

## HVAC/R MECHANIC

### **DEFINITION**

Under general supervision, performs journey-level skilled work in the installation, maintenance, and repair of heating, ventilation, air conditioning, and refrigeration (HVAC/R) systems and fixtures; performs journey-level skilled work in the installation, maintenance, and repair of variable frequency drives (VFDs) and the maintenance and repair of variable refrigerant flow (VRF) systems.

### **SUPERVISION RECEIVED AND EXERCISED**

Receives general supervision from the assigned managerial personnel and technical and functional supervision from the Lead HVAC/R Mechanic.

### **CLASS CHARACTERISTICS**

This is a journey-level HVAC/R Mechanic position responsible for performing installation repairs, and maintenance on HVAC/R systems, as well as performing skilled and semi-skilled duties related to the installation, programming, inspection, testing, and repair of electrical and electronic building automation systems at the College to ensure that all are maintained in a safe and effective working condition and provide the highest level of safety for College and public use. This class is distinguished from the Lead HVAC/R Mechanic classification in that the Lead is responsible for technical and functional supervision of assigned HVAC/R staff and is capable of performing the most complex duties assigned to the function.

### **EXAMPLES OF ESSENTIAL FUNCTIONS (Illustrative Only)**

1. Performs skilled HVAC/R work, including the installation and repair of general HVAC/R systems and equipment, including but not limited to, VFDs and VRF systems; inspects, troubleshoots, and performs tests on systems and equipment to identify defective parts and ensures proper functioning.
2. Performs skilled and semi-skilled preventative and predictive maintenance, inspection, testing, repair, and installation of digital, electrical, and electronic control equipment related to air conditioning, fume hood, and exhaust systems for building automation in coordination with the Building Automation Technician.
3. Performs daily review of the system; troubleshoots and makes sure necessary changes are made in programming and calibrating to ensure proper operation of controls and instrumentation for building automation.
4. Inspects, disassembles, repairs, maintains, and services various types of refrigeration and air conditioning equipment and systems, including valves, fans, compressors, motors, gaskets, filters, fuses, tubing, controls, and thermostats; performs similar work on hot water and forced air systems.
5. Performs HVAC/R preventive maintenance and mechanic work on commercial systems; inventories air conditioning and heating equipment; assigns equipment to appropriate preventive maintenance programs; evaluates and recommends the preventative

maintenance program for all HVAC/R equipment; prepares and maintains preventative maintenance records.

- 6. Services and maintains valves, fans, compressors, motors, gaskets, filters, belts, fuses, controls, thermostats, switches, gauges, tubing, and pipes; cuts, bends, and joins tubing and pipes.
- 7. Inspects and cleans make-up tanks, including screens/filters and traps, boilers, and other equipment.
- 8. Works from diagrams, blueprints, layouts, work orders, verbal instructions, or other specifications to install and test HVAC/R systems or equipment.
- 9. Performs minor maintenance and repairs on low voltage systems in coordination with the Lead Electrician; performs tests on 480 volts or less related to HVAC/R equipment.
- 10. Operates and maintains specialized equipment, including pumps, gauges, meters, and a variety of hand and power tools.
- 11. Inspects facilities and buildings for damage and maintenance needs; recommends repairs as necessary.
- 12. Ensures the proper care and maintenance of tools and equipment.
- 13. Estimates labor, materials, and equipment needed for assigned projects; monitors inventory levels of materials and equipment; orders, receives, and maintains inventory of materials and equipment as needed.
- 14. Records and maintains work and material records.
- 15. Provides recommendations regarding needed parts.
- 16. Observes safe work methods and makes appropriate use of related safety equipment as required.
- 17. Maintains work areas in a clean and orderly condition, including securing equipment at the close of the workday.
- 18. Provides needed information and demonstrations concerning how to perform certain work tasks to new employees in the HVAC/R department.
- 19. Assists other College employees with various projects including carpentry, and plumbing, as well as other maintenance areas by performing skilled, semi-skilled, and unskilled duties.
- 20. Supports and compiles with federal and state laws, Board Policies, and Administrative Procedures.
- 21. Provides quality customer service when interacting with the public, vendors, students, and College staff, including individuals from minoritized groups.
- 22. Participates on committees, task forces, and special assignments, including, but not limited to Screening and Selection Committees and affiliated mandated trainings, as required. Prepares and delivers oral presentations related to assigned area if needed.
- 23. Works directly with people from various ages, disabilities, socio-economic levels and ethnic groups.
- 24. Maintains regular attendance.
- 25. Performs other related duties as assigned.

## **QUALIFICATIONS**

### **Knowledge of:**

1. Principles, practices, methods, equipment, materials, and tools used in maintenance and repair of College HVAC/R systems and fixtures, including applicable HVAC codes.
2. Operation of HVAC controls and campus energy management systems (EMS) to meet both comfort and conservation requirements for building automation.
3. Automation building management systems, energy conservation equipment, and related components for building automation.
4. Safe application, operation, and maintenance of tools and equipment used in the HVAC/R trade.
5. Applicable federal, state, and local laws, regulatory codes, ordinances, and procedures relevant to assigned area of responsibility.
6. Occupational hazards and safety equipment and practices related to the work.
7. Standard office practices and procedures, including the use of standard office equipment, basic record-keeping, and arithmetic.
8. Safe work practices, including safe driving rules and practices.
9. English usage, spelling, vocabulary, grammar, and punctuation.
10. Techniques for providing a high level of customer service by effectively interacting with the public, vendors, students, and College staff, including individuals of various ages, disabilities, socio-economic levels and ethnic groups.

### **Skills & Abilities to:**

1. Perform a variety of complex technical tasks in the installation, repair, and maintenance of College HVAC/R fixtures and systems.
2. Perform a variety of complex technical tasks related to building automation, installation, repair, and maintenance work.
3. Skillfully and safely operate a variety of equipment such as boom truck or boom lift, scissors lift aerial lift, fork lift and power and hand tools used in the HVAC/R field. Troubleshoot HVAC problems.
4. Determine materials, costs, and supplies required for HVAC/R repairs and maintenance projects; recommend purchases.
5. Interpret, apply, explain, and ensure compliance with applicable federal, state, and local policies, procedures, laws, and regulations.
6. Understand and follow written and verbal directions, instructions, and safety rules and procedures.
7. Maintain accurate logs, records, and basic written reports of work performed.
8. Operate modern office equipment, including computer equipment and software programs.
9. Read and interpret construction drawings, specifications, plans, manuals, diagrams, blueprints, and technical regulations.
10. Make accurate arithmetic calculations.
11. Operate a truck and observe legal and defensive driving practices.
12. Organize own work, set priorities, and meet critical time deadlines.
13. Communicate effectively through various methods.
14. Learn and apply emerging technologies and, as necessary, to perform duties in an efficient, organized, and timely manner.
15. Understand scope of authority in making independent decisions.

16. Review situations accurately and determine appropriate course of action using judgment according to established policies and procedures.
17. Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

**Education and Experience:**

1. Equivalent to the completion of the twelfth (12<sup>th</sup>) grade; and
2. Three (3) full-time equivalent years of experience in journeyman level HVAC maintenance and repair work.

**Desirable Qualifications:**

A certification as a qualified journey-level HVAC mechanic from an approved institution.

**Licenses and Certifications:**

1. The incumbent is required to drive to a variety of locations. This will require the incumbent to possess and maintain a valid California driver's license and proof of automobile insurance and maintain insurability under the College's vehicle insurance policy.
2. Possession of an Environmental Protection Agency (EPA) Universal Refrigerant Certification #608.

**PHYSICAL DEMANDS**

Must possess mobility to work in and around College buildings and facilities, to operate a motor vehicle and drive on surface streets; strength, stamina, and mobility to perform light to medium physical work, to work in confined spaces and around machines, to climb and descend ladders, and to operate varied hand and power tools and equipment; vision to read printed materials and a computer screen and hearing and speech to communicate in person and over the telephone or radio. The job involves fieldwork requiring frequent walking in operational areas to identify problems or hazards. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate above-mentioned tools and equipment. Positions in this classification bend, stoop, kneel, reach, and climb to perform work and inspect work sites. Incumbents must possess the ability to lift, carry, push, and pull materials and objects weighing up to 50 pounds, or heavier weights with the use of proper equipment.

**ENVIRONMENTAL ELEMENTS**

Incumbents work in and around buildings and facilities and are exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, confining workspace, chemicals, mechanical and/or electrical hazards, and hazardous physical substances and fumes. Incumbents may interact with staff and/or public and private representatives and contractors in interpreting and enforcing departmental policies and procedures.