

Personnel required to handle future needs of EGC

1. Electrical Engineer
2. Technician
3. Mechanical Engineer
4. Software Engineer
5. Technical Writer / Graphics Designer

Electrical Engineer — Job Description

1. Use computer-aided drafting software to develop layouts, drawings and designs that meet engineering specifications.
2. Experience with schematic capture, PCB layout and routing. (OrCAD experience is preferred)
3. Review engineering drawings, analyze design and retrieve information to complete the drawing, layout or design. Ability to deliver complete bill-of-materials, Gerber and drill files, along with silk screen artwork.
4. Use detail drawing or engineering specifications to dimension, scale or locate.
5. Provide design assistance for moderately complex engineering assignments including products, parts, components, or portions of major projects.
6. Ability to complete the work according to standard engineering principles and best practice.
7. Use research techniques and discovery to solve specific design problems.
8. Analyze and validate design or theory concepts.
9. Perform complicated engineering work exercising independent judgment and action.

Technician — Job Description

1. Lay out, build, test, troubleshoot, repair and modify developmental and production electronic components, parts, equipment, and systems.
2. Be able to apply principles and theories of electronics, electrical circuitry, engineering mathematics, electronic and electrical testing, and physics.
3. Be able to discuss layout and assembly procedures and problems with electronic engineering personnel.
4. Draw sketches to clarify design details and functional criteria of electronic units.
5. Be able to read and understand electrical schematics, mechanical drawings, and assembly drawings.
6. Experience at building experimental circuitry (breadboard) or complete prototype models according to engineering instructions, technical manuals, and knowledge of electronic systems and components.
7. Powers of observation that can lead to recommendations for changes in circuitry or installation specifications to simplify assembly and maintenance.
8. Set up standard test apparatus or devise test equipment and circuitry to conduct functional, operational, environmental, and life tests to evaluate performance and reliability of prototype or production models.
9. Analyze and interpret test data.
10. Adjust, calibrate, align, and modify circuitry and components and record the effects on unit performance.
11. Write technical reports and develop charts, graphs, and schematics to describe and illustrate system's operating characteristics, malfunctions, deviations from design specifications, and functional limitations for consideration by engineers in broader determinations affecting system design and laboratory procedures.
12. May operate bench lathes, drills, or other machine tools to fabricate parts, such as coils, terminal boards, and chassis.
13. Must be able to solder and repair circuit boards that contain surface mount and/or through hole components.

Mechanical Engineer / 3D CAD Designer — Job Description

1. Read and interpret blueprints, technical drawings, schematics, and computer-generated reports.
2. Confer with engineers and other personnel to implement operating procedures, resolve system malfunctions, and provide technical information.
3. Specify system components or direct modification of products to ensure conformance with engineering design and performance specifications.
4. Investigate equipment failures and difficulties to diagnose faulty operation, and to make recommendations to eliminate design flaws.
5. Use 3-D CAD and computer-assisted design/drafting equipment and software tools to develop the structural design models for product prototyping and manufacturing. (SolidWorks experience is preferred).
6. Experience with developing designs using plastic parts that are compatible with mold design considerations.
7. Ability to reverse engineer from a physical part into a 3-D model.
8. Attention to detail, creative design talents, and the ability to deliver final drawings with technical specifications.
9. Final CAD files must be compatible for rapid prototyping and tooling.
10. Recommend design modifications to eliminate machine or system malfunctions.
11. Develop and test models of alternate designs and processing methods to assess feasibility, operating condition effects, possible new applications and necessity of modification.
12. Estimate costs and submit bids for engineering projects, and prepare contract documents.
13. Write performance requirements for product development or engineering projects.
14. Design test control apparatus and equipment and develop procedures for testing products.

Software Engineer — Job Description

1. Modify existing software to adapt it to new hardware and improve the performance.
2. Design and develop software systems.
3. Analyze information, determine, recommend and plan installation of a new system or modification of an existing system.
4. Develop software system testing and validation procedures.
5. Plan software programming and development of documentation.
6. Consult with customers, other departments on project status, proposals and technical issues.
7. Advise customers about the performance and maintenance of software system.
8. Coordinate installation of software system.
9. Store, retrieve and manipulate data for analysis of system capabilities and requirements.
10. Experience in object-oriented programming using C++.
11. Experience with projects that require some level of assembly coding.
12. Experience in developing software for embedded systems using Linux OS.
13. Experience in writing Linux device drivers.
14. Experience in application development and debug.
15. Experience using configuration management systems such as Subversion.
16. Experience using open-source software in large projects.
17. Ability to write low-level diagnostics for testing circuit board prototypes.

Technical Writer / Graphics Designer — Job Description

1. Have knowledge of word processing (Adobe Acrobat and Framemaker)
2. Use and prepare spreadsheets (MS Excel)
3. Use graphics software
4. Able to scan hard copy images and convert them to PDF or JPEG files
5. File and maintain records
6. Administrative tasks (out-source special projects)
7. Writing and technical editing skills
8. Expertise at presentation of technical information to non-engineering trained people in an understandable way.
9. Experience at completing equipment and user manuals that maintain consistent style and are easy to read and understand.
10. Familiarity with web design techniques is a plus using graphics software to produce icons, backgrounds, object visualizations from ray tracing and rendering.