Electrician Training Profile
FIRST PERIOD
(8 Weeks 30 Hours per Week – Total of 240 Hours)

SECTION ONE
CIRCUIT FUNDAMENTALS
80 HOURS

A
Basic Mathematics
10 Hours

B
Composition of Matter
4 Hours

C
Current, Voltage, and Resistance
10 Hours

D
Characteristics of Conductors
6 Hours

E
Series Resistive Circuits
8 Hours

F
Parallel Resistive Circuits
8 Hours

G
Series-Parallel Resistive Circuits
12 Hours

H
Work, Energy, Power and Efficiency
10 Hours

I
Edison 3-Wire Distribution Systems
12 Hours

SECTION TWO
EMF SOURCES
26 HOURS

A
Methods of Producing EMF
4 Hours

B
Cells and Batteries
8 Hours

C
Magnetism
4 Hours

D
Electromagnetism and Electromagnetic Induction
6 Hours

E
Generators
4 Hours

SECTION THREE
LAB FUNDAMENTALS
69 HOURS

A
Safety
6 Hours

B
Meters
4 Hours

C
Conductors
6 Hours

D
Splicing and Terminating (Low Voltage)
3 Hours

E
Resistors
2 Hours

F
Switching Circuits
10 Hours

G
Basic Circuits Using Buzzers and Chimes
6 Hours

H
Relays and Controls
12 Hours

I
Low Voltage Switching
10 Hours

J
Residential Alarm Systems and Smoke Alarms
10 Hours

SECTION FOUR
CANADIAN ELECTRICAL CODE PART I AND BLUEPRINTS
65 HOURS

A
Introduction to Code
4 Hours

B
General Rules – Section 2
4 Hours

C
Conductor Material and Sizes
4 Hours

D
Service and Grounding Requirements
6 Hours

E
Service Feeders and Branch Circuits
6 Hours

F
Wiring Methods
8 Hours

G
Installation of Electrical Equipment
4 Hours

H
Installation of Lighting Equipment
4 Hours

I
Lighting
6 Hours
THIRD PERIOD
(8 Weeks 30 Hours per Week – Total of 240 Hours)

SECTION ONE
THREE PHASE PRINCIPLES
76 HOURS
A
Electrical Theory Review
12 Hours
B
Series RLC Circuits
2 Hours
C
Parallel RLC Circuits
2 Hours
D
Three Phase Systems (General)
4 Hours
E
Three Phase Wye Connection
28 Hours
F
Three Phase Delta Connection
28 Hours

SECTION TWO
THREE PHASE POWER MEASUREMENT AND POWER FACTOR CORRECTION
22 HOURS
A
Three Phase Power
6 Hours
B
Three-Wattmeter Connection
4 Hours
C
Power Factor Correction
12 Hours

SECTION THREE
THREE PHASE MOTOR PRINCIPLES
66 HOURS
A
Introduction to Three Phase Induction Motors
12 Hours
B
Operation of Three Phase Induction Motors
12 Hours
C
Three Phase Single-Speed Motors and Starters
20 Hours
D
Three Phase Multispeed Motors, Starters, and Variable Frequency Drives
22 Hours

SECTION FOUR
TRANSFORMERS
32 HOURS
A
Transformers
4 Hours
B
Induction, Turns Ratio Polarity and Multiple Winding
2 Hours
C
Transformer Load Test
2 Hours
D
Transformer Losses, Impedance Voltage and Paralleling
4 Hours
E
Autotransformers
2 Hours
F
Transformer Connections
12 Hours

SECTION FIVE
CANADIAN ELECTRICAL CODE / WORKPLACE COACHING SKILLS AND ADVISORY NETWORK
44 HOURS
A
Grounding and Bonding
6 Hours
B
Protection and Control
10 Hours
C
Installation of Equipment
6 Hours
D
Individual Motors
6 Hours
E
Motor Banks
6 Hours
F
Pools, Mobile Homes and Temporary Wiring - Sections 66, 72 and 76
6 Hours
G
Electrician Apprenticeship Training Program Orientation
2 Hours
H
Workplace Coaching Skills
2 Hours
NOTE: The hours stated are for guidance and should be adhered to as closely as possible. However, adjustments must be made for rate of apprentice learning, statutory holidays, registration and examinations for the training establishment and Apprenticeship and Industry Training.