depending on program start date. This diploma program may not be available at all campuses.

PROGRAM MODULES

Student Success Strategies*	Series RLC Circuits
Career Planning and Preparation I*	Introduction to Parallel AC Circuits
Career Planning and Preparation II for Trades	Parallel RLC Circuits
Software Lab: Computer Fundamentals*	Power Factor Correction
Trade Documentation Fundamentals	Three Phase Systems
Rigging, Lifting and Hoisting Procedures	Transformers and Transformer Connections
Basic Mathematics	Single Motor Control
Advanced Mathematics	Class 1 and Class 2 Circuits
Electrical Safety	Service and Feeders and Branch Circuits
Introduction to Code	Lighting and Lighting Installation
General Code Rules	Installation of Electrical Equipment
Composition of Matter	Service Conductors Ampacity for a Single Dwelling
Meters	Heating Cooling Controls
Current, Voltage and Resistance	Service Grounding Requirements
Conductors	Grounding and Bonding
Splicing and Termination (Low Voltage)	Services and Service Equipment for a Single Dwelling
Conductor Material and Sizes	Feeder and Branch Distribution Requirements for a Single Dwelling
Series Resistive Circuits	Service Ampacity for an Apartment/Similar Buildings
Parallel Resistive Circuits	Grounding Requirements for a Single Dwelling
Series-Parallel Resistive Circuits	Data Cabling
Work, Energy, Power and Efficiency	Blueprint Reading Principles
Edison 3-Wire Distribution Systems	Orthographic Projection / Diagrams
Wiring Methods	Dimensioning and Scaling / Print and Diagram
Methods of Producing EMF	Nomenclature / Construction Drawings
Cells and Batteries	Print Reading / Applied Drawings
Magnetism & Electromagnetism	HVAC Rooftop Procedures
Generators	Introduction to Programmable Logic Controllers
Resistors	Conduit, Tubing and Fittings
Switching Circuits	Raceways, Wireways and Busways
Basic Circuits using Buzzers and Chimes	CPR & First Aid/WHMIS
Relays and Controls	Exam Prep
Low Voltage Switching	Fall Arrest Certification
Residential Alarm Systems and Smoke Alarms	
Fundamentals of Alternating Current	
Intro to AC Circuits	
Inductance and Inductive Reactance	
Capacitance and Capacitive Reactance	
Power Relationship	
Introduction to Series AC Circuits	

Theory	560 hours
Practical	480 hours
Work Term	160 hours
Total Hours	1200 hours
Total Weeks	32 weeks

*4 hours/day, all other classes are full days.

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