

2020-2021 Apprenticeship Program

Electrical Level 3 Course Outline

This is the third year, of four, in the Registered Electrical Apprenticeship Program. Students will gain an understanding of the 2020 NEC and how to use it relative to Articles 250, 400-800 and Chapter 9 and how they apply to the code. They will learn about Basic Motor Controls and understanding the control logic and how to read, write, and wire basic motor controls.

This year will specifically cover the following topics:

- **Appliances**
- **Attachment Plugs (Caps)**
- **Bonding (Articles 250.90-250.106)**
- **Capacitors**
- **Communications Systems**
- **Cord Connectors**
- **Enclosure, Raceway & Service Cable Connections (Articles 250.80 & 250.86)**
- **Equipment**
 - Air-Conditioning & Refrigerating Equipment
 - Fixed Electric Space-Heating Equipment
 - Equipment Grounding & Equipment Grounding Conductors (Articles 250.110-250.126)
 - Methods of Equipment Grounding (Articles 250.130-250.148)
 - Special Equipment
- **Generators**
- **Grounding and Bonding (Articles 250.3-250.12)**
- **Grounding Electrode System & Grounding Electrode Conductor (Articles 250.50-250.70)**
- **Lighting**
 - Lamps
 - Lampholders
 - Luminaires
 - Low Voltage Lighting
- **Motor Controls**
 - Introduction to Motor Controls
 - Controls for Multiple Motors
 - Miscellaneous Requirements
 - Motor Controls & Schematics
 - Motors, Motor Circuits & Controllers (Article 430)
 - Reversing Controls
- **Panelboards**
- **Receptacles**
- **Special Conditions**
- **Special Occupancies**
- **Special Occupancies & Hazardous Locations**
- **Switchboards**
- **Switchgear**
- **System Grounding (Articles 250.20-250.36)**
- **Tables - Conductor and Raceway Specifications**
- **Transformers**
- **Transformer Vaults (including Secondary Ties)**