



Career Service Authority

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Heating, Ventilating, and Air Conditioning (HVAC) Mechanic

GENERAL STATEMENT OF CLASS DUTIES

Performs full performance skilled trades level work in the maintenance, repair, and installation of a variety of HVAC equipment requiring certifications in two or more skilled trades areas such as heating and ventilating, air conditioning and refrigeration, stationary engineering, steamfitting, and/or steam and hot water.

DISTINGUISHING CHARACTERISTICS

This classification is responsible for maintaining the heating and cooling systems for buildings, theaters, and sports arenas, etc. This class is distinguished from the Facilities Maintenance Technician, which is not a licensed or certified position, and is distinguished from the HVAC Supervisor, which has full supervisory responsibilities and duties.

This classification is distinguished from the Master Trades Worker, which performs full performance licensed skilled trades maintenance, repair, and/or installation work in at least two distinctly different skilled trades areas, requiring multiple journey licenses and/or certifications, or pulls permits for an agency or department.

The HVAC Mechanic is a classification built around certifications in the areas of heating and ventilating, and air conditioning and refrigeration. The skill set and equipment is interrelated and the certifications are individualized. For instance, heating and ventilating would be one certification and air conditioning would be a second certification, which creates the HVAC Mechanic, to which there is no single certification. The class specification requires HVAC Certification and Refrigeration Certification, two separate certifications, but the general statement of duties also mentions certifications in steam and hot water, steamfitting, and stationary engineering; therefore, it can be reasonably assumed that an individual in this classification could have five (5) related certifications in the realm of HVAC repair, maintenance, and/or installation, which are not considered distinctly different trades skill sets.

Guidelines, Difficulty and Decision Making Level:

Guidelines are generally but not always clearly applicable, requiring the employee to exercise judgment in selecting the most pertinent guideline, interpret precedents, adapt standard practices to differing situations, and recommend alternative actions in situations without precedent.

Duties assigned are generally complex and may be of substantial intricacy. Work assignment is performed within an established framework under general instructions but requires simultaneous coordination of assigned functions or projects in various stages of completion.

Employee is responsible for determining time, place, and sequence of actions to be taken. Unusual problems or proposed deviations from guidelines, practices, or precedents may be discussed with the supervisor before being initiated.

Level of Supervision Received and Quality Review:

Under general supervision, the employee receives assignments and is expected to carry them through to completion with substantial independence. Work is reviewed for adherence to instructions, accuracy, completeness, and conformance to standard practice or precedent. Recurring work clearly covered by guidelines may or may not be reviewed.

Interpersonal Communications and Purpose:

Contacts with the public or employees where explanatory or interpretive information is exchanged, defended, and gathered and discretion and judgment are required within the parameters of the job function.

Level of Supervision Exercised:

By position perform lead work.

ESSENTIAL DUTIES

Inspects facilities and equipment to determine installation, alteration, maintenance, and repair needs as permitted by the appropriate HVAC certification.

Installs, maintains, and repairs equipment and machinery which may include some fabrication.

Operates, maintains, and repairs high/low pressure steam/hot water boilers, pumping units vacuum pumps, boiler feed pumps and auxiliary equipment.

Operates, maintains, replaces, and repairs commercial/industrial refrigeration and air conditioning systems, controls, and related equipment.

Installs, replaces, and repairs forced air heating and duct work.

Programs and updates automatic building system controls.

Prepares working sketches and works from blueprints.

Assists in the maintenance and repair work in a variety of other skilled trades areas.

Plans and coordinates installation, maintenance, and repair work with other trades areas.

Operates and maintains tools and equipment common to various skilled trades.

Performs general plant and building maintenance repair.

Maintains records and prepares reports; and, estimates materials, labor, and equipment costs.

Observes all common safety practices.

By position, participates in snow removal duties.

Performs other related duties as assigned or requested.

Any one position may not include all of the duties listed. However, the allocation of positions will be determined by the amount of time spent in performing the essential duties listed above.

MINIMUM QUALIFICATIONS

Competencies, Knowledge, & Skills:

Engineering and Technology – Knowledge of engineering concepts, principles, and practices, and of equipment, tools, mechanical devices, and their uses to produce motion, light, power, technology, and other applications.

Industrial Equipment Operation – Knowledge of principles and methods for operating industrial equipment.

Building and Construction – Knowledge of materials, methods, and the appropriate tools to construct objects, structures, and buildings.

Mechanical – Knowledge of machines and tools, including their designs, installation, uses, repair, and maintenance.

Design – Knowledge of developing, producing, understanding, and using plans, blueprints, models, and maps, including the use of tools and instruments to produce precision technical drawings.

Electronics – Knowledge of electronic theory, circuits, components, and material properties (excluding computers).

Technical Competence – Uses knowledge that is acquired through formal training or extensive on-the-job experience to perform one's job; works with, understands, and evaluates technical information related to the job; advises others on technical issues.

Technical Problem Solving – Troubleshoots, diagnoses, analyzes, and identifies systems malfunctions to determine the source and cause of the problem.

Reading – Understands and interprets written material, including technical materials, rules, regulations, instructions, reports, charts, graphs, or tables; applies what is learned from written material to specific situations.

Writing – Recognizes or uses correct English grammar, punctuation, and spelling; communicates information (for example, facts, ideas, or messages) in a brief, clear, and organized manner; produces written information, which may include technical material, that is appropriate for the intended audience.

Mathematical Reasoning – Solves practical problems by choosing appropriately from a variety of mathematical and statistical techniques.

Oral Communication – Expresses information (for example, ideas or facts) to individual or groups effectively, taking into account the audience and nature of the information (for example, technical, sensitive, controversial); makes clear and convincing oral presentations; listens to others, attends to nonverbal cues, and responds appropriately.

Problem Solving – Identifies problems; determines accuracy and relevance of information; uses sound judgment to generate and evaluate alternatives, and to make recommendations.

Attention to Detail – Is thorough when performing work and conscientious about attending to detail.

Spatial Orientation – Knows one's location in relation to the environment; determines where other objects are in relation to one's self (for example, when using a map).

Physical Demands: (Physical Demands are a general guide and specific positions will vary based on working conditions, locations, and agency/department needs).

Standing: remaining on one's feet in an upright position.

Walking: moving about on foot.

Sitting: remaining in the normal seated position.

Lifting: raising or lowering an object from one level to another.

Carrying: transporting an object, usually by hand, arm, or shoulder.

Pushing: exerting force upon an object so that the object is moving away from the person.

Pulling: exerting force upon an object so that the object is moving toward the person.

Balancing: maintaining body equilibrium to prevent falling over.

Stooping: bending the body by bending spine at the waist.

Fingering: picking, pinching, or otherwise working with the fingers.

Talking: expressing or exchanging ideas by means of spoken words.

Hearing: perceiving the nature of sounds by the ear.

Repetitive Motions: making frequent movements with a part of the body.

Eye/Hand/Foot Coordination: performing work through the use of two or more.

Far Acuity: ability to see clearly at 20 feet or more.

Near Acuity: ability to see clearly at 20 inches or less.

Depth Perception: ability to judge distance and space relationships.

Field of Vision: ability to see peripherally.

Accommodation: ability to adjust vision to bring objects into focus.

Color Vision: ability to distinguish and identify different colors.

Lifting: raising or lowering an object up to 50 pounds.

Working Environment:

Exposure to extreme temperature changes.

Exposure to noise sufficient enough to cause distraction or possible hearing loss.

Exposure to hazardous conditions where there is danger to life, body, and/or health.

Exposure to a variety of electro-mechanical hazards.

Exposure to hazards from electro/mechanical/power equipment.

Subject to burns and cuts.

Subject to injury from moving parts of equipment.

Subject to varying and unpredictable situations.

Education Requirement:

Graduation from high school, or possession of a GED Certificate.

Experience Requirement:

Completion of a recognized apprenticeship program for the appropriate HVAC trades areas.

Education/Experience Equivalency:

Completion of the City's apprenticeship program for the appropriate HVAC trades areas.

Licensure and/or Certification:

Possession of a valid driver's license at the time of application; and possession of a valid Colorado Class "R" Driver's License prior to the end of the probationary period.

Possession of a valid Heating and Ventilating Certificate and an Air Conditioning and Refrigeration Certificate issued by the City and County of Denver at the time of application.

By position, requires certification(s) in stationary engineering, steamfitting, and/or steam and hot water.

CLASS DETAIL

FLSA CODE: Non-Exempt

ESTABLISHED DATE: 09/16/1995
09/16/2000 (First Revision)

ESTABLISHED BY: Unknown
Nicole Lucero-Holub (First Revision)

REVISED DATE: 07/12/2009

REVISED BY: John Hoffman

CLASS HISTORY: 7/2009 - This class was revised, updated, and placed into the new class specification format.