ECC2 – Electrician Common Core Level 2

Trades

Effective Term & Year: Fall 2022
Program Outline Review Date: 2026-09-01

Program Area: Trades Apprenticeship Training

Description:

This 10-week Electrician Common Core Level 2 program delivers the skills, knowledge and training required for the 4-level Construction Electrician program or the Industrial Electrician program. Program competencies include applying circuit concepts, installing and maintaining metering equipment, protective devices, ground fault detection systems, power generation systems, renewable energy generating and restoring systems, transformers, raceways, cables and enclosures, branch circuitry, HVAC systems, exit and emergency lighting systems , cathodic protection systems, and motor starters and controls. This program includes classroom theory, demonstrations and practical hands-on training in a state-of the art electrical concepts lab as well as in the electrician shop. Safe work habits are important in this trade and are emphasized, reinforced and practiced throughout the program.

Credentials Granted:

Upon successful completion of the 10-week Level 2 Electrician Common Core program, students receive:
• Level 2 technical training credit for the Construction Electrician or Industrial Electrician Apprentice program.

Delivery Methods: On-Campus (Face-to-Face), Online

Program Duration: 10 weeks

Instructional Activity and Hours:

Activity	Hours
Instructional Hours (hrs/wk)	28 hrs/wk
Directed Studies (hrs/wk)	2 hrs/wk
Total (hrs/wk)	30 hrs/wk
Total Program Hours	300 Hours

Content Weighting:

Activity	Percentage
Theory	90%
Practical Skills	10%

Admission Requirements:

Sponsored Electrician Common Core apprentice who has successfully completed Level 1 Electrician Common Core technical training or Electrician Foundation program.

Flexible Assessment:

Credit cannot be awarded for this program through Flexible Assessment.

Program Transfer Credit:

For information about block transfer agreements between programs in British Columbia, Alberta, and elsewhere, please visit http://www.cotr.bc.ca/transfer.

To minimize transfer issues, check with an academic advisor at the institution that will receive the transfer credits.

Textbooks and Required Resources:

Textbook selection varies by instructor and may change from year to year. At the Program Outline Effective Date the following textbooks were in use (most current edition):

Canadian Electrical Code 2018; BC Amendments, BC Bulletins, Others as requested (available through BCSA).

Level 2 Exercise Booklet, BCIT

Electrician Level 2 Custom Bundle, Nelson Publisher

Program Competencies and Technical Training Content:

Upon the successful completion of this program, students will be able to:

ELEA 201 Apply Circuit Concepts

- Use Electrical Circuit Concepts
- Analyze Single-phase AC Circuits
- Analyze Electronic Circuits

ELEA 202 Organize Work

- Interpret Plans, Drawings and Specifications

ELEA 203 Install and Maintain Consumer/Supply Services and Metering Equipment

- Install Single-phase Consumer/Supply Services and Metering Equipment

ELEA 204 Install and Maintain Protection Devices

- Install Overcurrent Protection Devices
- Install Ground Fault, Arc Fault and Surge Protection Devices

ELEA 205 Install and Maintain Bonding, Grounding and Ground Fault Detection Systems

- Install Grounding and Bonding Systems

ELEA 206 Install and Maintain Renewable Energy Generating and Storage Systems

- Install Renewable Energy Generating and Storage Systems

ELEA 207 Install and Maintain Transformers

- Install Extra-Low and Low-Voltage Single-Phase Transformers

ELEA 208 Install and Maintain Raceways, Cables and Enclosures

- Install Conductors and Cables
- Install Raceways, Boxes and Fittings
- Maintain Conductors, Cables, Raceways, Boxes and Fittings

ELEA 209 Install and Maintain Branch Circuitry

- Install Luminaires

- Install Wiring Devices
- Install Lighting Controls
- Maintain Luminaires, Wiring Devices, Lighting Controls, Lighting Standards and Branch Circuitry

ELEA 210 Install and Maintain Heating, Ventilating and Air-Conditioning (HVAC) Systems

- Install HVAC Systems and Controls
- Maintain HVAC Systems and Controls

ELEA 211 Install and Maintain Exit and Emergency Lighting Systems

- Install Exit and Emergency Lighting Systems
- Maintain Exit and Emergency Lighting Systems

ELEA 212 Install and Maintain Cathodic Protection Systems

- Install Cathodic Protection Systems
- Maintain Cathodic Protection Systems

ELEA 213 Install and Maintain Motor Starters and Controls

- Install Motor Starters and Controls
- Maintain Motor Starters and Controls

Evaluation and Assessment:

ELECTRICIAN COMMON CORE LEVEL 2

COTR COURSE	SUBJECT COMPETENCIES	THEORY WEIGHTING	PRACTICAL WEIGHTING
ELEA 201	Apply Circuit Concepts	41%	25%
ELEA 202	Organize Work	5%	0%
ELEA 203	Install and Maintain Consumer/Supply Services and Metering Equipment	5%	0%
ELEA 204	Install and Maintain Protection Devices	2%	0%
ELEA 205	Install and Maintain Bonding, Grounding and Ground Fault Detection Systems	2%	0%
ELEA 206	Install and Maintain Renewable Energy Generating and Storage Systems	2%	0%
ELEA 207	Install and Maintain Transformers	15%	50%
ELEA 208	Install and Maintain Raceways, Cables and Enclosures	2%	0%
ELEA 209	Install and Maintain Branch Circuitry	4%	0%
ELEA 210	Install and Maintain Heating, Ventilating and Air-conditioning (HVAC) Systems	6%	0%

ELEA 211	Install and Maintain Exit and Emergency Lighting Systems	1%	0%
ELEA 212	Install and Maintain Cathodic Protection Systems	1%	0%
ELEA 213	Install and Maintain Motor Starters and Controls	14%	25%
	Total	**100%**	**100%**
In-School Theory/Practical Subject Competency Weighting		90%	10%
Final in-school percentage score		**IN-SCHOOL %**	
In-School Percentage Score Combined theory and practical subject competency multiplied by		80%	
Standard Level Exam Percentage Score The exam score is multiplied by		20%	
Final Percentage Score		**FINAL%**	

Pass Requirements:

1. Successful completion of the in-school training is defined as a final overall minumum of 70% to meet SkilledTradesBC standards.

    - Students must maintain an acceptable level of attendance, complete all assigned projects and pass all exams to successfully complete the program.

Students must provide their own:

- linesman pliers
- diagonal cutters
- hacksaw
- wire strippers
- Phillips screwdriver
- slotted screwdriver
- Robertson screwdriver
- torpedo level
- knife
- tape measure
- channel lock pliers
- 6" crescent wrench
- personal digital multimeter minimum 10MW/v

Academic Policies:

College of the Rockies policies related to courses can be found at https://cotr.bc.ca/about-us/college-policies/ and include the following:

- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Conduct (plagiarism, other cheating, behavioral misconduct)
- Policy 2.4.8 Academic Performance
- Policy 2.5.3 Grade Appeal
- Policy 2.4.9 Student Concerns Re Faculty

Program Grade

COM	NCG
Completed to the defined standard – 70% or greater	No Credit Granted – less than 70%

Program Changes:

Information contained in program outlines is correct at the time of publication. Content of the program is revised on an ongoing basis to ensure relevance to changing educational, employment, and marketing needs. The instructor endeavours to provide notice of changes to students as soon as possible. The instructor reserves the right to add material to programs.

Industry Training:

The program competencies and technical training content delivered in this program follow the SkilledTradesBC Program Outline for this trade.

Safety Catalog:

WorkSafeBC regulations apply to all trades programs. Students are expected to follow all safe work practices and have high regard for the safety of others as well as of themselves. Students are responsible to wear personal protective equipment (PPE) as directed. At a minimum, students must provide and wear approved safety footwear and eyewear at all times in the shop. Additional PPE may be required for specific tasks. Students are expected to wear clothing suitable for working safely in the shop.