



JOB INFORMATION

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| <i>Job Code:</i> | 177119 |
| <i>Job Title:</i> | Industrial Design Engineer |
| <i>FLSA Status:</i> | Exempt |
| <i>Supervisory:</i> | Supervises employees and/or student workers. |
| <i>Job Family:</i> | Engineering/Technical |
| <i>Job Family Group:</i> | Research and Clinical Support |
| <i>Management Level:</i> | 6 Supervisor |

JOB SUMMARY

Provides product and prototype design services to research projects and facilities for design and engineering fields such as mechanical, electro-mechanical, electronic packaging, discrete electrical devices, and ergonomics. Performs design services in the areas of space planning, documentation, architecture, and construction supervision. Supervises activities and staff in prototype fabrication.

JOB QUALIFICATIONS:

Education

| <i>Req</i> | <i>Pref</i> | <i>Degree</i> | <i>Field of Study</i> |
|------------|-------------|-------------------|-----------------------|
| X | | Bachelor's degree | |

Additional Education

Check here if experience may substitute for some of the above education.

Combined experience/education as substitute for minimum education

Work Experience

| <i>Req</i> | <i>Pref</i> | <i>Work Experience</i> | <i>Experience Level</i> |
|------------|-------------|------------------------|-------------------------|
| X | | 5 years | |

Additional Work Experience

Check here if education may substitute for some of the above work experience.

Combined experience/education as substitute for minimum work experience

Knowledge, Skills and Abilities

| <i>Req</i> | <i>Pref</i> | <i>Functional Skills</i> |
|------------|-------------|--|
| X | | Experience in industrial design, architecture, mechanical engineering or other related field. |
| X | | Experience in product or design engineering. |
| X | | Experience in all phases of the design process, mechanical and electrical integration, & use of computers for CAD, text editing & document generation. |
| X | | Strong background in machining & parts fabrication. |
| | X | Supervisory experience. |

Knowledge, Skills and Abilities

| Req | Pref | Functional Skills |
|-----|------|---|
| | X | Experience in high-density electronic packaging technologies. |

Other Job Factors

JOB ACCOUNTABILITIES

| | % Time | Essential | Marginal | N/A |
|--|--------|-----------|----------|-----|
| Provides design services to research projects and facilities. Meets with research staff and outside clients in the design development phase of advanced computer systems and related products. Provides input in the areas of electronic packaging, mechanical design, ergonomic design, manufacturing technology and overall aesthetic design. Provides conceptual sketches and drawings to illustrate design intentions for further review and discussion. Determines project specifications and parameters. | | | | |
| Provides design engineering services and documentation. Performs engineering services, as assigned (e.g., component and parts selection or in-house design of custom components, thermal and stress analysis, input on fabrication processes including material properties and finishes). Creates design documentation that complies with standard drafting practices for outside manufacturing vendors and in-house model shop fabrication. Performs design documentation and engineering utilizing 2D and 3D solids modeling and finite element modeling CAD programs. | | | | |
| Supervises all assigned subordinate staff. Recruits, screens, hires and trains staff. Evaluates employee performance and provides guidance and feedback to assigned staff. Counsels, disciplines and/or terminates employees as required. | | | | |
| Supervises in-house fabrication of prototypes. Schedules and assigns projects to staff. Follows up to ensure work is completed in a timely and efficient manner. Analyzes and resolves work problems or assists staff in solving work problems. Provides backup machining and fabrication for overflow work. | | | | |
| Provides cost analysis using time schedules and budgetary considerations. Estimates time, materials and labor costs for in-house model shop fabrication. Prepares bid packages for outside vendors. Selects appropriate vendor based on capability, lead times and cost. Monitors outside vendors. Maintains necessary records and documents for project charges and bookkeeping. | | | | |
| Collaborates with the electronics engineer and electronics laboratory and provides technical support. Designs and fabricates fixtures and equipment used in the assembly and testing of research projects. | | | | |
| Conducts or assists with research in new electronic packaging technologies, computer-aided-design and manufacturing technologies. Writes or assists in writing proposals in these technologies for government or private funding. Conducts funded research and publishes results. Writes annual and semi-annual reports. | | | | |
| Provides facility and architectural services (e.g., space planning, interior design, construction documentation). Performs construction supervision which includes coordination of contractors, building departments, building owners, and design and implementation of plan or construction change orders. Maintains currency with local building codes. | | | | |
| Creates presentation graphics material (e.g., 3D CAD exploded view drawings, studio quality photographs of research projects). | | | | |

Other Requirements

| Essential: | Emergency Response/Recovery | Essential: | Mandated Reporter |
|------------|---|------------|--|
| | In the event of an emergency, the employee holding this position is required to “report to duty” in accordance with the university’s Emergency Operations Plan and/or the employee’s department’s emergency response and/or recovery plans. Familiarity with those plans and regular training to implement those plans is required. During or immediately | | A mandated reporter who in his or her professional capacity has knowledge of, or reasonably suspects a person who is under the age of 18 years, elderly, or a dependent adult has been the victim of abuse or neglect must report the suspected incident. The reporter must contact a designated agency immediately or as soon as practically possible by telephone or in writing within 36 hours. By virtue |

Other Requirements

| | | | |
|--|--|-------------------|--|
| <i>Essential:</i> | <i>Emergency Response/Recovery</i> | <i>Essential:</i> | <i>Mandated Reporter</i> |
| | following an emergency, the employee will be notified to assist in the emergency response efforts, and mobilize other staff members if needed. | | of the associated job duties, this position qualifies as a mandated reporter as required by state law and USC's policy at: https://policy.usc.edu/mandated-reporters/ |
| <i>Campus Security Authority (CSA)</i> | | | <i>Essential:</i> |
| By virtue of the associated job duties, this position qualifies as a Campus Security Authority as required by law and USC's policy at: https://dps.usc.edu/alerts/clery/ | | | No |

ACKNOWLEDGMENTS

The above statements reflect the essential and non-essential functions as necessary to describe the principle contents of the job. They are not intended to be a complete statement of all work requirements or duties that may be required of the position. I understand that I may be asked to perform other duties as assigned. USC reserves the right to add or change duties at any time.

The University of Southern California is an Equal Opportunity Employer. USC prohibits discrimination on any basis protected under federal, state, or local law, regulation, or ordinance or university policies. All employment decisions are based on individual qualifications and business need.

I acknowledge receipt of this job description and its associated physical requirements. I have read and understand the job description and job requirements and agree to abide by their contents. I realize that duties may be requested of me that are not specifically stated herein. I understand that I will be expected to adjust to potential fluctuations in work volume. I understand that, if I have any questions about the essential functions or expectations of my position, my supervisor and/or HR partner are available to discuss them with me.

Print Employee Name

Signature

Date

Print Manager Name

Signature

Date

This job description describes the general nature and level of work required by the position. It is not intended to be an all-inclusive list of qualifications, skills, duties, responsibilities or working conditions of the job. The job description is subject to change with or without notice, and Management reserves the right to add, modify or remove any qualification or duty. Nothing in this job description changes the existing at-will employment relationship between the university and the employee occupying the position.