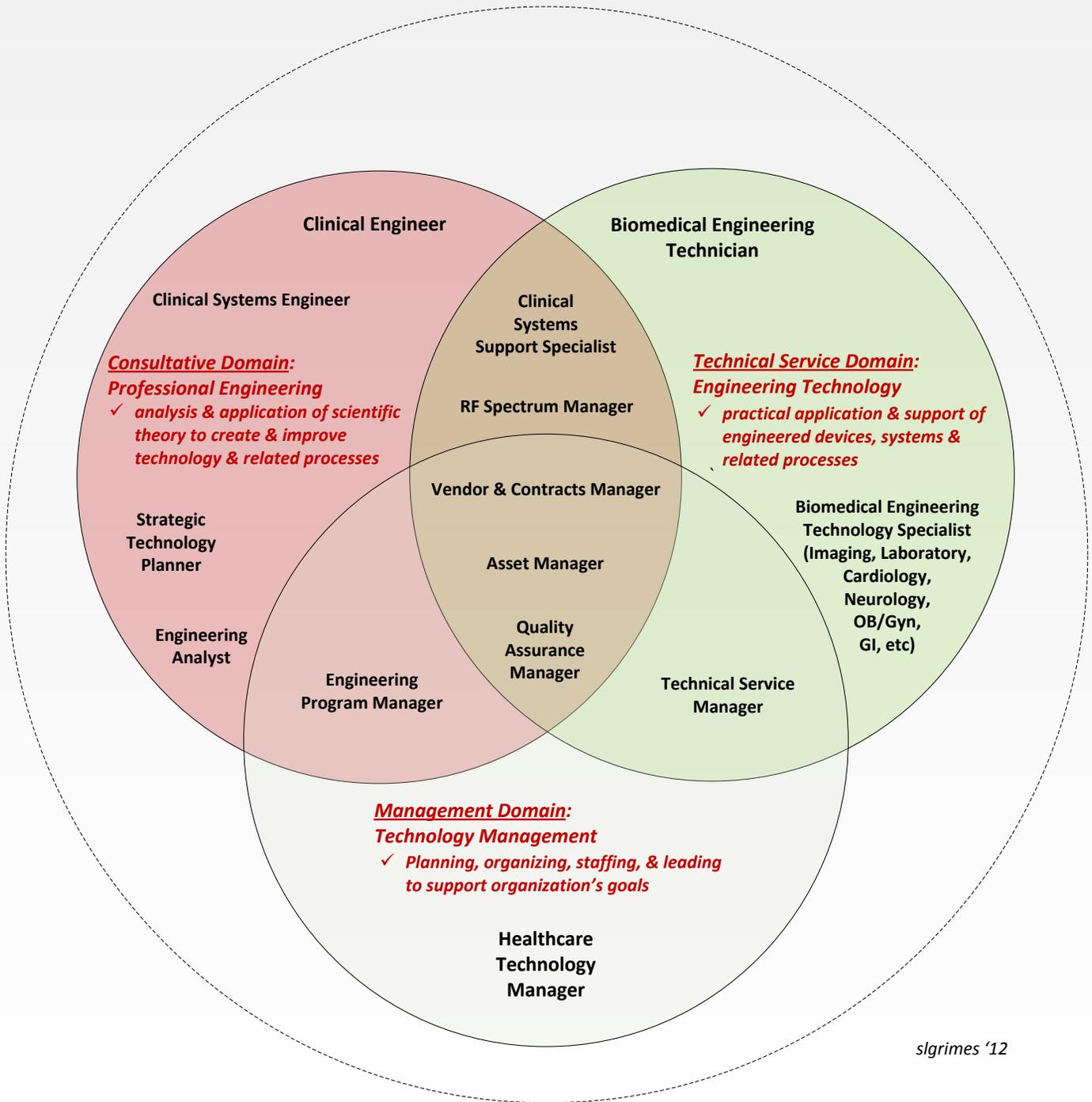
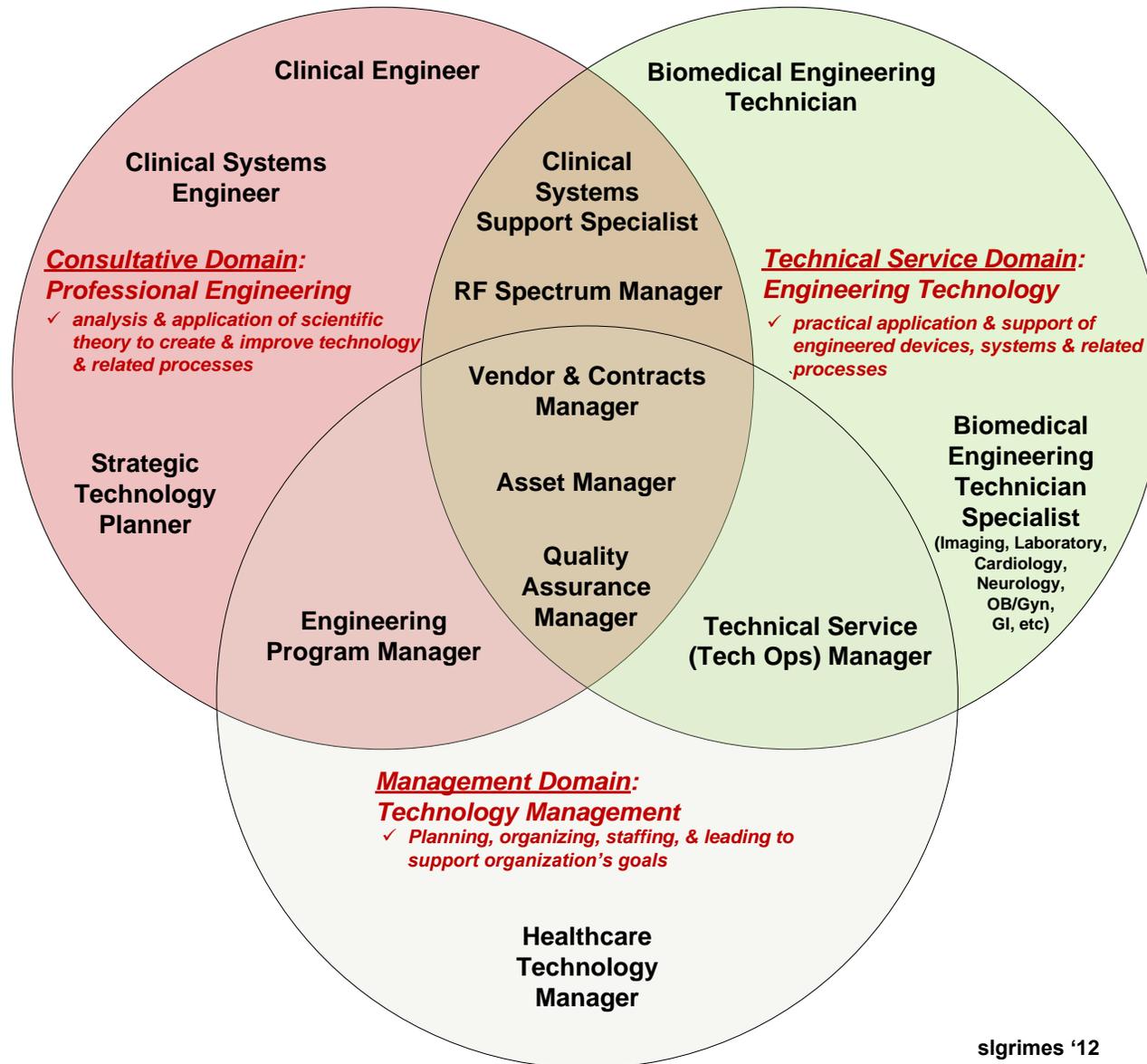


Clinical Engineering Domains



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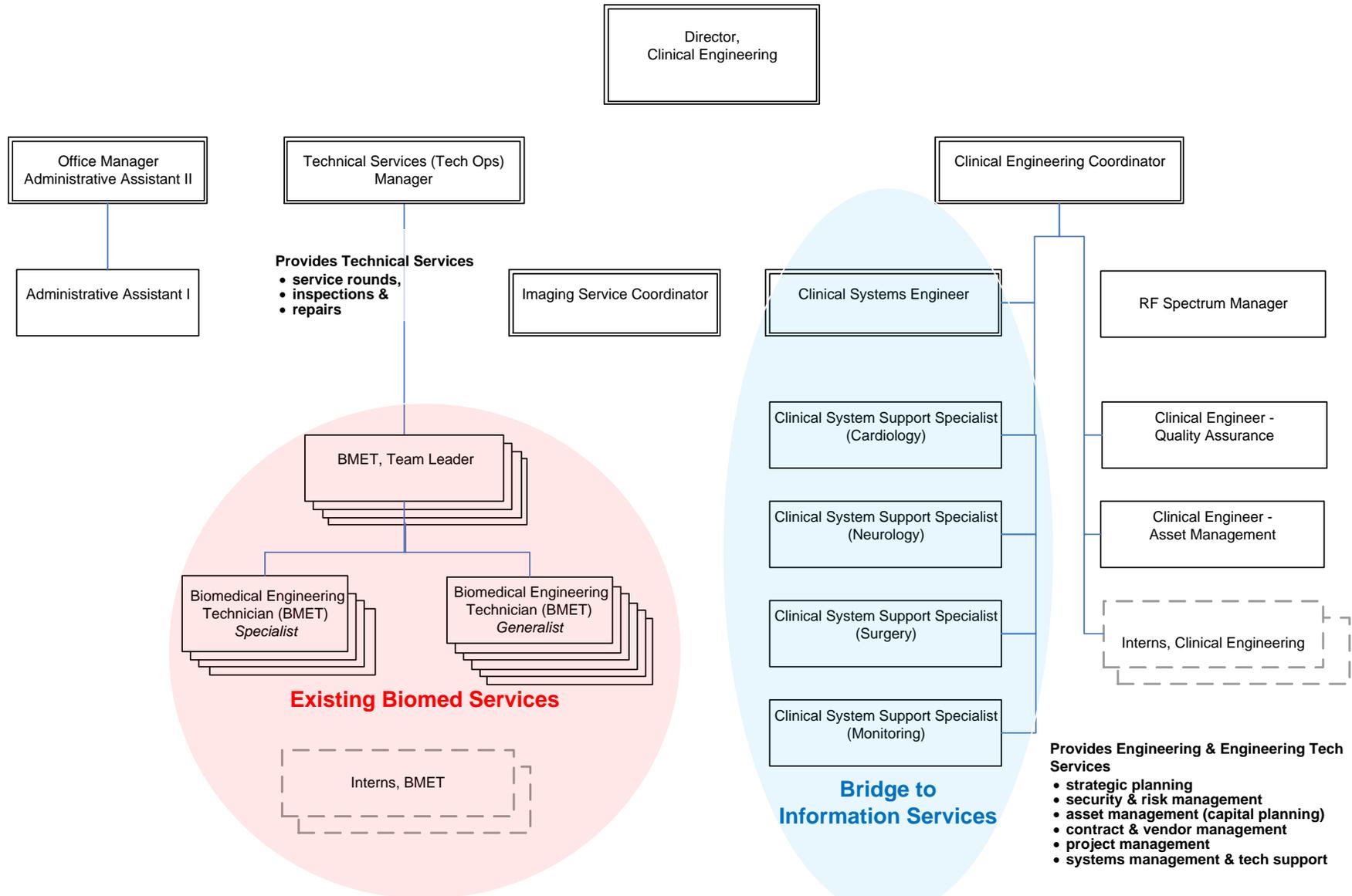
Clinical Engineering Domains & Related Roles



Sample Clinical Engineering Organization Chart & Position Descriptions

Clinical Engineering's Mission

To apply engineering, technical, and management expertise to the identification, acquisition and support of safe, effective, and economical healthcare technology as needed for patient care, education, research and community service



Sample Clinical Engineering Organization Chart & Position Descriptions

SAMPLE POSITION DESCRIPTIONS & QUALIFICATIONS

1. Director, clinical engineering	A-4
2. Clinical Systems Engineer	A-5
3. Manager, technical services	A-6
4. Imaging service coordinator	A-7
5. Biomedical Engineering Technician (BMET), team leader	A-9
6. Biomedical Engineering Technician (BMET), specialist	A-9
7. Biomedical Engineering Technician (BMET), general	A-10
8. Manager, Clinical engineering services	A-11
9. Clinical Engineer, Quality Assurance	A-12
10. Clinical Engineer, Asset management	A-13
11. RF Spectrum Manager (RFSM)	A-14
12. Clinical Systems Support Specialist (CSSS)	A-15
13. Clinical Engineering Intern	A-16
14. Biomedical Engineering Technician Intern	A-17
15. Office Manager	A-18
16. Administrative Assistant	A-19

Sample Clinical Engineering Organization Chart & Position Descriptions

Director, Clinical Engineering

The enterprise is committed to establishing and maintaining a Clinical Engineering program that addresses its 21st century healthcare technology needs.

The role of Clinical Engineering is to manage healthcare technologies so as to facilitate safe, effective, timely, patient-centered, efficient and equitable delivery of care. This role is accomplished through the development and implementation of appropriate processes for selecting, deploying and maintaining those technologies. These processes are to be developed and implemented in a manner consistent with the clinical engineering industry's "best practices." To ensure Clinical Engineering fulfills its role, the Director of Clinical Engineering responsibilities should include:

Responsibilities

- Develop and implement clinical engineering department strategies, goals, objectives and policies that are consistent with and support the organization's goals, objectives and policies
- Prepare and implement a healthcare technology (i.e., medical equipment) management plan. Review the plan annually and modify as necessary to improve performance, to reflect changes in the needs of the organization and in industry standards and *best practices*.
- Define, develop and manage the delivery of the organization's clinical engineering services ... including consultative, technical, and educational services
- Identify, acquire and manage resources (e.g., type and quantity of personnel, material, equipment, vendors, etc) necessary to achieve clinical engineering's goals and objectives.
 - ✓ Establish and maintain a staff "culture" that is patient-focused and encourages teamwork, quality, integrity, creativity and professional growth. Select and maintain staff with necessary skills mix and aptitudes.
 - ✓ Organize and balance in-house and outside (e.g., vendor or manufacturer) resources to achieve optimum economic performance and productivity without compromising quality, safety or timeliness care.
 - ✓ Establish and maintain a computerized information management system (CMMS) to collect/store and facilitate the analysis of data and reporting about the organization's healthcare technology and related services.
- Prepare and submit annual department budget and monitor expenses to control or justify variances associated with the approved budget.
- Maintain consistent standards of clinical engineering practice throughout the organization and ensure that all relevant regulatory, licensing the accreditation requirements (e.g., federal, state, and JCAHO) are met.
- Maintain effective communications with other stakeholders involved in the acquisition, use, and maintenance of healthcare technologies (e.g., medical/clinical, finance, information services, facilities, quality assurance, risk management, materials management, administrative, and regulatory staff). Participate in standing and ad hoc committees (e.g., EOC, Safety, Capital Budget, QA, management) and Task Forces as needed.
- Represent the organization's interests with respect to clinical engineering in the larger healthcare community through participation in professional organizations and industry initiatives.
- Report on the status of the healthcare technology program to management (and other stakeholders as appropriate) on a regular scheduled basis and immediately when that status changes. Report on industry developments, emerging technologies, regulatory changes and other issues related to healthcare technologies that may have a strategic or other significant impact on the organization.
- Perform other related duties incidental to the work described herein

Qualifications

- Baccalaureate degree in Biomedical or Clinical Engineering (Master's preferred)
- HTCC Certified as Clinical Engineer (CCE) *is desirable*
- 5-15 years experience in clinical engineering and with information systems also preferred
- Strong communication and team building skills across functional areas

Clinical Systems Engineer

Coordinates an organization-wide program to insure the effective deployment, integration and support of interconnected medical systems

Responsibilities

- Maintains current inventory of networked and integrated medical systems (including catalog of services, features, interconnections)
- Coordinates security management process including risk (e.g., criticality & probability) and vulnerability analysis and related documentation associated with interconnected/integrated medical systems
- Coordinates with stakeholders a process to prioritize, develop and implement plan to manage/mitigate identified risks associated with interconnected/integrated medical systems by applying appropriate administrative, physical & technical safeguards
- Maintains the integrity of FDA approval for interconnected/integrated medical systems
- Works with stakeholders to insure effective deployment, integration, and support of new medical systems into legacy systems and non-medical elements of the organization's information infrastructure.
 - ✓ Works to assure systems are deployed into an optimum (i.e., secure & supportive) environment.
 - ✓ Continually reviews system components to determine which are obsolete or otherwise no longer adequately supportable and then
 - ✓ Plans for and implements component upgrades/replacement in a timely manner. Works with
- Identifies and manages appropriate software upgrades, security patches and anti-virus installs for interconnected/integrated medical systems according to industry best practices
- Conducts Root Cause Analysis (RCA) and Failure Mode Effects Analysis (FMEA) on incidents involving integrated medical systems and reports findings to appropriate stakeholders for follow-up action
- Monitors and adopts industry "Best Practices" to insure integrity, availability & confidentiality of data maintained and transmitted across interconnected and integrated medical systems
- Educates stakeholders on security and other implications associated with the proliferation of interconnected and integrated medical technologies.
- Supervises clinical engineering and other staff as necessary in clinical systems integration and infrastructure support (e.g., hybrid reporting structure, project supervision)

Qualifications

- Baccalaureate degree in Biomedical or Clinical Engineering (Master's preferred)
- 5-10 years experience in clinical engineering and information systems
- Project management and planning skills/experience
- Strong communication and team building skills across functional areas
- Certification (completed or in process) preferred in one or more of following:
 - ✓ Certified Clinical Engineering (CCE)
 - ✓ Certified Information Systems Security Professional (CISSP) by (ISC)2
 - ✓ Cisco Certified Network Associate (CCNA) or Network Professional (CCNP)
 - ✓ Microsoft Certified Systems Administrator (MCSA) or Engineer (MCSE)

Works with stakeholders

- Information Services (including network support, disaster recovery)
- Clinicians (system users including physicians, nurses, technologists, etc)
- Medical system manufacturers/vendors
- Risk management
- Information Security
- Procurement/purchasing/materials management
- Clinical engineering

Reports to

- Manager, Clinical Engineering

Sample Clinical Engineering Organization Chart & Position Descriptions

Manager, Technical Services (Tech Ops)

Responsible for managing technical services (including staff and associated resources) for biomedical devices and systems. These technical services include but are not necessarily limited to device/system installation, inspection, repair, overhaul, upgrade, and configuration.

Responsibilities

- Supervises Biomedical Engineering Technician (BMET) staff
 - ✓ Assigns BMET staff to teams and appoints Team Leaders
 - ✓ Works with Team Leaders to manage work schedules, work flow and processes to ensure effective and timely completion of service activities
 - ✓ Works with Team Leaders to conduct performance evaluations and competency assessments of BMET staff
- Maintains inventory of all biomedical devices, systems and their components.
- Works with Clinical Engineering's Equipment Management Workgroup to develop a scheduled maintenance program and other processes that effectively maintain the integrity of systems and insure regulatory requirements are met
- Assigns and coordinates technical services (e.g., inspections, scheduled maintenance, corrective maintenance, overhauls, upgrades) and insures all such services are performed in a proper and timely manner and that these services are properly documented ... this applies to services performed by outside organizations as well as CE staff
- Cross-trains, develops, coaches and motivates BMET staff
- Reviews and/or orders parts & materials so as to insure right items are ordered at right time from right source and that prudent stock levels are maintained
- Participates in the planning, installation and integration of medical systems
- Identifies tools and resources necessary for effective and timely delivery technical services of and where necessary prepares justification for acquisition of same
- Maintains a working environment for technical service staff that is safe and conducive
- Consistent with the needs of clinical engineering, may perform other duties as requested or assigned

Qualifications

- Associates Degree in Science or Technology (Baccalaureate preferred)
- 5 years (10 years preferred) experience in technical service support operations and supervision of technical service staff
- Project management and planning skills/experience
- Strong communication and team building skills across functional areas
- Certification (completed or in process) preferred in one or more of the following:
 - ✓ Certified Biomedical Engineering Technician (CBET)
 - ✓ Certified Radiology Equipment Specialist (CRES)
 - ✓ Certified Laboratory Equipment Specialist (CLES)

Works with Stakeholders

- Administrators/Managers
- Clinicians (system users including physicians, nurses, technologists, etc)
- Technical service staff
- Manufacturers/vendors

Reports to

- Director, Clinical Engineering

Sample Clinical Engineering Organization Chart & Position Descriptions

Biomedical Engineering Technician Team Leader, Imaging

Responsible for the support of imaging systems including, but not limited to, radiographic, fluoroscopic, c-arm, computerized tomography, magnetic resonance, diagnostic ultrasound, mammography, nuclear medicine, tele-radiology, and picture archiving & communications systems (PACS).

Responsibilities

- Maintains inventory of all imaging systems and their components.
- Works with Clinical Engineering's Equipment Management Workgroup to develop an effective scheduled maintenance program that effectively maintains integrity of systems and insures regulatory requirements are met
- Assigns, coordinates and/or performs scheduled maintenance, repair services, upgrades and insures all such services are properly documented
- Cross-trains and supports Biomedical Engineering Technicians in basic service of imaging systems
- Participates in training of imaging system operators
- Manages vendor services related to imaging systems and monitors those services to insure they are effective
- Reviews and/or orders parts & materials so as to insure right items are ordered at right time from right source and that prudent stock levels are maintained
- Identifies tools and resources necessary for effective and timely delivery imaging technical services of and where necessary prepares justification for acquisition of same
- Participates in the planning and evaluation of new systems prior to selection and in the installation and integration of those systems following selection
- Consistent with the needs of clinical engineering and other team members, may perform other duties as requested or assigned.

Qualifications

- Associates Degree in Science or Technology (Baccalaureate preferred)
- 5 years (10 years preferred) experience in imaging systems including, but not limited to, radiographic, fluoroscopic, c-arm, computerized tomography, magnetic resonance, diagnostic ultrasound, mammography, nuclear medicine, teleradiology, and picture archiving & communications systems (PACS)
- Strong communication and team building skills across functional areas
- Certification (completed or in process) preferred in one or more of the following:
 - ✓ Certified Radiology Equipment Specialist (CRES)
 - ✓ Certified Biomedical Engineering Technician (CBET)

Works with Stakeholders

- Clinicians (system users including physicians, nurses, technologists, etc)
- Manufacturers/vendors
- Procurement/purchasing/materials management

Reports to

- Manager, Technical Services

Sample Clinical Engineering Organization Chart & Position Descriptions

Biomedical Engineering Technician, Team Leader

Responsible for coordinating technical service (e.g., inspection, repair) and support of biomedical equipment and systems ... including special care, surgery, respiratory, cardiology, physical therapy, dialysis, neurology, general patient care

Responsibilities

- Plans, schedules, assigns, coordinates & monitors performance of service activities by team members (and vendors) to insure services are timely and effective
- Liaises with supervisors, managers (and others as necessary) in clinical areas to insure they are kept informed of key issues associated with medical technology in those areas ... attends clinical department meetings as appropriate or requested
- Participates in staff evaluation of and goal setting for team members
- Serves as an effective role model, mentor & educator to other team members
- Maintains accurate & complete inventory of medical devices & systems in assign areas
- Provides timely & effective technical services (e.g., inspections, repairs, updates, & overhauls) on diverse medical devices/systems (including high risk & life support) in assigned areas
- Effectively documents (e.g., handwritten, computer, & photo as appropriate) all service activities... including assessment of services needed & categorization of services provided
- Provides consultation and impromptu in-service to clinicians regarding proper, safe and effective use & care of medical devices
- Increases knowledge and identifies & implements (as appropriate) process improvements (both personal & program-related) that add value by improving quality, safety, savings, efficiency, and the work environment
- Develops and/or makes recommendations regarding inspection procedures
- Participates in the assessment process to determine which devices are included in the Medical Equipment Management Plan (MEMP)
- Participates in the assessment of the need for and the development and presentation of technical training programs for BMET staff
- Consistent with the needs of clinical engineering and other team members, may perform other duties as required or assigned

Qualifications

- 5+ years experience in biomedical technology services and clinical engineering support
- Associates Degree (Baccalaureate preferred) in Science or Technology (Biomedical preferred)
- Certification (completed or in process) as
 - ✓ Certified Biomedical Engineering Technician (CBET)
 - ✓ Certified Radiology Equipment Specialist (CRES)
 - ✓ Certified Laboratory Equipment Specialist (CLES)
- Advanced training in support of high risk, life support, and integrated/networked medical devices and systems
- Advanced training in support of networked and integrated medical devices and systems
- Strong communication and team building skills

Works with Stakeholders

- Clinicians (system users including physicians, nurses, technologists, etc)
- Manufacturers/vendors

Reports to

- Manager, Technical Services

Sample Clinical Engineering Organization Chart & Position Descriptions

Biomedical Engineering Technician, Specialist

Responsible for technical service (e.g., inspection, repair) and support of the biomedical equipment and systems ... including special care, surgery, respiratory, cardiology, physical therapy, dialysis, neurology, general patient care

Responsibilities

- Serves as an effective team member and role model for other team members
- Maintains accurate & complete inventory of medical devices & systems in assign areas
- Provides timely & effective technical services (e.g., inspections, repairs, updates, & overhauls) on diverse medical devices/systems (including high risk & life support) in assigned areas
- Effectively documents (e.g., handwritten, computer, & photo as appropriate) all service activities ... including assessment of services needed & categorization of services provided
- Provides consultation and impromptu in-service to clinicians regarding proper, safe and effective use & care of medical devices
- Increases knowledge and identifies & implements (as appropriate) process improvements (both personal & program-related) that add value by improving quality, safety, savings, efficiency, and the work environment
- Develops and/or makes recommendations regarding inspection procedures
- Participates in the assessment process to determine which devices are included in the Medical Equipment Management Plan (MEMP)
- Consistent with the needs of clinical engineering and other team members, may perform other duties as required or assigned

Qualifications

- 5+ years experience in biomedical technology services and clinical engineering support
- Associates Degree (Baccalaureate preferred) in Science or Technology (Biomedical preferred)
- Certification (completed or in process) as
 - ✓ Certified Biomedical Engineering Technician (CBET)
 - ✓ Certified Radiology Equipment Specialist (CRES)
 - ✓ Certified Laboratory Equipment Specialist (CLES)
- Advanced training in support of high risk, life support, and integrated/networked medical devices and systems
- Advanced training in support of networked and integrated medical devices and systems
- Strong communication skills

Works with Stakeholders

- Clinicians (system users including physicians, nurses, technologists, etc)
- Manufacturers/vendors

Reports to

- Manager, Technical Services

Goals

- ✓ Achieve & maintain professional certification
- ✓ Increase competency to include broader range of devices (repair, inspection) ... imaging, lab, vents, anesth, dialysis, nurse call, computers/servers/networking
- ✓ Professional development ... Health Devices
- ✓ Documenting computerized ... complete work order
- ✓ Viewed as resource by clients and colleagues
- ✓ Workgroup participation (Web site, process, CMMS)

Sample Clinical Engineering Organization Chart & Position Descriptions

Biomedical Engineering Technician, General

Responsible for technical service (e.g., inspection, repair) and support of biomedical equipment and systems ... including special care, surgery, respiratory, cardiology, physical therapy, general patient care

Responsibilities

- Serves as an effective team member
- Maintains accurate & complete inventory of medical devices & systems in assign areas
- Provides timely & effective technical services (e.g., inspections & repairs) on diverse medical devices/systems in assigned areas
- Effectively documents (e.g., handwritten, computer, & photo as appropriate) all service activities ... including assessment of services needed & categorization of services provided
- Provides consultation and impromptu inservice to clinicians regarding general care of medical device and systems
- Increases knowledge and identifies & implements (as appropriate) process improvements (both personal & program-related) that add value by improving quality, safety, savings, efficiency, and the work environment
- Consistent with the needs of clinical engineering and other team members, may perform other duties as required or assigned

Qualifications

- 2-5 Years experience in Biomedical Technology Services
- Associates Degree in Science or Technology (Biomedical preferred)
- Good communication skills

Works with Stakeholders

- Clinicians (system users including physicians, nurses, technologists, etc)
- Manufacturers/vendors

Reports to

- Manager, Technical Services

Sample Clinical Engineering Organization Chart & Position Descriptions

Manager, Clinical Engineering Services

Responsible for supporting and advancing patient care by applying engineering and managerial skills to healthcare technology. Provides consultation and support for healthcare technology in education, asset management, equipment planning, needs assessment, product evaluation, vendor management, quality control, incident investigation/analysis, vendor management

Responsibilities

- Monitors, evaluates and reports on emerging healthcare technologies and their potential benefit to the organization
- Implement and manage an on-going quality assurance program for clinical engineering including
 - ✓ Defining performance criteria, target goals, & objectives (benchmarks) associated with technology service and technical processes
 - ✓ Defining metrics for measuring progress toward goals and objectives
 - ✓ Defining processes for analyzing and improving effectiveness of methods used to achieve goals & objectives
- Provides consultation in
 - ✓ Safe and effective applications of medical devices
 - ✓ Interpretation of regulations and standards associated with medical technology
 - ✓ Patient safety issues related to use of healthcare technology
- Reviews and develops as necessary clinical engineering policies/procedures
- Manages or monitors special projects associated implementing and/or integrating new and existing healthcare technologies
- Monitors regulatory developments affecting healthcare technology and coordinates implementation of appropriate compliance measures
- Manages/supervises clinical engineering specialists/interns
 - ✓ Assigns and monitors
 - ✓ Performance evaluations
- Maintains technical library and database with information critical to the support of devices and systems in assigned area(s)
- Effective educator, mentor, role model & communicator
 - ✓ Teaches clinicians
 - ✓ Trains technical staff
- Coordinates & provides staff education (both department & organization staff) on medical technology
 - ✓ Application/operation,
 - ✓ Precautions, potential hazards
 - ✓ Basic troubleshooting
 - ✓ Care & handling, support
 - ✓ Safety
- Develops and provides operational and service training to clinicians and support personnel on devices and systems
- Assists the Director in the development and delivery of educational programs to ensure clients are aware of clinical engineering services available and are effectively utilizing those services
- Works with Coordinators to assess staff's core competencies and to develop/implement a plan for maintaining those competencies
- Increases knowledge and identifies & implements process improvements (both personal & program-related) that add value (by improving quality, safety, savings, efficiency, work environment)
- Consistent with the needs of clinical engineering, may perform other duties as requested or assigned

Qualifications

- Bachelors of Science degree (Masters preferred) in Biomedical or Clinical Engineering or related area
- 5-10 years experience in Biomedical or Clinical Engineering and clinical systems support
- Strong communication and team building skills across functional areas. Effective educator, mentor and role model.
- Demonstrated project management & planning skills
- Certification (completed or in process) preferred in Clinical Engineering (i.e., Certified Clinical Engineer / CCE)

Works with Stakeholders

- Administrators
- Clinicians (system users including physicians, nurses, technologists, etc)
- Manufacturers/vendors
- Information Services
- Procurement/purchasing/materials management
- Finance
- Compliance
- Education

Reports to

- Director, Clinical Engineering

Sample Clinical Engineering Organization Chart & Position Descriptions

Clinical Engineer, Quality Assurance

Responsible for supporting and advancing patient care by applying engineering skills to healthcare technology. Provides consultation and technical support for healthcare technology in education, quality control, incident investigation/analysis, vendor management

Responsibilities

- Serve as primary vendor liaison
 - ✓ monitor their performance in install, inspection, repair ...
 - ✓ obtain relevant documentation for vendor provided services and incorporate in service history
- Facilitates client & vendor communications to improve overall service (e.g., integrated “help desk”)
- Monitors medical device hazards/recalls reports and insures appropriate follow-up (communication, corrective action & documentation)
- Monitors regulatory developments and identifies & coordinates implementation of appropriate compliance measures
 - ✓ The Joint Commission and other accrediting/licensing agencies as appropriate
 - ✓ CDRH/FDA, Safe Medical Device Act (SMDA) ... MAUDE/MedSun
 - ✓ State & local regulations
- Conduct investigations of incidents involving medical technology, analyze findings and implement or make recommendations for corrective measures ... including root cause analysis (RCA) and failure mode and effect analysis (FMEA)
- Monitors regulatory developments affecting devices & systems in assigned area(s) and identifies/coordinates implementation of appropriate compliance measures
- Serves in ombudsman role representing the interests of clinical engineering’s clients by investigating and addressing concerns/complaints and implement or making recommendations for process change as appropriate
- Conducts regular client surveys to assess the perceived effectiveness of clinical engineering services ... analyzes results and recommends appropriate service and process changes
- Liaises with key standing committees (e.g., safety, environment of care and others) and provides clinical engineering advice/consultation as appropriate
- Increases knowledge and identifies & implements process improvements (both personal & program-related) that add value (by improving quality, safety, savings, efficiency, work environment)
- Consistent with the needs of clinical engineering and other team members, may perform other duties as requested or assigned

Qualifications

- Bachelors or Masters of Science degree in Biomedical or Clinical Engineering or related area
- 3-8 years experience in Biomedical or Clinical Engineering and clinical systems support
- Strong communication and team building skills across functional areas. Effective role model.
- Demonstrated project management & planning skills
- Certification (completed or in process) preferred in Clinical Engineering (i.e., Certified Clinical Engineer /CCE)

Works with Stakeholders

- Administrators
- Clinicians (system users including physicians, nurses, technologists, etc)
- Manufacturers/vendors
- Information Services
- Procurement/purchasing/materials management
- Risk Management
- Compliance
- Education

Reports to

- Manager, Clinical Engineering Services

Sample Clinical Engineering Organization Chart & Position Descriptions

Clinical Engineer, Asset (Vendor & Contracts) Management

Responsible for supporting and advancing patient care by applying engineering skills to healthcare technology. Provides consultation and technical support for healthcare technology in asset management, vendor and contracts management, equipment planning, needs assessment, product evaluation,

Responsibilities

- Develops, reviews and updates a 5 year capital equipment plan (for existing & new operations) including
 - ✓ a needs analysis/assessment model
 - ✓ an analysis of cost/benefit, total cost of ownership (TCO), return on investment (ROI)
 - ✓ comparative evaluation of available technologies
- Coordinates deployment of new medical technologies including planning, evaluations, construction, installation, training
- Reviews service options for major clinical systems with system owners to determine optimum service plan (i.e., in-house, vendor contract, vendor time & materials) based on system
 - ✓ criticality (i.e., patient care, physical safety, operational, financial)
 - ✓ utilization
 - ✓ technology status (i.e., latest, current, obsolete)
 - ✓ availability of support (i.e., parts & service)
 - ✓ qualifications/capabilities of alternative service sources
 - ✓ reliability
- Manage vendor relations including procurement specifications, warranty and service agreement terms
- Determine and negotiate level service agreements consistent with standards and the needs of the organization
- Insure vendor makes available any information, documentation, software, specialized tools, and education/training necessary to operate and service technology
- Insure inclusion of necessary terms and conditions in agreements with vendors and insure vendor compliance
- Verify integrity of technology supplied
- Serve as primary vendor liaison
 - ✓ monitor their performance in install, inspection, repair
 - ✓ obtain relevant documentation for vendor provided services and incorporate in service history
 - ✓ Monitors medical device hazards/recalls reports and insures appropriate follow-up (communication, corrective action & documentation)
- Facilitates client & vendor communications to improve overall service (e.g., integrated “help desk”)
- Consistent with the needs of clinical engineering and other team members, may perform other duties as requested or assigned

Qualifications

- Bachelors or Masters of Science degree in Biomedical or Clinical Engineering or related area
- 3-8 years experience in Biomedical or Clinical Engineering and clinical systems support
- Strong communication and team building skills across functional areas. Effective role model.
- Demonstrated project management & planning skills
- Certification (completed or in process) preferred in Clinical Engineering (i.e., Certified Clinical Engineer / CCE)

Works with Stakeholders

- Administrators
- Clinicians (system users including physicians, nurses, technologists, etc)
- Manufacturers/vendors
- Information Services
- Procurement/purchasing/materials management
- Finance
- Planning

Reports to

- Manager, Clinical Engineering Services

Radio Frequency Spectrum Manager (RFSM)

The RFSM is responsible for enterprise-wide management and monitoring of the radio-frequency environment.

Responsibilities

- Maintaining an inventory of all R/F systems operating in or affecting the clinical environment
- Managing deployment and operation of R/F systems so as to insure regulatory compliance and to minimize adverse interactions between devices and systems
 - ✓ Advising in selection of compatible R/F systems
 - ✓ Planning for R/F allocation, deployment, integration and upgrades as necessary
 - ✓ Obtaining requisite licenses/permits and insure all are kept current
 - ✓ Investigating reports of possible adverse R/F affects on devices/systems and identify appropriate corrective action as necessary
- Educating users and monitoring user practices associated with R/F system in order to assure their safe and effective operation

Qualifications

- Bachelors of Science degree in Electrical Engineering (relevant training may substitute)
- 5 years of experience in Spectrum Management, RF safety, license application process
- Knowledge of R/F related rules, regulations and best practices
- Strong communication and team building skills across functional areas.
- Proficiency with standard desktop applications such as Microsoft Word and Excel.

Reports to

- Manager, Clinical Engineering

Sample Clinical Engineering Organization Chart & Position Descriptions

Clinical Systems Support Specialist

Responsible for providing engineering support of specialized medical devices and systems (e.g., cardiology, neurology, surgical, monitoring). This support may include installation, integration, clinical training, operation, diagnostics, technical service, and vendor management in these specialized areas.

Responsibilities

- Maintains inventory of all devices, systems and components in their assigned areas.
- Coordinates deployment of new medical technologies in assigned areas including planning, needs analysis, evaluations, installation, integration and training
- Manages other special projects associated technologies considered for or currently used in assigned area(s).
- Monitors operational effectiveness of medical devices and systems in assigned area(s) and
 - ✓ insures devices/systems are effectively maintained by judicious application of scheduled & corrective maintenance, upgrades and overhauls as appropriate
 - ✓ acquires, deploys and utilizes appropriate hardware/software tools to monitor and manage device & system performance
 - ✓ develops or acquires and deploys administrative, technical and physical safeguards to maintain integrity and availability of clinical information maintained or stored by medical devices & systems
- Develops and provides operational and service training to clinicians and support personnel on devices and systems in assigned area(s)
- Provides consultation to clinical staff on capabilities and limitations of available technologies
- Represents technology perspective for assigned area(s) as needed at meetings with other stakeholders
- Monitors medical device hazard/recall reports for their assigned area(s) and insures appropriate follow-up (i.e., communication, corrective action, follow-up)
- Monitors regulatory developments affecting devices & systems in assigned area(s) and identifies/coordinates implementation of appropriate compliance measures
- Maintains technical library and database with information critical to the support of devices and systems in assigned area(s)
- Participates in the development and maintenance of a capital equipment plan (for existing and new operations) for assigned area. Basic plan elements should include needs analysis/assessment, total cost of ownership (TCO) analysis, and comparative evaluations of technologies.
- Consistent with the needs of clinical engineering and other team members, may perform other duties as requested or assigned.

Qualifications

- Bachelors or Masters of Science degree in Biomedical or Clinical Engineering or related area
- 3 years experience in Biomedical or Clinical Engineering and clinical systems support
- Strong communication and team building skills across functional areas.
- Effective educator, mentor and role model.
- Demonstrated project management & planning skills
- Certification (completed or in process) preferred in Clinical Engineering (i.e., Certified Clinical Engineer / CCE)

Works with Stakeholders

- Clinicians (system users including physicians, nurses, technologists, etc)
- Manufacturers/vendors
- Information Services
- Procurement/purchasing/materials management

Reports to

- Manager, Clinical Engineering Services

Sample Clinical Engineering Organization Chart & Position Descriptions

Clinical Engineering Intern

Responsible for support of Clinical Engineering program through education and special projects while under the direct supervision of qualified clinical engineering staff.

Responsibilities

- Provides technical service support (e.g., inspection, corrective maintenance, upgrades) under supervision of qualified clinical engineering staff
- Participates in the deployment of new medical technologies in including planning, needs analysis, evaluations, installation, integration and training
- Develops and provides operational and service training to clinicians and support personnel on devices and systems (with emphasis on safe and effective application those devices/systems)
- Provides consultation to clinical staff on capabilities and limitations of available technologies
- Participates in the development and maintenance of a capital equipment plan (for existing and new operations). Basic plan elements should include needs analysis/assessment, total cost of ownership (TCO) analysis, and comparative evaluations of technologies
- Effectively documents (e.g., handwritten, computer, & photo as appropriate) all service activities...
- Conducts special projects (related to clinical engineering program development or technology deployment & support) as requested or assigned
- Increases knowledge and identifies & implements (as appropriate) process improvements (both personal & program-related) that add value by improving quality, safety, savings, efficiency, and the work environment
- Consistent with the needs of clinical engineering and other team members, may perform other duties as requested or assigned

Qualifications

- Enrolled in a Bachelors or Masters of Science degree in Biomedical or Clinical Engineering or related area
- Effective communication and teamwork skills
- Working knowledge of Microsoft Office applications

Works with Stakeholders

- Clinicians (system users including physicians, nurses, technologists, etc)
- Manufacturers/vendors
- Procurement/purchasing/materials management

Reports to

- Manager, Clinical Engineering Services

Sample Clinical Engineering Organization Chart & Position Descriptions

Biomedical Engineering Technician Intern

Responsible for support of Clinical Engineering program through education and special projects while under the direct supervision of qualified clinical engineering staff.

Responsibilities

- Provides technical service support (e.g., inspection, corrective maintenance, upgrades) under supervision of qualified clinical engineering staff
- Effectively documents (e.g., handwritten, computer, & photo as appropriate) all service activities...
- Consistent with the needs of clinical engineering and other team members, may perform other duties as requested or assigned

Qualifications

- Enrolled in a Associates or Bachelor's degree program in Biomedical Engineering Technology or related area
- Effective communication and teamwork skills

Works with Stakeholders

- Clinicians (system users including physicians, nurses, technologists, etc)
- Manufacturers/vendors
- Procurement/purchasing/materials management

Reports to

- Manager, Clinical Engineering Services

Clinical Engineering Office Manager (Administrative Assistant II)

Responsibilities

- Work closely with Director and other senior department staff in an advisory capacity; conflict and problem resolution dealing with planning facilities, personnel, resources and funds
- Arrange travel for Director and other senior department staff as well as any employee travel pertaining to training
- Maintain calendar for Director as well as major project & meeting calendars
- Manage special projects / duties per request of Director, coordinate and participate in department and project meetings
- Record and/or maintain minutes of key department and workgroup meetings
- Independently develop and maintain the department budget
- Perform departmental administrative and budget related duties of a complex and confidential nature which requires a thorough knowledge of reconciliation on a monthly basis
- Develop administrative goals and priorities for long-range planning with an emphasis in strategic budgetary management
- Make staffing recommendations, interview and screen applicants for the department hiring process.
- Maintain time & attendance according to polices and manage timekeeper for non-exempt staff
- Maintain staff education and training records
- Maintain records in related to Safe Medical Device Act (SMDA) reporting (e.g., FDA's MAUDE and/or MedSun reporting system)
- Handle personnel issues and confidential files; train, oversee and develop division administrative staff; supervise office staff providing orientation, training, development, ongoing feedback and performance evaluations including part-time student positions
- Update departmental job descriptions
- Manage purchase process including create, distribute, maintain filing and follow-up of all purchase orders
- Supervises administrative staff
 - ✓ assigns administrative activities
 - ✓ assesses performance
 - ✓ trains, develops, coaches and motivates
- Consistent with the needs of clinical engineering, may perform other duties or activities as requested or assigned

Qualifications

- Bachelor's Degree and a minimum of 4 years experience. The equivalent in college education/work experience will be considered
- Must be highly organized, dependable, articulate, and detailed individual, able to think strategically and function independently. Individual should possess the interpersonal skills to interact effectively with various levels of faculty and staff.
- Must be at proficient in Microsoft Office applications (e.g., Windows, Word, Excel, PowerPoint, Outlook & Visio)
- Because this position will interact with faculty, students, and other departmental staff, excellent written and verbal communication skills, organizational skills, and the ability to work within deadlines while maintaining a flexible and pleasant attitude are essential.
- Working knowledge of policies and procedures required

Reports to

- ▶ Director, Clinical Engineering

Administrative Assistant I

Responsibilities

Serve as primary responder to incoming telephone calls (taking routing calls to appropriate parties or taking messages and service requests as appropriate).

- Act as receptionist to visiting staff, faculty and vendors
- Maintain department calendar
- Create and maintain vendor files/database
- Enter data (inventory information, service requests, work orders, vendor information, parts information, test procedures, etc) in the Computerized Maintenance Management System (CMMS)
- Receive, log in, distribute all incoming items and schedule/prepare outgoing items.
- Perform complex secretarial duties including but not limited to: upkeep and ordering of office supplies, filing, typing of documents and spreadsheets for administrative staff and technicians, maintain calendar for departmental meetings

Qualifications

- Associate's Degree and a minimum of years' experience. The equivalent in college education or work experience will be considered
- Must be organized, dependable, articulate, and detailed individual, able to work independently.
- Individual should possess the interpersonal skills to interact effectively with various levels of faculty and staff.
- Must have a good working knowledge of Microsoft Windows, Word, Excel, PowerPoint and Outlook.
- Familiarity with policies and procedures desirable.

Reports to

- Office Manager, Clinical Engineering