



**USC** University of  
Southern California

## VLSI Design Lab Engineer Job Description

### JOB INFORMATION

|                          |   |
|--------------------------|---|
| <i>Job Code:</i>         | 167163  |
| <i>Job Title:</i>        | VLSI Design Lab Engineer                                |
| <i>FLSA Status:</i>      | Non-Exempt  |
| <i>Supervisory:</i>      | May oversee student, temporary and/or resource workers. |
| <i>Job Family:</i>       | VLSI Design   |
| <i>Job Family Group:</i> | Information Technology                                  |
| <i>Management Level:</i> | 7 Individual Contributor                                |

### JOB SUMMARY

Supports project leader and other researchers in the design and implementation of research projects for prototype VLSI chips and board-level electronic systems.

### JOB QUALIFICATIONS:

#### Education

| <i>Req</i> | <i>Pref</i> | <i>Degree</i>     | <i>Field of Study</i> |
|------------|-------------|-------------------|-----------------------|
| X          |             | Bachelor's degree |                       |
|            | X           | Master'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          |             | 3 years                |                         |
|            | X           | 7 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          |             | VLSI-related graduate coursework.  |
| X          |             | Knowledge of VLSI design layout practices and CAD tools for all facets of circuit design and simulation. |
| X          |             | Experience with UNIX and/or PC operating systems and application software.                               |
| X          |             | Knowledge of electronic test equipment such as oscilloscopes, logic analyzers, and pulse generators.     |

#### Other Job Factors

## JOB ACCOUNTABILITIES

|   | <i>% Time</i> | <i>Essential</i> | <i>Marginal</i> | <i>N/A</i> |
|---|---------------|------------------|-----------------|------------|
| Creates layout for VLSI CMOS circuits using CAD software. Simulates VLSI designs using switch-level circuit simulation programs.  |               |                  |                 |            |
| Plans, designs, and implements wire-wrap and printed-circuit boards for system-level prototyping efforts. Debugs and characterizes performance of board-level designs.  |               |                  |                 |            |
| Operates and maintains sophisticated laboratory/scientific equipment. Designs, creates or adapts equipment and procedures to meet specific research needs. Advises on acquisition or enhancement of specialized equipment and laboratory setup. |               |                  |                 |            |
| Contributes to the development and implementation of laboratory policies and procedures.  |               |                  |                 |            |
| Writes reports on experimental and developmental results.   |               |                  |                 |            |
| Reviews progress and effectively reports project status to project leader.  |               |                  |                 |            |

## Other Requirements

| <i>Essential:</i>  | <i>Emergency Response/Recovery</i>   | <i>Essential:</i> | <i>Mandated Reporter</i>  |
|--|--|-------------------|---|
|  | 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 following an emergency, the employee will be notified to assist in the emergency response efforts, and mobilize other staff members if needed. |                   | 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 of the associated job duties, this position qualifies as a mandated reporter as required by state law and USC’s policy at: <a href="https://policy.usc.edu/mandated-reporters/">https://policy.usc.edu/mandated-reporters/</a> |
| <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: <a href="https://dps.usc.edu/alerts/clery/">https://dps.usc.edu/alerts/clery/</a> |  |                   | 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.