



## Career Service Authority

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# Senior Biomedical Equipment Technician

### GENERAL STATEMENT OF CLASS DUTIES

Performs full performance electronic and mechanical maintenance of medical equipment; requiring testing, troubleshooting, calibrating, diagnosing, and maintaining electronic, pneumatic, hydraulic, electro-mechanical, and electrical medical equipment.

### DISTINGUISHING CHARACTERISTICS

This classification is located at Denver Health Medical Center and is being maintained for promotional purposes.

#### ***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.

- OR -

Contacts with the persons under stress or emergency conditions where an immediate service is rendered according to established procedures or instructions.

***Level of Supervision Exercised:***

No supervisory responsibility.

**ESSENTIAL DUTIES**

Maintains, repairs, and troubleshoots specialized medical equipment and systems using appropriate testing equipment to ensure proper operation and conformance to manufacturer's specifications, and required standards of operation.

Designs and fabricates circuits and related equipment as needed to utilize existing equipment, modify applications, or resolve unusual problems.

Installs, calibrates, and monitors electronic and electrical medical systems.

Analyzes electronic equipment for causes of failure; isolates, tests and replaces defective parts.

Responds to emergency calls from critical care areas.

Troubleshoots malfunctions and makes necessary modifications or repairs.

Maintains departmental records, reports, and files as required.

Evaluates and makes recommendations on assigned service contracts and ensures the terms of the contract are met by the vendors.

Participate in educational programs and in-service meetings.

Reviews medical equipment history files, notes and reports excessive and abnormal failure rates.

Conducts pre-purchase evaluations and coordinates site preparations for installation of medical equipment or medical systems.

Performs other related duties as assigned or requested.

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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.

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**MINIMUM QUALIFICATIONS**

***Competencies, Knowledge, & Skills:***

**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.

**Decision Making** – Makes sound, well-informed, and objective decisions; perceives the impact and implications of decisions; commits to action, even in uncertain situations, to accomplish organizational goals; causes change.

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

**Customer Service** – Works with clients and customers (that is, any individual who uses or receives the services or products that your work unit produces, including the general public, individuals who work in the agency, other agencies, or organizations outside the Government) to assess their needs, provide information or assistance, resolves their problems, or satisfies their expectations; knows about available products and services; is committed to providing quality products and services.

**Stress Tolerance** – Deals calmly and effectively with high stress situations (for example, tight deadlines, hostile individuals, emergency situations, dangerous situations).

**Technology Application** – Uses machines, tools, or equipment effectively; uses computers and computer applications to analyze and communicate information in the appropriate format.

**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.

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

**Computers** – Knowledge of circuit boards, processors, chips, and computer hardware and software, including applications and programming.

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

**Electrical** – Knowledge of electrical equipment, components, instruments, and systems, including their design, installation, testing, uses, repair, or maintenance.

### ***Physical Demands:***

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

Walking: moving about on foot.

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 away.

Pulling: exerting force on an object so that it is moving to the person.  
Climbing: ascending or descending objects usually with hands/feet.  
Balancing: maintaining body equilibrium to prevent falling over.  
Stooping: bending the body by bending spine at the waist.  
Kneeling: bending legs to come to rest on one or both knees.  
Crouching: bending body downward and forward by bending legs.  
Crawling: moving about on hands and knees or hands and feet.  
Reaching: extending the hand(s) and arm(s) in any direction.  
Handling: seizing, holding, grasping, or otherwise working with hands.  
Fingering: picking, pinching, or otherwise working with fingers.  
Feeling: perceiving attributes of objects by means of skin receptors.  
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.  
Lifting: Raising or lowering an object over 50 pounds.  
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.

***Working Environment:***

Possible exposure to hazardous chemicals.  
Exposure to a variety of electromechanical hazards  
Exposure to hazards from electro/mechanical/power equipment  
Exposure to odorous chemicals and specimens  
Subject to electrical and radiant energy hazards  
Subject to injury from moving parts of equipment  
Subject to many interruptions  
Subject to varying and unpredictable situations

***Education Requirement:***

Associate Degree in Electronics or Biomedical Technology.

***Experience Requirement:***

Two years of experience in biomedical electronic equipment repair and diagnosis that must have included bench and/or on-site repairs to the component level relevant to therapeutic medical equipment and systems.

***Education/Experience Equivalency:***

Additional appropriate education may be substituted for one year of the minimum experience requirement.

***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.

**CLASS DETAIL**

***FLSA CODE:*** Non-Exempt

***ESTABLISHED DATE:*** 09/16/1995

***ESTABLISHED BY:*** Shirley Nikkel

***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.