



KEENE COMMUNITY EDUCATION

Bridge to Your Future



Electrical Apprenticeship

What is Electrical Apprenticeship?

Electrical apprenticeship is the process of training new skilled electricians that are fully competent in the knowledge, skill, and proficiency of the trade. Most of the apprentice's training is done on the job by an employer, however, additional classroom time is used to cover electrical theory, calculations, and code in greater detail.

Apprentices generally start their career at half the salary of licensed journeymen. Once they are able to begin performing

more sophisticated duties they generally will receive pay increases as they learn to perform more complex tasks. When they become licensed journeymen, they enter a career as an electrician. Motivated men and women will find limitless opportunities for career advancement that may include **estimating, project management**, or even **owning your own contracting business**. Other careers available to apprentices include:

Journeyman
Contractor
Burglar/Fire Alarm communications
Commercial
Generators
Industrial
Instructor
Lighting Specialist
Motor Reconditioning
Power quality analyzing
Sign/High Voltage Wiring
Transformer Installation and Change-Out
Utilities

Master
Appliance Repair
Capacitors
Distributor
High Voltage Construction
Industrial Automation
Irrigation Systems
Motor Control Specialist
Optical Fiber Installations
Residential
Solar Photo Voltaic Systems
Trenching
Wiring Specialist

Electrical Apprenticeship

In NH as well as in many other states one must serve an apprenticeship prior to taking the electrical journeyman exam. The Office of Professional Licensure and Certification (OPLC), Board of Electricians, is the agency responsible for licensing electricians.

All apprentice electricians must be employed by a master electrician and registered with the OPLC and Electricians' Board. All electrical installations performed by an apprentice electrician must be directly supervised by a licensed electrician. Apprentices are required to carry an apprentice identification card issued by the Electricians' Board. This card must be renewed each year.

To be eligible for the journeyman licensing exam an apprentice electrician must provide documentation of 8,000 hours (approximately 2000 hours per year) of practical work experience in the electrical trade under the supervision of a journeyman or master electrician and a minimum of 576 hours of apprenticeship related instruction over four years. Documentation showing a minimum of 150 hours per year of related instruction is required for apprentices as part of the application process for the exam.

In May 2000 the NH Electricians' Licensing Board made registration of electrical apprentice programs with the State Apprenticeship Council voluntary for employers. As a result, some electrical apprentices work for employers whose apprenticeship programs have not been approved or registered by the NH State Apprenticeship Advisory Council

Electrical Curriculum

New Hampshire's Registered Electrical Apprenticeship Program primarily utilizes the Mike Holt as their core curriculum

Year One

- Basic Direct Current (DC) Theory
- Introduction to the National Electrical Code (NEC 2020)
- Mathematical Calculations for Electrical Formulas, Values and Problems
- Measuring instruments
- Residential Wiring
- Safety Rules, Practices, Materials, and National Fire Protection Association (NFPA) 70E Awareness

Year Two

- Code compliance for residential wiring
- Grounding and Bonding
- Language and Concepts of Alternate Current (AC) Theory
- Mathematical Calculations
- National Electrical Code (NEC 2020)
- Safety, and NFPA 70E Awareness
- State Laws and Rules - electrical trade

Year Three

- DC Motor, Generators, and Transformer Theory
- Electric Motor Controls, Safety, Maintenance and Operation
- NEC 2017 for Motors and Motor Circuits
- Over current and ground fault protection
- Safety, and NFPA 70E Awareness
- Service conductors and equipment

Year Four

- Controls, Relays and Timers
- Electrical Related Instruction Competencies Review
- Leadership Skills
- Safety, and NFPA 70E Awareness
- State Rules and Regulations RSA 319
- Terms, Language and Application of the National Electrical Code (NEC 2020)

Questions?

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