INDUSTRIAL TRADES

Construction/Industrial Electrician

CERTIFICATE

- **One year**
- **Start date varies**
- **Bay St. George, Bonavista, Burin, Corner Brook, Happy Valley-Goose Bay, Labrador West, Seal Cove, and St. Anthony Campuses**

COURSES

CODE	TITLE	
Block 1	**Entry Level**	**Hrs**
TS1520	WHMIS	6
TS1530	Standard First Aid	16
ER1100	Rigging	30
ER1110	Hand Tools	15
ER1120	Power Tools	30
ER1130	Fasteners	15
ER1140	DC Theory	30
ER1150	Series and Parallel Circuits	45
ER1160	Codes	30
ER1170	Voltage Drop & Power Loss	30
ER1180	Single Phase Theory	60
ER1190	Three Phase Theory	30
ER1200	Blueprint (Generic)	30
ER1210	Blueprint 2	30
ER1220	Conduit, Tubing and Fittings	30
ER1230	Conductors and Cables	45
ER1240	Fundamental Wiring	45
ER1250	Protective Devices	30
ER1260	Transformers	30
ER1270	Single Phase Service Entrance	30
ER1280	Three Phase Service Entrance	30
ER1290	Distribution Equipment	30
ER1340	Fire Alarms	30
ER1360	Electric Heating Systems & Controls	30
ER1410	Safety Practices	30
ER2000	Raceway, Wireways and Busways	30
ER2020	Single Phase Motors	30
ER2116	Troubleshooting Techniques	6
ER2132	Intercom Systems	15
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
ER2072	Power Supply and Rectifiers	60
Block 3	**Advanced Level**	**Hrs**
ER1300	DC Motors and Controls	30
ER2160	Solid State Drives	30
ER2240	DC Generators	30
ER2250	AC Generators	30
ER2260	Emergency Stand-by Units	30
ER2270	Emergency Lighting Systems	15
ER2300	Distribution System Conditioning	30
ER2350	Electric Surface Heating Units	15
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
ER2332	Heat Pumps	10
ER2362	Refrigeration and Air Conditioning Controls	10
ER2390	Fibre Optics	15
ER2420	HVAC Electrical Systems	10
ER2440	High Voltage Wiring	45

The Construction/Industrial Electrician is a program which covers basic electrical concepts, residential wiring, commercial installations, service and distribution systems, emergency electrical systems, communication and signaling systems, heating systems, industrial equipment installation and maintenance as well as industrial electronic control devices and systems.

The Provincial Apprenticeship and Certification Board through legislative authority is responsible for the registration of apprentices and trade qualifiers into the designated occupations.

The registration of an apprentice will take place when an individual is employed in a field of work directly relating to a designated occupation, and has a Memorandum of Understanding (MOU) signed between the Division of Institutional and Industrial Education, an employer and the apprentice.

After successful completion of the entry level program, and the required work experience, the apprentices qualify to return to complete advanced level training in preparation for writing the Journeyperson's Examination.

OBJECTIVES

1. To develop the basic knowledge and practical skills required to meet initial performance standards needed by the electrical industry.
2. To enable graduates to continue apprenticeship training as an industrial or construction electrician.
3. To instill in each student a responsible attitude toward the duties required in the trade.
4. To enable graduates to develop and practice good safety habits.
5. To demonstrate problem solving skills and high standards of craftsmanship.

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

EQUIPMENT AND SUPPLY FEE

In addition to tuition cost, students will be required to pay an equipment and supply fee. Please refer to "Fees and Charges" section of this calendar for details.

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 (College Transition)
Comprehensive Arts and Science Certificate (College Transition Program)

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

Successful graduates may find employment, career opportunities in residential wiring, commercial electrical installation and maintenance, and industrial electrical installation as well as in industrial controls.

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