



13698 E. Iliff Ave, AURORA, CO 80014  
 Rightwayfoundation.5280.com

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## The Right Way Foundation Basic Electricity Academy

### Overview

The Right Way Foundation Basic Electricity Academy trains students to become licensed electricians through a two-year comprehensive program. Students gain practical, real-world experience in how electricity is distributed and utilized in various settings. The first year focuses on foundational knowledge and skills, while the second year includes apprenticeships and on-the-job training, leading up to the master electrician license exam.

#### **Year 1: Foundational Knowledge and Skills**

##### **Electrical Fundamentals**

- Introduction to Electricity
- Six different methods of electricity production
- Direct Current (DC) and Alternating Current (AC) in plants and facilities
- Hands-on exercises voltage, Current, and Resistance
- Ohm's Law
- Circuit building activities with field components

##### **Electrical Safety (6 weeks intensive course)**

##### **Electrical Safety Plans and Activities**

1. Introduction
2. Training
3. Electrical Safety
4. Physical Safety
5. Electrical Circuits
6. The Human Body as an Electrical Conductor
7. Electrical Injuries
8. Electrical Safe Work Practices
9. Qualified and Unqualified Persons
10. Electrical Isolation (Lockout/Tagout)
11. Circuit Protection
12. Proper Lighting
13. Portable Lighting
14. Conductive Apparel and Jewelry



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15. Housekeeping
16. Use of Portable Electrical Equipment
17. Electrical Safety Interlocks
18. Flammable or Ignitable Equipment
19. Overhead Electrical Lines
20. Physical Barriers
21. Insulated Tools & Equipment
22. Electrical Testing
23. Summary

### Study Plans and Discussions

- Simple Circuits
- Series Circuits
- Parallel Circuits
- Combination Circuits
- Using Multimeters
- Measuring voltage, current, and resistance in circuits
- Verifying a circuit is de-energized
- Understanding power, single-phase and three-phase systems

### Electrical Test Equipment

- Hands-on exercises with multimeters, voltage testers, clamp-on ammeters, megohmmeters, etc.
- Understanding building electrical systems

### Reading Electrical Single-Line Diagrams

- Major Components
- Electrical Service
- Meter Control Centers
- Transformers (Delta vs Wye connected systems)
- Switchgear and Circuit Breakers
- Overcurrent Protective Devices
- Feeders
- Disconnects
- Lighting Circuits
- Electrical Floor Plans & Facility Wiring



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## Year 2: Apprenticeship and Advanced Training

### Electrical Topics in Wire Selecting

1. Conductor Types & Materials
2. Wire Size, Installation, and Installing Wire Conductors
3. Raceway & Cable Trays
4. Fittings and Boxes
5. Dedicated Working Space
6. Sizing of Fuses/Circuit Breakers
7. Sizing of Motor Overloads
8. Conduit Fill Considerations

### Wiring Equipment

1. Wire Nuts, Terminals, and Crimpers (hands-on exercise)
2. Switches and Receptacles (hands-on exercise)
3. Fluorescent Ballasts
4. Motors
5. Temporary Wiring

### Basic Troubleshooting Techniques

- Branch Circuit Problems
- Control Circuit Troubleshooting
- Checking and Replacing Fuses

### Electrical Maintenance Activities

1. Performing checks as part of an assured equipment grounding program
2. Use and Operation of Ground Fault Circuit Interrupters (GFCIs)
3. Types of Electrical Maintenance
4. Special Precautions