

## ELECTRICIAN

### KIND OF WORK

Skilled, licensed electrical work.

### NATURE AND PURPOSE

Under general supervision, an employee in this class performs skilled installation, alteration, maintenance, and repair of electrical wiring, apparatus and equipment for communication, lighting, heating, and power including, but not limited to, high voltage switch gear, transformers, transmission lines for low voltage distribution, secondary sub-panels, alarm and signal circuits, electrical power plant control systems, elevators, and standby generators according to specifications in the National and State Electrical Codes and National Electrical Safety Code. An employee in this class may train and direct the work of laborers and other maintenance employees, as well as correctional facility inmates, regional center residents and other helpers. Performs related work as required.

This classification differs from Electrician - Master of Record in that each position in that class is designated as the single Master Electrician of Record for an agency or major subdivision of an agency (e.g., DOC or DHS facility, State University campus, DOT district). Electrician is the appropriate allocation for positions requiring a Master license but which do not serve as the legal Master Electrician of Record for the agency or facility. This class differs from Electrician Lead in that the Electrician Lead provides ongoing leadwork direction to a work group of state employees including skilled Electricians, as well as laborers and other maintenance employees. It differs from Electrician Supervisor because the Electrician Supervisor exercises full supervisory authority over subordinate skilled Electricians, laborers, and maintenance employees.

EXAMPLES OF WORK (A position may not include all the work examples given, nor does the list include all that may be assigned.)

Monitors and reports on the work activities of less skilled laborers, maintenance employees, correctional facility inmates, and regional center residents to ensure the timely completion of projects in compliance with electrical codes and standards by determining the most efficient work procedures and techniques; by instructing others and ensuring the appropriate use of equipment and electrical techniques; by inspecting the quality of work performed by others; and by recording hours worked and materials and equipment used.

Reviews plans, blueprints, and specifications for electrical projects to understand the scope of the project and to recommend changes by reading the plans, blueprints, and specifications and discussing them with the supervisor; by researching the plans and specifications of previously completed electrical projects; and by defining the detailed tasks of the project.

Estimates costs for time, labor and materials so that the supervisor can prioritize, budget and schedule electrical projects by determining the supplies necessary to complete the project according to codes; by selecting the best work procedures; by determining equipment and labor requirements; and by requisitioning necessary parts, supplies and equipment.

Installs, adds to, alters, repairs and maintains electrical wiring systems and fixtures such as boxes, conduit, outlets, switch panels, incandescent and fluorescent light fixtures, power plant controls, elevators, etc., in state buildings so that all systems are operational according to State Electrical Code and the Underwriter's rules for electrical installations by requisitioning and selecting the necessary supplies and equipment for the electrical project; by identifying the most direct and appropriate route to run the new wiring and laying out work; by troubleshooting sources of electrical power disruption; by testing circuits for continuity and proper connections; by testing, repairing or replacing power plant control devices; by implementing preventive maintenance programs; and by following safety standards and procedures to prevent injuries.

Installs, repairs and maintains electrical equipment and appliances such as washers, dryers, disposals, dishwashers, water heaters and other electric, motor-driven equipment so that they are in safe and economical operating condition and all emergency repairs are quickly completed by installing the equipment according to the manufacturer's specifications and the Underwriter's rules for electrical installation; by testing electrical circuits; by replacing burned out elements in heating equipment; by repairing or replacing electric motors; by implementing preventive maintenance programs; and by following safety standards and procedures to prevent injuries.

Maintains hand and power tools to ensure their safe, efficient use for current and future electrical projects by inspecting their physical condition; by repairing or replacing worn or broken parts on power equipment; and by ensuring an adequate supply of electrical wire, conduit, switch panels, and lighting fixtures for immediate repair projects.

### KNOWLEDGE, SKILLS AND ABILITIES REQUIRED

Knowledge of:

Construction plans, blueprints and electrical specifications sufficient to interpret, modify and follow them to complete the installation, alteration, maintenance and repair of electrical systems and equipment.

State and National Electrical Codes and National Electrical Safety Code and standard electrical practices, techniques, materials and tools sufficient to ensure that work and materials comply with codes and to select supplies, materials and work methods and apply them to electrical projects.

Electrical tools and equipment, safety standards and procedures sufficient to perform work efficiently and safely.

Shop math sufficient to estimate labor and material costs for planned projects.

Skill in:

Using hand and power tools sufficient to install, alter, maintain, and repair electrical systems and equipment in state buildings.

Ability to:

Maintain and repair hand and power tools sufficient to ensure their availability and safe operation for electrical projects.

Instruct and monitor the electrical work of less skilled employees, inmates, and residents sufficient to ensure work is correctly and safely completed.

Maintain electrical project records of time and materials sufficient to report daily, weekly, and monthly progress of electrical projects.

LEGAL AND LICENSURE REQUIREMENTS

Registration with the Minnesota State Board of Electricity as a Class A Journey or Master Electrician.

Est.: 04/40  
Rev.: 12/70  
09/77  
08/91  
11/94

TC:  
Former Title(s):