ELECTRICIAN
HEATING, VENTILATION AND AIR CONDITIONING MAINTENANCE TECHNICIAN

DEFINITION

Under general supervision, performs skilled installation, alteration, maintenance, repair and inspection of electrical and/or heating ventilation and air conditioning (HVAC) systems and equipment; works primarily in a single area of specialization, but is required to perform routine duties in other areas of specialization as needed; performs related duties as assigned or assigned.

CLASS CHARACTERISTICS

This is a journey level class, with incumbents expected to independently install, repair, and maintain a variety of building electronic systems and/or HVAC systems. In addition, this position works with other skilled trade specialties. Although general supervision and scheduling is provided, incumbent overviews and estimates time, materials and labor requirements. This position is distinguished from the Maintenance Technician series in that specialized knowledge is required to perform electrical and/or HVAC maintenance work.

EXAMPLES OF DUTIES (Illustrative Only)

- Inspects, installs, maintains, and repairs electrical power and service wiring, control panels, motors, fire alarms, bell and buzzer systems, starters, conduits, indoor and outdoor lighting, circuit breakers, switch boxes, and related electrical equipment and fixtures
- Inspects, installs, maintains, and repairs heating, ventilation, refrigeration and air conditioning equipment including heat pumps, heating and ventilating units, air conditions with gas or electric heat, reciprocating chillers, multi-zone units, hot water heating boilers, cooling towers, thermal energy storage systems, pumps, air handlers, return and exhaust fans, air compressors, variable air volume systems, and refrigerators
- Oversees the College computer controlled energy management system
- Diagnoses problems using prints, diagrams, schematics and test equipment
- Reads and interprets plans, blueprints and specifications and ensures conformity with codes and safety regulations
- Designs and installs systems to be used in new construction
- Redesigns and alters incomplete or improper systems
- Estimates and records time, materials, tools, equipment and cost for work assignment
- Inventories material and supplies
- Orders and purchases supplies
- Performs troubleshooting work to locate defects in system
- Operates and maintains a wide variety of hand and power tools, shop tools, trucks and auxiliary equipment
- Observes safe work methods and safety precautions
- Uses appropriate safety equipment and devices
- Attends safety meetings and other meetings as appropriate to assignment
- Inspects and repairs safety hazards encountered in the course of the work
- Prepares a variety of records, including work orders, progress reports, system analysis reports and requisitions, using an on-line or personal computer system
- Directs the work of less experienced workers; assists maintenance technicians as needed
- Trains others in proper and safe work methods
- Assists in developing specifications for contract work
EXAMPLES OF DUTIES (Continued)

- Inspects contract work for conformity to specifications
- Recommends remedial work as necessary
- Performs related duties as required or assigned

QUALIFICATIONS

Knowledge of:

- Principles, methods, materials, tools and equipment used in the installation, maintenance, and repair in area of specialization (Electrical or HVAC)
- Operation and repair of high voltage electrical switch gear system (Electrician)
- Computer controlled energy management system
- Federal, State and local laws, codes and regulations in area of specialization
- Operation and maintenance of a wide variety of hand, power and shop tools, test equipment and other equipment common to the trade
- Safe work methods and safety regulations relating to the work
- Shop mathematics

Skill in:

- Preparing, interpreting and working from wiring diagrams, schematics, drawings and blueprints
- Repairing, installing, servicing and maintaining equipment and wiring systems
- Operating and maintaining tools and equipment skillfully and safely
- Measuring and calculating angles, lengths, and volumes
- Designing, laying out and preparing sketches, plans and cost estimates for work
- Estimating necessary materials and equipment to complete assignment
- Exercising judgment and initiative with limited supervision
- Preparing records and reports, using an on-line or personal computer system
- Reading and interpreting manuals, specifications, drawings, plans and blueprints
- Understanding and following oral and written instructions
- Establishing and maintaining effective working relationships with those contacted in the course of the work

Other Requirements:

- Must possess and maintain a valid California driver’s license and safe driving record
- Must be eligible for Refrigerant Transition and Recovery Certificate (HVAC)
- Must possess sufficient strength and stamina to perform heavy physical labor and lift and maneuver objects weighing up to 100 pounds, with assistance
- Must be willing to respond to emergencies in off-hours as necessary
- Must be willing to work outdoors in all weather conditions
- Must be willing to work with exposure to unpleasant and potentially hazardous substances, using proper safety equipment and procedures
Education and Experience:

A typical way of gaining the knowledge and skills outlined above is:

Equivalent to completion of a recognized apprenticeship program for electrical or HVAC and four years of journey level experience in installation, maintenance and repair in area of specialization. Additional work experience may be substituted for the formal apprenticeship program on a year-for-year basis to a maximum of four years.

Established: July 1, 2002