

## **Job Title: Medical Device Electrical Design Engineer**

### **Job Description:**

The electrical engineer is responsible for the design of durable medical equipment and test equipment. Design, implement, document, and test the electrical elements of high quality medical devices. Work includes electronics design, PCB design, interconnect design, and power system design. Areas of focus include design for manufacturability, design for testability, thermal management, and the development of the electronics supply chain for the products. Implementation may include microprocessor based architectures, digital, analog, and limited RF design. Skills in software are also required to support debug and coordination with the software development team.

Perform analysis and testing to verify the designs, methods, materials, processes, and evaluate the results. Design and documentation of items such as schematics, printed circuit boards, cabling/wiring, theory of operation, and testing is required. Knowledge of thermal management methods and environmental requirements is required.

### **Essential Responsibilities:**

Mechanical systems design with strong technical foundation in materials, fabrication, electrical interconnects, assembly processes and regulatory requirements. Familiarity with Solidworks or similar MCAD software. Provide conceptual modules and renderings which communicate possible implementations and alternatives. The concepts are expected to demonstrate a high degree of creativity, functional simplicity and overall design excellence. Apply Design for Manufacturability (DFM) and Design for Assembly (DFA) techniques to produce optimal design and manufacturing solutions. Applicant should be self-motivated and able to handle multiple tasks concurrently.

### **Qualifications:**

To perform this job successfully, an individual must possess strong analytical and engineering capabilities, and must be able to communicate effectively both verbally and in written form. The individual must possess a solid understanding of the electrical design process and the electrical supply chain.

Junior Engineer: Bachelor's degree in electrical engineering. 0-5 years of experience.

Senior Engineer: Masters in electrical engineering or equivalent experience. 5-10 years experience required, including familiarity with full product design.

#### **Competencies required:**

- Capable of full system level design.
- Ability to develop and maintain schematics, PCB CAD files, fabrication drawings, assembly drawings, and the complete BOM.
- Knowledge of electro-mechanical packaging, thermal management considerations, product robustness, and regulatory compliance.
- Understanding of sensors and transducers is desirable.
- Understanding of ultrasonics is desirable.

Located in the HudsonAlpha Institute for Biotechnology, GeneCapture is a transformative workplace offering opportunities for professional growth in an innovative and collaborative atmosphere. The HudsonAlpha biotechnology campus consists of 152 acres nestled within Cummings Research Park, the nation's second largest research park. HudsonAlpha's state-of-the-art facilities co-locate nonprofit scientific researchers with entrepreneurs and educators.

### **Physical Demands/Environmental Factors/Mental Functions**

**ADA Requirements** The physical demands, work environment factors, and mental functions described below are representative of those that must be met by an employee to successfully perform the essential function of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

**Disclaimer** - All job requirements are subject to possible revision to reflect changes in the position requirements or to reasonably accommodate individuals with disabilities. Some requirements may exclude individuals who pose a threat or risk to the health and safety of themselves or other employees. This job description in no way states or implies that these are the only duties which will be required in this position. Employees will be required to follow other job-related duties as requested by their supervisor/manager (within guidelines and compliance with Federal and State Laws). Continued employment remains on an "at-will" basis.

#### **Physical Demands**

- Must be able to remain in a stationary position (sit or stand) for prolonged periods (50% of the time).
- Frequently moving between work areas.
- Frequent operation of common office equipment (e.g. computers, mobile devices, calculators, copiers, scanners).
- Vision abilities - close vision, distance vision, and ability to adjust/focus.
- Ability to lift 30 pounds
- Continuous mental and visual attention, requiring constant alertness or activity.

#### **Environmental Factors**

- Moderate noise level (i.e. business office with computers, phone, and printers, light traffic).
- Workspace is generally an indoor office setting and in other common and education spaces throughout HudsonAlpha with controlled temperature conditions.

#### **Mental Functions**

- Maintain emotional control under stress.
- Ability to understand complex problems and to collaborate and explore alternative solutions.

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*It is the policy of GeneCapture, in accordance with all applicable laws, to recruit, hire, train, and promote persons in all job titles without regard to race, color, religion, sex, age, national origin, disability, genetic information, sexual orientation, veteran status, or any other basis prohibited by applicable law.*