

## BIOMEDICAL ENGINEER

DISTINGUISHING FEATURES OF THE CLASS: Under the general supervision of the Director of Biomedical Engineering, incumbents in this class are responsible for all aspects of the specification formulation, testing, utilization, calibration, installation and configuration of systems, preventive maintenance, and repair of all biomedical equipment operated by Westchester Medical Center. This includes equipment that is complex to highly complex, one of a kind or poorly documented, highly precision or equipment requiring significant redesign. Provides training and in-service education as needed. Supervision may be exercised over technical staff. Does related work as required.

### EXAMPLES OF WORK: (Illustrative Only)

Supervises and evaluates biomedical technicians in the inspection, installation, calibration, configuration, preventive maintenance, and repair of all equipment to ensure optimum use and continued availability of equipment;

Prescribes to code, for all biomedical equipment, including computerized and networked biomedical equipment, restrictions and accreditation requirements with regard to patient safety, particularly electrical safety;

Supervises and performs inspections on all new incoming biomedical equipment to assure compliance with specifications, proper operational capabilities and proper safety;

Installs and assures compatibility and certification of equipment performance, monitors service agreements, and initiates the preventive maintenance of all biomedical equipment to minimize downtime and cost of repairs;

Develops and conducts staff education programs for nursing and medical staff and biomedical personnel for the pertinent operational aspects of biomedical equipment and systems, including electrical safety, effective use of electric and mechanical equipment, calibration techniques, patient data collection, biomedical databases, etc.;

Evaluates specification and performance of new biomedical equipment and systems to determine its suitability for utilization at the Medical Center and compatibility with existing equipment;

Establishes working relationships with Clinical Division staff, who either operate or supervise the operation of biomedical equipment and systems, and assures optimum utilization and performance;

Monitors and reviews record keeping procedures for all aspects of biomedical equipment specifications, ordering, utilization, and repairs of said equipment;

Develops schedules and controls the systematic inspection, calibration, maintenance and repair of all biomedical equipment and systems;

Sets all calibration for biomedical equipment requiring such service;

#### EXAMPLES OF WORK: (Cont'd)

Attends conferences, seminars and meetings as required by the Director,

May use computer applications or other automated systems such as spreadsheets, word processing, calendar, e-mail and database software in performing work assignments;

Accesses protected health information (PHI) in accordance with departmental assignments and guidelines defining levels of access (i.e. incidental vs. extensive);

May perform other incidental tasks, as needed.

REQUIRED KNOWLEDGES, SKILLS, ABILITIES AND ATTRIBUTES: Thorough knowledge of the functioning of biomedical equipment, and hospital electrical systems and instrumentation; thorough knowledge of computerized biomedical monitoring and network systems; thorough knowledge of physical design concepts and space utilization of a large health care complex; thorough knowledge of the operation, repair and safety considerations of biomedical equipment and instrumentation; thorough knowledge of governmental code requirements and manufacturer specifications; good knowledge of the utilization of biomedical equipment in the treatment, evaluation, and diagnosis of patients; knowledge of digital electronics and design and troubleshooting of microprocessor-based medical instrumentation; ability to plan and implement biomedical equipment and systems methodologies; ability to supervise and plan the work of subordinate personnel; ability to establish and maintain effective working relationships with professional, medical, administrative and subordinate staff; ability to effectively use computer applications such as spreadsheets, word processing, calendar, e-mail and database software; ability to read, write, speak, understand, and communicate in English sufficiently to perform the essential duties of the position; sound judgment; initiative; tact; thoroughness; accuracy; physical condition commensurate with the demands of the position.

MINIMUM ACCEPTABLE TRAINING AND EXPERIENCE: A Bachelor's Degree\* in Electrical or Biomedical Engineering, or Technology with specialization in either Electronic/Instrumentation, Biomedical Engineering or Electrical Engineering and four years experience (pre- or post-degree) where the primary function of the position was in all operational facets of electrical, electronic and computerized biomedical equipment and instrumentation, including specification formulation, calibration setting, systems configuration and maintenance, repair, preventive maintenance and utilization, and two years of which must have been in a health care institution, biomedical equipment service organization or biomedical equipment manufacturer.

SUBSTITUTION: A Master's Degree\* in any of the above fields may be substituted for two years of the general experience exclusive of the specialized experience. A Master's Degree in Computer Science may be substituted for one year of the above stated general experience, exclusive of the specialized experience.

NOTE: Unless otherwise noted, only experience gained after attaining the minimum education level indicated in the minimum qualifications will be considered in evaluating experience.

\*SPECIAL NOTE: Education beyond the secondary level must be from an institution recognized or accredited by the Board of Regents of the New York State Education Department as a post-secondary, degree-granting institution.

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Job Class Code: C2313  
Job Group: XII