POSITION DESCRIPTION, FORM 30 - STATE
Commonwealth of Massachusetts

1. POSITION TITLE
   Electrician I

2. APPROPRIATION OR AGENCY CODE
   POSITION NO.

3. GENERAL STATEMENT OF DUTIES AND RESPONSIBILITIES
Performs general work to test, repair, install maintain and trouble shoot various types of electrical systems, components and related equipment found in University Buildings and grounds. Maintains an adequate inventory of materials and equipment as directed. Inspects electrical work performed on campus by private contractors for compliance with specifications and regulatory codes. Performs layout and prepares diagrams of electrical projects, ensures the safe, efficient operation of electrical and related systems and installs, repairs, and maintains electrical systems and equipment at a journeyman level of performance in a State building or institution; performs related work as required.

4. SUPERVISION RECEIVED
   (Name and title of person from whom incumbent receives direction)
Incumbents of this position at this level receive supervision from employees of higher grade, who provide instruction, assign work and review performance through verbal reports, visual inspections, and annual performance evaluations for compliance with instructions and established standards.

5A. DIRECT REPORTING STAFF
None, but may supervise a few helpers engaged in performing electrical installation, maintenance and repair duties.

5B. THEIR STAFF

6. DETAILED STATEMENT OF DUTIES AND RESPONSIBILITIES
*Incumbents of this position perform physically arduous tasks under adverse conditions and extremes of heat, cold, dampness and humidity, are exposed to electrical hazards and are subjected to harmful effects of noxious gases and fumes, must stand and work for prolonged periods of time, lift and carry heavy objects and work in cramped or confined spaces, and are subject to the physical and mental stress of working in a potentially dangerous environment.

*Inspects buildings to detect and locate causes of electrical failures or breakdowns of equipment, to determine, recommend or execute corrective measures. Responds to complaints from the university community regarding assigned work and emergencies and takes appropriate corrective actions to implement the required electrical and associated work.

*Tests, repairs, installs and maintains various types of electrical systems and equipment by operating the appropriate equipment and tools to ensure proper maintenance and functioning of necessary equipment.

*Troubleshoots electrical and related equipment by using equipment and reading schematics, diagrams and outlines to identify and correct operational problems.

*Prepares sketches to identify the location of all wiring and equipment, or follows previously prepared diagrams and blueprints, and coordinates with other University trades to insure that concealed wiring is installed prior to the completion of future walls, ceiling and floors.

*Repairs, maintains and operations electrical equipment; such as motors, generators, transformers, power panels, switchboards, regulators, wiring switches, alarm systems, and control equipment. Locates and determines the reason for malfunction, through the use of testing instruments, such as ammeters, oscilloscopes, and testing lamps.

*Plans layout and installation of wiring, electrical fixtures, apparatus and control equipment to minimize waste of materials, provide access for future maintenance, avoid unsightly, hazardous and unreliable wiring and to conform with specifications and local electrical codes.

*Performs related duties such as reviewing technical literature to stay abreast of developments in the field; resetting first alarm systems; advising when to open the main electric power supply during an emergency, inspects circuits and wiring for specified shielding and grounding, inspects the operation of installed equipment or systems to detect hazards and need for adjustments, relocation, or replacement and repairs faulty equipment or systems, as required; and provides on the job training to assigned employees.

*Determines on-the-job procedures changes by consulting with trade’s people private utilities, outside contractors and engineers to obtain technical advice and coordinate and expedite work projects. Inspects the work of private contractors to ensure compliance with agency safety codes, specifications and regulations as assigned.

*Must prepare and use charts, graphs and tables, read and record electric meters and maintain accurate records.

*Maintains an adequate inventory of equipment and materials by contacting vendors for equipment prices and ordering equipment and materials as directed.

*The incumbent is required to effectively use and apply the following equipment and tools, in performance of the Electrician I duties listed above and in the general statement of duties: Power tools such as saws, drills, hammers, cable pullers. Small hand held tools such as soldering equipment, taps and i.e., wrenches, pliers, screwdrivers, hammers, saws, chisels, calipers, levels, rulers and steel squares. Testing equipment such as multi meters, voltage testers, oscilloscopes, meggers, tic tracers, metal detectors, chart recorders, drantz meters and other meter devices necessary in completion of the particular assignment. Various types and heights of staging and ladders.

Note: This form must be submitted to the Human Resource Office for every new position title in your jurisdiction and for any substantive change in established position.
7. QUALIFICATIONS REQUIRED AT HIRE (List knowledge, skills, abilities)

- Knowledge of state and local electrical codes. Knowledge of the principles and theory of electricity.
- Knowledge of basic algebra. Knowledge of basic arithmetic.
- Knowledge of the types and uses of small hand tools used in electrical practice such as pliers, screwdrivers, etc.
- Knowledge of the types and uses of equipment including testing equipment used in electrical work.
- Knowledge of safety practices and precautions observed in the electrical trade.
- Knowledge of inspection techniques used in the electrical trade.
- Knowledge of the types and uses of hand held power tools such as drills, etc.
- Knowledge of the methods and techniques of testing fire alarm systems.
- Knowledge of the procedures and methods followed in the installation of fire alarm systems.
- Skill in using small hand tools such as pliers, screwdrivers, etc. Skill in using hand held power tools such as drills.
- Skill in the use of precision measuring equipment, gauges and instrumentation used in electrical work.
- Ability to lift and carry heavy objects up to 40 pounds.
- Ability to understand, explain and apply the laws, rules and regulations governing assigned unit activities.
- Ability to lead a group of workers. Ability to follow oral and written instructions.
- Ability to interpret and apply laws, rules and regulations concerning electrical practice.
- Ability to write clearly and concisely. Ability to maintain accurate records.
- Ability to prepare and use charts, graphs and tables.
- Ability to establish and maintain harmonious working relationships with others.
- Ability to perform algebraic calculations to determine voltage, amperage and resistance factors.
- Ability to read and interpret documents such as electrical plans, schematics, drawings, etc.
- Ability to make decisions and act quickly in emergency situations. Ability to climb and work from ladders and scaffolds.
- Ability to install, maintain and repair electrical wiring systems and equipment.
- Ability to detect and locate causes of electrical failure or breakdown of equipment.
- Ability to work with the tools, materials and equipment of the electrical trade.
- Ability to operate a motor vehicle. Ability to work in high hazard areas involving high voltages.
- Ability to climb up to 60 feet on ladders or manlifts. Ability to interact diplomatically with building occupants.

8. QUALIFICATIONS ACQUIRED ON JOB (list knowledge, skills, abilities)

*Expanded knowledge of types, uses, storage and application of materials, tools and equipment and chemicals used in the electrical trade and their effectiveness in accomplishing the required tasks.
*Expanded knowledge of laws, rules, regulations, policies, procedures, specifications, standards and guidelines governing assigned unit activities.

9. MINIMUM ENTRANCE REQUIREMENTS

Minimum entrance requirement are the same as those listed above in Category # 7, Qualifications Required at hire.

10. LICENSE AND/OR CERTIFICATION REQUIREMENTS

Must possess a current and valid Massachusetts Journeyman or Master Electrician’s License issued by the State Examiner of Electricians.
Must posses a current Class III Massachusetts Driver License.

REMARKS  Electricians are exposed to the hazards of high voltage; climb and work from ladders and scaffolds; may drive for job-related travel; and may work varied hours.