

New York State Department of Civil Service
Division of Classification & Compensation

Classification Standard

Occ. Code 7120120

Trades Specialist (Electrician), Grade 12

Brief Description of Class

Trades Specialists (Electrician) perform journey-level electrician work and may supervise others in the repair, maintenance, and installation of electrical systems and equipment, following applicable electric code regulations.

Distinguishing Characteristics

Trades Specialist (Electrician): non-competitive; plans, lays out, and diagnoses problems with electrical systems or equipment.

A Trades Specialist (Electrician) may supervise others in this work including semiskilled and relatively unskilled workers.

Related Classes

A Trades Supervisor (Electrician) is a working supervisor of skilled journey-level electricians and semiskilled and unskilled positions in the electrical trade and occasionally other trades.

In many State facilities, Vocational Instructors specializing in the electrical trade formally instruct inmates in the theory and practice of this trade.

Maintenance Assistants (Electrician), as a semiskilled employee, perform the more routine, repetitive tasks of the electrical trade and are not usually required to work on high voltage equipment. Incumbents may perform journey level activities and tasks under direct observation and supervision or after having received specific instructions.

Facility Operations Assistants 1 on assignment to electrical trades, assist Trades Specialist (Electrician) and Maintenance Assistant (Electrician) positions in electrical work by performing manual tasks involving elementary skills as directed while learning the practical techniques of the electrical trade.

Service & Repair Mechanics (Electronics) install, service, or repair a variety of

electronic equipment at a State facility or agency where there is a large quantity of electronic equipment and where all repairs are made at the facility or agency. Such activities may be performed by a Trades Specialist (Electrician) in a State facility or agency where the quantity of electronic equipment does not require the full-time service of a Service & Repair Mechanic (Electronics).

Employees engaged in other building and maintenance trades are classified under a variety of other commonly used titles descriptive of their work; i.e., Trades Specialist (Carpenter), Trades Specialist (Plumber & Steamfitter).

Illustrative Tasks

Repairs, maintains, and installs electrical systems and equipment such as motors, transformers, wiring, switches, alarm systems, controls, traffic signals and related equipment, such as radios, televisions, and music players.

- Locates and determines electrical malfunction using test instruments such as ammeter, volt meter, ohmmeter, oscilloscope, and test lamp.
- Repairs malfunction by such methods as replacing burnt-out elements and fuses, bypassing or replacing defective wiring, finding switch contact points, and cleaning or rewiring motors.
- Tests electrical equipment such as generators and heaters for safety and efficiency using standard test equipment and by observing functioning.
- Installs fixtures, motors and other electrical equipment.
- Makes adjustments to electrical equipment.
- Inspects circuits and wiring for specified shielding and grounding and repairs or rewires system according to building codes and safety regulations.
- Replaces bearings in electric motors.
- Repairs mechanical, pneumatic, hydraulic, or electric components of electrical equipment and controls, using standard tools, gauges, and procedures.
- Plans layout and wires new installations.
- Installs and repairs traffic control devices and systems.

Plans layout and installs and repairs wiring, electrical fixtures, apparatus and control equipment.

- Plans new or modified installations consistent with specifications and electrical codes.
- Prepares sketches showing location of all wiring and equipment or follows diagrams or blueprints.
- Measures, cuts, bends, threads, assembles and installs electrical conduit.
- Connects wiring to lighting fixtures and power equipment.
- Installs control and distribution apparatus such as switches, relays, and circuit breaker panels.
- Tests, adjusts, calibrates, and maintains a wide variety of control equipment, including central heating plant controls; building heating, air conditioning, and ventilating equipment; controls for laundry equipment; controls for refrigeration; and for a wide variety of other equipment and systems.
- Tests continuity of circuit to ensure electrical compatibility and safety of all components using standard instruments.
- Observes functioning of installed equipment or system to detect hazards and need for adjustments or replacement.

May repair and maintain elevators.

- Locates and determines causes of trouble in brakes, motors, switches and signal and control systems using testing devices.
- Disassembles defective units and repairs and replaces parts such as locks, gears, cables, electric wiring, and faulty safety devices.
- Lubricates bearings and other parts.

May test and repair electromedical equipment such as x-ray, inductothermy, and diathermy equipment, sterilizers, following schematic diagrams.

- Tests electrical circuits and components to locate shorts, faulty connections and defective parts using test meters.
- Solders loose connections and replaces defective parts such as tubes, transformers, resistors, condensers and switches.

Replaces x-ray tubes.

Trades Specialists (Electrician) may supervise and instruct others in the repair,

maintenance and installation of electrical systems and equipment.

- Assigns work to a maintenance staff.
- May prepare wiring diagrams from verbal or written instructions to accomplish a project.
- From plans, may recommend to supervisor the kind, quantity and quality of materials to be used.
- Assembles materials, tools and equipment required to accomplish the work according to plan.
- Lays out the work for the staff and performs journey level tasks as required.
- Gives verbal instructions and/or demonstrates proper method of performing electrical work and the use of electrician tools and equipment.
- Observes and inspects the work while in progress and when completed to ensure that the job is done properly and that electrical codes are followed.
- When supervising individuals for whom the State has custody or responsibility, Trades Specialists (Electrician) must always be aware of and account for their activities while on the job, and that the rules and regulations of the facility governing such activities are followed.

Independence of Operation

Trades Specialists (Electrician) are supervised by higher-level electrical or building trades positions such as Trades Supervisor (Electrician) or Maintenance Supervisor. Generally, work priorities are prescribed, material is furnished, the nature and extent of the work to be performed is given, and detailed plans, diagrams, and specifications are provided. In the absence of such direction, the Trades Specialist (Electrician) sets priorities, requisitions materials, determines the work that must be done, and lays out the work.

Although the work of Trades Specialists (Electrician) is inspected periodically by a supervisor, incumbents are expected to work with considerable independence as is typical of a skilled tradesperson.

Communication

The nature of a Trades Specialist's (Electrician) activity generally restricts relationships to employees working within the same organizational unit including skilled

tradespersons in other trades. On occasion, however, incumbents may be expected to verbally communicate with administrators and others in an agency or State facility on the reasons why work is being accomplished in the manner selected.

Trades Specialists (Electrician) may supervise a maintenance staff. Such relationships are characterized by frequent verbal communications in assigning work and providing instructions. Written and verbal communications with the general public are not typical of this class. Although incumbents may have frequent verbal relationships with others, the tasks of this class are predominantly thing oriented and involvement with others is not a factor in determining its classification.

Supervision Exercised

A Trades Specialist (Electrician) may supervise subordinate maintenance staff and/or individuals for whom the State has custody or responsibility in making assignments, giving instructions, and observing and inspecting work performed to ensure that instructions have been followed, electrical codes adhered to, and that the quality of the work is satisfactory.

Minimum Qualifications

Trades Specialist (Electrician)

Non-competitive: Four years of full-time experience in the electrical trade under a skilled tradesperson which would provide training equivalent to that given in a training, apprenticeship, or equivalent program, OR an equivalent combination of experience and training gained by completion of technical courses in the electrical trade at a school, institute, or branch of the Armed Services; OR successful completion of the two-year Trades Specialist (Electrician) traineeship or a two-year electrician training, apprenticeship, or equivalent program* such as the New York State Civil Service Employees Association-Partnership Applied Skilled Trades Traineeship and Certificate Program.

* Successful completion of the traineeship and the training program includes a total of 288 hours of trade-specific class room instruction, 45 hours of technical math course work, 45 hours of technical communications course work, and 15 hours of blueprint/schematic reading course work. Course work must be completed with an average of "C" or better. Additionally, successful completion of the traineeship also includes 4,000 hours of on-the-job training.

Trades Specialist (Electrician) Trainee 1

Full-time permanent service in a position allocated at Grade 12 or below which is primarily engaged in the performance of unskilled and/or semiskilled labor and trades

tasks; must be 18 years of age or older; possess a High School diploma or general equivalency diploma recognized by the New York State Education Department; and be proficient in English and math.

Trades Specialist (Electrician) Trainee 2

Successful completion of a 52-week probationary period as a Trades Specialist (Electrician) Trainee 1; OR completion of 45 hours of technical math coursework and 15 hours of blueprint reading/schematics coursework or passage of an equivalency exam or proof of successful completion of equivalent training, 144 hours of electrician trade-specific instruction, and 2,000 hours of on-the-job training. Trainees must maintain a "C" or better average in their coursework.

When required to operate motor vehicles, candidates must possess a valid New York State driver's license appropriate for the type of vehicle to be operated.

Note: Classification Standards illustrate the nature, extent and scope of duties and responsibilities of the classes they describe. Standards cannot and do not include all of the work that might be appropriately performed by a class. The minimum qualifications above are those which were required for appointment at the time the Classification Standard was written. Please contact the Division of Staffing Services for current information on minimum qualification requirements for appointment or examination.

5/2024