

Program Information

This program is a 5 (five) year apprenticeship training program approved (registered) by the Division of Voluntary Apprenticeship, Department of Labor and Industry, State of Minnesota. Apprenticeship is the oldest form of formal education and can be traced back thousands of years. Apprenticeship is a well organized and supervised method, which industries use to train people with little or no prior knowledge of a craft, or trade, to become capable, qualified craftsmen or journeyman. The program requires that each apprentice receives a minimum of 8,000 hours of on-the-job training (OJT) under the supervision of a licensed journeyman wireman electrician. Apprentices are expected to accept work assignments within 60(sixty) miles of their place of residence, if residence is outside the **jurisdictional** lines, 60 (sixty) miles starts at closest major highway into the jurisdiction. The geographical **jurisdictional** area covered is: all of Hennepin, Carver, Scott, Wright, Benton, Stearns, Pope, Stevens, Big Stone, Swift, Kandiyohi, Meeker, McLeod, Chippewa, and Lac Qui Parle Counties; that part of Anoka County containing the cities of Andover, Anoka, Columbia Heights, Coon Rapids, Fridley, Hilltop, Ramsey, and Spring Lake Park; and that part of Sherburne County containing the townships of Haven, Palmer, Santiago, Clearlake and Becker. Apprentices are required to attend approximately 1,000 hours of related instructional training (RIT). This training is a standardized curriculum provided by the National Joint Apprenticeship and Training Committee (NJATC). This program is recognized by the American Council on Education (ACE), and is equivalent to 60 college credit hours. This material is delivered by journeyman wireman with practical experience, and they have completed a 4 (four) year Instructor candidate Training Program developed by the NJATC. The apprentices go to school 1(one) 8 (eight) hour day per week in a 20 (twenty) week format, and the apprentices are not currently paid for the day they are in school. There is no tuition charged for these classes, but books are approximately \$300 per year, and currently the apprentices receive a scholarship at the end of each completed year of approximately \$300. During the course of the apprenticeship, each apprentice is transferred on a yearly basis to different contractors. This affords the apprentice an opportunity to receive a varied amount of experience during their apprenticeship. This combination of OJT & RIT allows apprentices to “earn while they learn” and progress towards the journeyman’s total wage and fringe benefit package. With guaranteed promotions and pay increases in the program, the more they learn, the higher the pay & benefits are. While working with journeyman the apprentice develops a sense of pride and craftsmanship and strives to become a competent skilled journeyman themselves. The electrical industry is a highly complex ever changing field. In order to perform productively within it, the journeyman electrician must be a skilled mechanical and technical artisan. Anyone wishing to enter this trade as an apprentice must have the aptitude to learn and be able to develop through training the knowledge, skills, and ability necessary to perform the skills associated with it.

Inside Wireman (Journeyman)

The Inside Wireman's job is to distribute and connect the customer's electrical equipment to that power source. The Inside Wireman installs and maintains all of the various types of electrical systems found in commercial and industrial facilities. This equipment may be lighting and receptacles, to motors, to heating equipment, to systems that control the operation of all of a facility's energy usage.

The Inside Wireman installs conduit systems that contain the wire from the motor control centers or panelboards to all of the equipment that uses electricity. Those conduits may contain power cables or control cables. Many of the conduit systems are exposed and must be installed to exacting standards using neat and workmanlike craftsmanship.

The work of an Inside Wireman can vary. One day the Inside Wireman could be installing a Fire Alarm System or Security System in a high rise building and the next day he or she could be installing conduit in a ditch on the outside of the building. Inside Wireman also install electrical systems in industrial facilities such as chemical plants, power plants, chip manufacturing facilities and automobile plants. Each type of installation has specific electrical needs and systems to support those needs. While there are many tasks associated with the Inside Wireman classification, the apprenticeship training provides all of the knowledge necessary for an individual to perform these tasks in a professional manner while helping the individual to sharpen his or her skills and abilities to be the best workers in the electrical construction and maintenance industry.

Job Description

The duties of an Inside Wireman are listed below. The number next to each duty is the average of the percentage of journeymen reporting that they perform that task.

- 99%** Installing New Wiring and Repairing Old Wiring
- 98%** Installing Receptacles, Lighting Systems and Fixtures
- 97%** Planning and Installing Raceway Systems
- 94%** Troubleshooting and Repairing Electrical Systems
- 92%** Planning and Initiating Project
- 92%** Supervising Journeymen and Apprentices
- 88%** Establishing Temporary Power During Construction
- 88%** Establishing Power Distribution within Project
- 87%** Establishing Grounding System
- 86%** Installing Service to Buildings and Other Structures
- 86%** Providing Power and Controls to Motors, HVAC, and Other Equipment
- 82%** Installing Fire Alarm Systems
- 71%** Installing and Repairing Traffic Signals, Outdoor Lighting, and Outdoor Power Feeders
- 67%** Establishing OSHA and Customer Safety Requirements
- 67%** Installing Instrumentation and Process Control Systems, Including Energy Management Systems
- 64%** Erecting and Assembling Power Generation Equipment
- 57%** Installing Security Systems
- 56%** Installing, Maintaining and Repairing Lightning] Protection Systems
- 36%** Installing and Repairing Telephone and Data Systems

Tools of the Trade

Journeyman wiremen use a broad array of tools. We have classified the tools by how frequently you will likely need to use them

Daily Hand tools: level, pliers, needle nose pliers, slip joint pliers, hammer, wire cutters, screw driver, fish tape, measuring tape, ruler, wrench, hacksaw, wire stripper, hand bender, ladder, knife.

Power-assisted tools: hand drill.

Meters: voltmeter.

Weekly Hand tools: file, punch, socket set, allen wrench, keyhole saw, crimping tools, hand drill, vise, hand reamer, knock out sets, tap and dies.

Power-assisted tools: electric screw gun, hydraulic bender, power cutting and threading machine, electric roto hammer drill.

Meters: ammeter.

Monthly Hand tools: plumb bob, fuse pullers, clamps, pipe wrench, hoist, cum-a-long.

Power-assisted tools: electric saber saw, wire tugger.

Occasionally Hand tools: torque wrench, architect scale, handsaw, wood chisel, shovel, transit, block and tackle, adapter cables, caliper, tamp tool.

Power-assisted tools: soldering iron, drill press, gas-operated auger, air hammer, coring machine to drill through concrete, roto stripper, water pump, fiber optic fusion splicer.

Meters: oscilloscope, wattmeter, optical power meter, MEGGER, dielectric test set to hipot cable, dynamometer, optical time-domain reflectometers.

Heavy equipment: trencher, electric lift, bucket truck, crane, power borer, derrick, auger, dozer, back hoe, caterpillar.

Apprentice electricians will have a [short list of tools](#) that they are required to have the first day at the jobsite. New apprentices will have up to one year from their date of hire to provide themselves a more complete [journeyman's list of tools](#) to use out on the jobsite.