

UW HEALTH JOB DESCRIPTION

BIOMEDICAL ENGINEERING TECHNICIAN III

Job Code: 510008	FLSA Status: Non-exempt	Mgt. Approval: J. Layng	Date: May 2024
Department: Supply Chain-Healthcare Technology Mgt		HR Approval: S. Whitlock	Date: May 2024

JOB SUMMARY

The Biomedical Engineering Technician III maintains clinical equipment through the effective use of the UW Health Medical Equipment Management Plan. Demonstrates a mastery of skills and tasks associated with the installation, maintenance, calibration, and repair of complex biomedical equipment. Capable of educating others including clinical staff related to the technical integration, operation, and maintenance of the device/system.

Positions at this level are responsible for providing primary support in troubleshooting and repairing sophisticated medical equipment and systems. Servicing this equipment requires considerable knowledge and skill in configuring and troubleshooting computer operating systems and networks.

This position is also responsible for ensuring the quality work standards of lower level Biomedical Engineering Techs as well as training employees the correct protocols for utilizing the department's computerized maintenance management system / database (CMMS). The incumbent will also be responsible for providing reports to department leadership regarding productivity, benchmarking and asset disposition.

This position requires the incumbent to be on call during some evenings, weekends and holidays as needed, based upon assigned location and Department needs.

Work is performed independently in various settings including critical patient care areas such as operating rooms and intensive care units as well as bench and in-shop locations. This position keeps accurate records of repairs made and follows up with customers on work performed or scheduled. Positions at this level provide training to lower level technicians as well as clinical operators on the correct setup, calibration, and operation of patient care equipment.

An understanding of physiology and medical terminology is necessary in order to communicate with clinical staff on a day-to-day basis. This position may be called upon to evaluate prototypes or new equipment (with little or no printed information available) to ensure the safety of patients and staff in the use and operation of various types of medical equipment.

MAJOR RESPONSIBILITIES

- Serve as the department coordinator for the PSN (Patient Safety Net) system, providing documentation and reporting of all investigation and correction activity via the CMMS system.
- Track and maintain appropriate documentation of equipment recalls and device corrections received by the FDA and applicable Medical Equipment manufacturers.
- Provide periodic benchmarking reports consistent with TJC and accrediting agencies requirements.
- Diagnose defective medical equipment and implement repairs without direct supervision in both shop and critical care settings including operating rooms, trauma units, emergency rooms, and various other patient care areas.
- Keep accurate records of all maintenance activities performed on assigned medical equipment and update the department database of this record of service, completely and promptly.
- Perform and record preventive maintenance of assigned equipment through periodic performance checks and measurements based on the UW Health Medical Equipment Management Plan.
- Have a working knowledge of all applicable codes and standards for maintaining medical equipment including those issued by The Joint Commission and other accrediting agencies.
- Maintain technical skills and be aware of emerging trends in Healthcare Technology Management by periodically attending seminars and reading relevant professional material.
- Operate sophisticated calibration and test equipment.
- Repair/calibrate life support and other critical medical equipment and systems such as but not limited to the following: ventricular assist devices, anesthesia machines, mechanical ventilators, electrosurgical units, physiologic patient monitoring equipment, ECG and EEG equipment, Echo vascular ultrasounds, hypothermia units, blood pressure monitors, defibrillators, adult and pediatric heart catheterization lab equipment, electro-physiology lab equipment, mass spectrometer based anesthesia gas analysis system, hemodialysis and peritoneal dialysis systems, lasers, computerized ECG stress test systems, volumetric infusion pumps, diagnostic ultrasound, and holter systems.
- Install and maintain various devices used to interface critical medical equipment data into the UW Health electronic medical record system (EPIC)
- Insure urgent device corrections, and equipment recalls are acted upon in a timely manner to insure safety of patients, visitors, and staff.
- Insure medical equipment involved in or suspected to be involved with adverse patient interactions is processed in accordance with UW Health policy.
- Perform repairs and configuration updates to the nurse call system / network, including interfaces with middleware, ADT and alarm notification servers and equipment.

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- Perform repairs and configuration of critical care patient monitoring computer systems; central stations, displays, database servers, enhanced web servers, ADT interface servers, alarm prioritizing and routing servers.
- Coordinate corrective maintenance on selected critical communication systems including emergency room radios, fire / security distributed antenna systems as well as long range and over-head paging systems.
- Perform and coordinate repairs and configuration of non-invasive cardiology database management and acquisition system including ECG stress testing systems, diagnostic ultrasound, and PACS interfacing equipment.
- Maintain and configure medical equipment alarm notification equipment, interfaces, and systems.
- Maintain and configure electronic ICU servers and associated network equipment.
- Perform repairs and configuration of data capture devices that interface clinical diagnostic and treatment equipment to institutional medical recording and data acquisition systems.
- Monitor incoming work orders, prioritize work based on criticality and accurately document all work in the department's computerized maintenance management system (CMMS).
- Provide outstanding customer service. Contact department customers and provide device repair status and estimated time of return. Resolve customer complaints in a diplomatic and professional manner.
- Provide guidance to clinical users on proper use and care for diagnostic, treatment and monitoring equipment.
- Demonstrate correct setup, calibration, and operation of patient care equipment to clinical staff as required.
- Assist in the installation of medical equipment and systems by collaborating with clinical users in the selection of proper equipment for their needs, determining required infrastructure additions or changes, recommending mounting locations, and working with contractors to insure proper equipment installation, cable routing, and labeling.
- Attend OEM training sessions to obtain required equipment certifications and credentialing to perform regulated repair and maintenance of selected medical equipment and systems
- Provide teaching and assistance to UW Health Associate level Biomedical Engineering technicians when requested.
- Provide direction, assistance and give feedback to department interns on various equipment repair activities and procedures when requested.

All duties and requirements must be performed consistent with the UW Health Service and Performance Standards.

JOB REQUIREMENTS

Education	Minimum	Associates or Bachelors Degree of Applied Science in HTM / Biomedical Engineering or Completion of DOD Biomedical Technician training. 4 years of previous Biomedical Engineering Technician experience in lieu of education, in addition to experience below.
	Preferred	
Work Experience	Minimum	Three (3) years previous experience as a Biomedical Technician in a Healthcare setting.
	Preferred	Eight (8) years previous experience as a Biomedical Technician in a Healthcare setting.
Licenses & Certifications	Minimum	OEM or computer system certifications applicable to UW Health and Valid driver's license in the person's state of residence. <ul style="list-style-type: none"> • Must be 21 years of age or have three (3) years of driving experience to operate a Patient/Visitor Vehicle or UW Health Vehicle other than a golf cart or utility terrain vehicle
	Preferred	CBET and OEM or computer system certifications applicable to UW Health.
Required Skills, Knowledge, and Abilities		<ul style="list-style-type: none"> • Adept at teaching and mentoring others. • Advanced experience working in a clinical environment. • Knowledgeable about local and national public safety and regulatory issues. • Project management knowledge and experience. • Thorough knowledge of electronic theory including advanced digital systems. • Ability to troubleshoot and repair complex failures in medical equipment. • Thorough knowledge of sophisticated electronic test equipment and applications. • Knowledge of physiological and medical terminology. • Ability to understand and follow established preventive maintenance procedures. • Ability to maintain reports utilizing a computerized maintenance management system (CMMS) • Basic knowledge of IT (Information Technology) terminology, setup, and configuration. • Strong customer service skills. • Ability to diagnose and resolve problems over the telephone using unskilled non-technical or clinical staff for assistance.

AGE SPECIFIC COMPETENCY (Clinical jobs only)

Identify age-specific competencies for direct and indirect patient care providers who regularly assess, manage and treat patients.

Instructions: Indicate the age groups of patients served either by direct or indirect patient care by checking the appropriate boxes below. Next,

	Infants (Birth – 11 months)		Adolescent (13 – 19 years)
	Toddlers (1 – 3 years)		Young Adult (20 – 40 years)

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Preschool (4 – 5 years)	Middle Adult (41 – 65 years)			
School Age (6 – 12 years)	Older Adult (Over 65 years)			
JOB FUNCTIONS				
Review the employee's job description and identify each essential function that is performed differently based on the age group of the patient.				
PHYSICAL REQUIREMENTS				
Indicate the appropriate physical requirements of this job in the course of a shift. <i>Note: reasonable accommodations may be made available for individuals with disabilities to perform the essential functions of this position.</i>				
Physical Demand Level	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; padding: 5px;">Occasional Up to 33% of the time</td> <td style="width: 25%; padding: 5px;">Frequent 34%-66% of the time</td> <td style="width: 25%; padding: 5px;">Constant 67%-100% of the time</td> </tr> </table>	Occasional Up to 33% of the time	Frequent 34%-66% of the time	Constant 67%-100% of the time
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Sedentary: Ability to lift up to 10 pounds maximum and occasionally lifting and/or carrying such articles as docket, ledgers and small tools. Although a sedentary job is defined as one, which involves sitting, a certain amount of walking and standing is often necessary in carrying out job duties. Jobs are sedentary if walking and standing are required only occasionally and other sedentary criteria are met.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; padding: 5px;">Up to 10#</td> <td style="width: 25%; padding: 5px;">Negligible</td> <td style="width: 25%; padding: 5px;">Negligible</td> </tr> </table>	Up to 10#	Negligible	Negligible
Up to 10#	Negligible	Negligible		
Light: Ability to lift up to 20 pounds maximum with frequent lifting and/or carrying of objects weighing up to 10 pounds. Even though the weight lifted may only be a negligible amount, a job is in this category when it requires walking or standing to a significant degree.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; padding: 5px;">Up to 20#</td> <td style="width: 25%; padding: 5px;">Up to 10# or requires significant walking or standing, or requires pushing/pulling of arm/leg controls</td> <td style="width: 25%; padding: 5px;">Negligible or constant push/pull of items of negligible weight</td> </tr> </table>	Up to 20#	Up to 10# or requires significant walking or standing, or requires pushing/pulling of arm/leg controls	Negligible or constant push/pull of items of negligible weight
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X Medium: Ability to lift up to 50 pounds maximum with frequent lifting and/or carrying objects weighing up to 25 pounds.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; padding: 5px;">20-50#</td> <td style="width: 25%; padding: 5px;">10-25#</td> <td style="width: 25%; padding: 5px;">Negligible-10#</td> </tr> </table>	20-50#	10-25#	Negligible-10#
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Heavy: Ability to lift up to 100 pounds maximum with frequent lifting and/or carrying objects weighing up to 50 pounds.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; padding: 5px;">50-100#</td> <td style="width: 25%; padding: 5px;">25-50#</td> <td style="width: 25%; padding: 5px;">10-20#</td> </tr> </table>	50-100#	25-50#	10-20#
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Very Heavy: Ability to lift over 100 pounds with frequent lifting and/or carrying objects weighing over 50 pounds.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; padding: 5px;">Over 100#</td> <td style="width: 25%; padding: 5px;">Over 50#</td> <td style="width: 25%; padding: 5px;">Over 20#</td> </tr> </table>	Over 100#	Over 50#	Over 20#
Over 100#	Over 50#	Over 20#		
Other - list any other physical requirements or bona fide occupational qualifications not indicated above:				

Note: The purpose of this document is to describe the general nature and level of work performed by personnel so classified; it is not intended to serve as an inclusive list of all responsibilities associated with this position.