

Work Processes Schedule

ELECTRICIAN

RAPIDS: 0159M

O*NET/SOC: 47-2111.00

REVISION DATE: 12/2014

Plans layout, installs, and repairs wiring, electrical fixtures, apparatus, and control equipment consistent with specifications and local electrical codes. Prepares sketches showing location of wiring and equipment, or follows diagrams or blueprints, ensuring that concealed wiring is installed before completion of future walls, ceilings, and flooring.

Applicable Ratings/MOS

USMC MOS 1120, 1141, 1142, 1169

USCG EM

USN CE, EM, EMN, ET, ETN, ETR, ETV, IC

Related Instruction

Trade related schools/courses totaling 576 or more hours.

Additional Requirement

None

Total Hours: **8000**

Skill	Description	Hours
A	<p>PRELIMINARY WORK</p> <p>Determine equipment required for the job to be performed, to include kind, size, and use of cable, wire, boxes, conduits, various switches, cut-outs and receptacles. Select and maintain proper hand power tools used in assembling electrical materials; maintain special purpose equipment and tools used on interior electrical work.</p>	600
B	<p>RESIDENTIAL AND COMMERCIAL ROUGH WIRING</p> <p>Select proper material from supply. Lay out materials and equipment on job site in accordance with blueprints. Cut wire, cable, conduit, thread and ream conduit. Install service entrance/distribution panel. Install armored and nonmetallic sheathed cable. Install and connect switches, outlets, junction boxes, plugs and light fixtures with proper methods of splicing. Install service switches or load centers connecting these parts, pull in conductors under direction of supervisor. Test interior electrical circuit for proper operation using proper electrical instruments and test equipment.</p>	2500
C	<p>RESIDENTIAL AND COMMERCIAL FINISH WORK</p> <p>Review job specifications and determine required materials. Load balance interior circuits. Compute the circuit total connected load per phase. Determine individual load arrangement on circuit to achieve a balanced circuit condition. Calculate proper wire size and types of fuses to support circuit. Lay out the circuit in accordance with the specifications. Install and connect various types of fixtures. Connect service entrance conductors and devices. Trace polarity of conductors and devices. Determine appropriate grounding method and requirements, test circuit to locate and correct job defects. Inspect interior electrical system/components. Ensure installation is in compliance with specifications and rules of the National Board of Fire Underwriters and appropriate local regulations.</p>	1500

D	<p>INDUSTRIAL LIGHTING AND SERVICE INSTALLATIONS</p> <p>Install rigid conduit, electrical thin wall metallic tubing, BX armored cable and wire molds on all types of heavy electrical equipment and major size service entrance installations. Select required transformer. Connect single transformers into system. Connect transformers in series, parallel single-phase and parallel three-phase. Connect transformers for special application. Adjust transformers. Install fuses in system. Install wiring and remote controls for air conditioning.</p>	2000
E	<p>TROUBLESHOOTING</p> <p>Troubleshoot and repair commercial, residential, and industrial power distribution systems, associated components, wiring, and controls to include generators, motors, switches, junctions, fixtures, and load protection devices.</p>	1000
F	<p>MOTOR INSTALLATION AND CONTROL</p> <p>Select correct motor to support given requirements. Connect single-phase motors. Connect poly-phase motors. Install motor controller. Select correct motor protective devices. Align motors in accordance with manufacturers' specification and other requirements. Perform motor operational test. Perform minor maintenance on motors and control equipment.</p>	400