ELECTRICAL
WORK PROCESSES

WORK PROCESSES	REQUIRED PROGRAM HOURS
A. Preliminary Work • Learning the names and uses of the equipment used in the trade, such as kind, size, and use of cable, wire, boxes, conduits and fittings, switches, receptacles, service switches, cutouts. • Learning names and uses of the various tools used in assembling this material, care of these tools, and other instructions necessary to familiarize the apprentice with the material and tools of the trade. • Safety • Conservation and Recycling Practice Awareness and Implementation.	**600**
B. Residential and Commercial Rough Wiring • Assisting in getting material from the stockroom. • Loading truck and unloading material and equipment on the job. • Laying out the various outlets, switches, receptacles, and other details of the job from blueprints or by direction of the superintendent of construction. • Laying out the system with materials to be used, where they are to be placed, and other details as to how they shall be run. • Cutting wires, cables, conduit, and raceway; threading and reaming conduit, boring and cutting chases under the direction of the journey person. • Installing various kinds of wires, cables, and conduits in accordance with requirements. • Assisting journey person in pulling wires, attaching wires to fish tape, and keeping wires from kinks or abrasions. • Connecting conductors to switches, receptacles, or appliances with proper methods of splicing. • Installing service switches or load center and sub feeders and fastening up these parts, running raceways, and pulling conductors, under the direction of journey person electricians. • Assisting in preparing list of materials used, including names, number of pieces, or number of feet, etc. for office records. • Loading unused material and cleaning up job area. • Assist the journey person in establishing temporary power during construction.	**2000**
C. Residential and Commercial Finish Work • Connecting and setting switches, receptacles, plates, etc. • Installing proper size and types of fuses for each circuit. • Installing and connecting various kinds of fixtures. • Tracing polarity of conductors and devices. • Testing the circuit for grounds and shorts and locating and correcting job defects. • Assisting the journey person in installing and completion of work in accordance with the rules and regulations of the National Board of Fire Underwriters and special local regulations, proper size of wires, conduits, etc.	**1500**

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D. Industrial Lighting and Service Installation • Installing rigid conduit, electric metallic tubing, BX armored cable wire molds on all types of heavy electrical equipment and major size service entrance installation. • Wiring all types (gas, oil, stoker, etc.) of heating equipment. • Installing wiring and controls for air conditioning. • Alternative energy generation systems.	**2000**
E. Troubleshooting • Repairing all kinds of electrical work. • Checking out trouble and making repairs under supervision of the electrician. • Checking out trouble and making repairs without supervision.	**1000**
F. Motor Installation and Control • Installing over current devices. • Checking for proper installation and rotation. • Installing replacement motors. • Analyzing motor circuits and troubleshooting. • Installing emergency generators and controls. • Installing push buttons, pilot lights, relays, timing devices and interlocking controls. • Energy-efficient lighting and equipment control systems.	**900**
TOTAL HOURS	**8000**

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