



## OVERVIEW

The Research Engineer will manage, coordinate, repair, and maintain the facilities and equipment located at the Washington Technology Center's micro fabrication laboratory. The Research Engineer will also be responsible for the facility's hazardous materials emergency response team and operation permits. On occasion, the Research Engineer will be responsible for helping to install, maintain, and manage equipment new to the laboratory.

This position reports to the Microfabrication Lab Manager.

## MAJOR DUTIES AND RESPONSIBILITIES:

The Research Engineer will identify and implement upgrades to facility equipment, systems, and procedures within the research lab. The position will also support all equipment and facilities within the lab that are necessary for the successful utilization of the laboratories for device research, development of novel fabrication techniques, pilot production and teaching. This position will drive policies and procedures to continuously improve the facility and ensure safe and reliable operation. These responsibilities will be focused on design, support, and maintenance of new research systems, management of daily checks of critical equipment, development and implementation of periodic maintenance schedules, calibration of laboratory equipment and facilities, and trouble shooting to repair facility and process equipment within the lab. Developing project plans, scope of work, and cost and time estimates related to repair and maintenance activities through communication with external contractors / internal management will be a key to the success of this position.

### Core functions for this position include:

- Interface with researchers to install and upgrade facility systems to support research equipment and processes.
- Manage daily checks, periodic maintenance, and repair of critical facility systems such as the RO/DI water plant, acid neutralization system, roof top scrubber, toxic gas distribution system, toxic gas monitoring, and clean room air handlers.
- Assist with the installation of equipment new to the laboratory, drive continuous improvement and upgrades of existing equipment and facilities, and help maintain and repair existing equipment and facilities
- Maintain quality of clean room work areas by enforcing, monitoring and training others on strict safety and clean room protocol.
- Support the compliance of the laboratory to federal and state safety and environmental regulations. This individual will be responsible for the renewal and compliance to the water discharge permit, chemical storage permit, and air operating permit. This position also requires an individual to be a member and leader of the facility's hazardous material Emergency Response Team. This will require training in and use of hazardous material handling gear, emergency response strategies and off hour response in case of incidents at the laboratory.
- Manage contracts for site gas delivery, DI water maintenance, and toxic gas monitoring maintenance. Other duties will include coordinating work done in the lab by outside contractors for tool installations and repairs when needed, as well as sending equipment to external vendors for repair.

## **CORE QUALIFICATIONS AND REQUIREMENTS**

### **Education:**

- Bachelor's Degree in Chemical or Mechanical Engineering, or another engineering discipline, or related field, and two years experience.

### **Work Experience/Skills:**

- Minimum of 2 years experience maintaining a clean room facility including experience with RO/DI water plant, HVAC, fume scrubbers, acid neutralization, hazardous materials response, and toxic gas distribution system.
- Experience with trouble shooting and repair of complex equipment including high vacuum systems, plasma systems, and wet chemical process equipment.
- Knowledge of standard semiconductor processing and facility management.
- Knowledge of clean room practices and experience working in a clean room environment.
- Proven success in working within a small team and understanding the needs of a fast paced industrial environment.
- Experience with PC related hardware and software – CAD, PLC, and standard windows software a plus.
- Excellent verbal and written communication required.

Equivalent education/experience may substitute for all minimum qualifications except when there are legal requirements, such as a license/certification/registration.