

Construction/Industrial Electrician

The Construction/Industrial Electrician program trains you to install, alter and maintain electrical systems that are designed to provide heat, light, power, control, signals or fire alarms for all types of buildings and structures. Electricians work both indoors and outdoors. The work environment could range from clean open areas to dirty cramped spaces. Work outdoors may sometimes involve scaffolds. You will probably work a forty hour, five day work week and overtime when required. Some of the duties include: read and interpret electrical, mechanical and architectural drawings and electrical code specifications to determine wiring layouts; cut thread, bend, assemble and install conduits and other types of electrical conductor enclosures and fittings; position, maintain and install distribution and control equipment such as switches, relays, circuit breaker panels and fuse enclosures; install, replace, maintain and repair electrical systems and related electrical equipment; test circuits to ensure integrity and safety. Completing the Construction/Industrial program opens opportunities in both the construction and industrial aspects of the trade. You should be a good communicator, have an aptitude for math, be able to work in high places, and have the ability to keep up to date with changing technology.

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Use and maintain tools and equipment.
3. Install service entrance.
4. Install sub-panels, feeders and transformers; power generated systems, raceways systems and cables, power and lighting systems.
5. Install motors.
6. Install voice and data systems.

Note: This program may not be suitable for applicants who do not have normal color perception.

ENTRANCE REQUIREMENTS

Eligibility for admission requires the applicant to meet one of the following academic criteria:

- 1. High School**
High School Graduation
- 2. Comprehensive Arts and Science (CAS) Transition**
Comprehensive Arts and Science (Transition) Certificate
- 3. Adult Basic Education**
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
 - i. Mathematics MA3107A, MA3107B, MA3107C
 - ii. Science 3101, 3102, 3103
- 4. Mature Student Status**
Applicants who do not meet the educational prerequisites, are 19 years of age or older and have been out of school for at least one year, may be considered on an individual basis under the Mature Student Clause.

EMPLOYMENT OPPORTUNITIES

You may find employment, career opportunities in residential wiring, commercial electrical installation and maintenance, and industrial electrical installation as well as in industrial control



Industrial Only

Block 5	Advanced Level	Hrs
ER2082	Transistors	30
ER2092	Digital Electronics	30
ER2100	Operational Amplifiers	15
ER2152	Analog Devices	90
ER2192	Process Control	30
ER2202	Distributed Control Systems (DCS)	30
ER2210	Pneumatic Control Systems	15
ER2220	Servomechanism	15
ER2230	Hydraulic Circuits and Controls	15
ER2320	Boiler Control	15
ER2342	Energy Management	15
ER2372	Precipitators and Dust Collection Systems	15
ER2382	Vibration	15
ER2520	Emerging Technologies	30

CERTIFICATE

- Red Seal Certification
- One year
- September start
- Bay St. George, Bonavista, Burin, Carbonear, Corner Brook, Happy Valley-Goose Bay, Labrador West, Seal Cove, and St. Anthony Campuses

COURSES

CODE	TITLE	Hrs
Block 1	Entry Level	
TS1520	WHMIS	6
TS1530	Standard First Aid	16
ER1100	Rigging	30
ER1110	Hand Tools	15
ER1121	Power Tools	24
ER1130	Fasteners	15
ER1140	DC Theory	30
ER1151	Series and Parallel DC Circuits	45
ER1160	Codes	30
ER1170	Voltage Drop & Power Loss	30
ER1180	Single Phase Theory	60
ER1190	Three Phase Theory	30
ER1201	Drawings, Schematics & Specifications	30
ER1220	Conduit, Tubing and Fittings	30
ER1230	Conductors and Cables	45
ER1241	Fundamental Wiring	60
ER1250	Protective Devices	30
ER1261	Transformers	60
ER1270	Single Phase Service Entrance	30
ER1280	Three Phase Service Entrance	30
ER1341	Fire Alarms	20
ER1360	Electric Heating Systems & Controls	30
ER1370	Distribution Equipment	20
ER1410	Safety Practices	30
ER2000	Raceway, Wireways and Busways	30
ER2020	Single Phase Motors	30
ER2116	Troubleshooting Techniques	6
ER2140	Security Systems	15
CM2150	Workplace Communications	45
MR1210	Customer Service	30
SP2330	Quality Assurance/Quality Control	30
MC1050	Introduction to Computers	30
SD1700	Workplace Skills	30
SD1710	Job Search Techniques	15
SD1720	Entrepreneurial Awareness	15
OT1230	Workplace Exposure	60
Block 2	Advanced Level	Hrs
ER2010	Lighting and Controls	30
ER2030	Three Phase Motors	30
ER2040	Control Devices	30
ER2050	Motors, Starters and Controllers	60
ER2073	Power Supply and Rectifiers	50
ER2133	Signaling and Communications Systems	10
Block 3	Advanced Level	Hrs
ER1300	DC Motors and Controls	30
ER1380	Distribution Equipment and Installation	20
ER2161	Solid State Drives	20
ER2240	DC Generators	30
ER2250	AC Generators	30
ER2261	Emergency Stand-by Units	20
ER2270	Emergency Lighting Systems	15
ER2300	Distribution System Conditioning	30
ER2350	Electric Surface Heating Units	15
WE1211	Advanced Drawings, Schematics & Specifications	30
Block 4	Advanced Level	Hrs
ER2060	Central Heating Units	15
ER2122	Application of Troubleshooting Techniques	6
ER2170	PLC Fundamentals	15
ER2180	Programming PLCs	30
ER2310	Furnace Controls	15
ER2363	Refrigeration and Air Conditioning Controls	15
ER2390	Fibre Optics	15
ER2421	Heat Pumps and HVAC Electrical Systems	20
ER2440	High Voltage Wiring	45
ER2500	Explosion Proof Equipment	30