



Job Description

(For Positions in CAW Local 555, Unit 1)

Job descriptions do not include every duty that an individual in a position performs. They are intended to be representative and characteristic of the duties required and the level of work performed. Depending upon the size of the department or unit and its functional activities, incumbents who fall into this category may perform all of the duties listed below or, in the case of large departments or units, may be assigned to designated specialized functions.

JD #:	JD00402	Pay Grade:	8
JD Title:	Research Engineer (I)	JD FTE Hours:	35
Job Family:	Engineer		

General Description

Responsible for carrying out engineering assignments on research and contract projects under the supervision of a Principal Investigator or supervisor. Requires knowledge of standard engineering methods and techniques in a specialized engineering field or discipline.

Representative Duties & Responsibilities

- Design, fabricate, and assemble equipment and instruments requiring the application of engineering standards and practices.
- Conduct standardized research experiments using specialized equipment and instruments.
- Analyze and solve a variety of engineering research problems as presented in the research project or contract.
- Apply standardized engineering methods and principles of the relevant specialized field or discipline to solve problems.
- Collect, evaluate, and analyze data.
- May use a variety of engineering software programs to perform complex calculations.
- Write and adapt computer software required for, but not limited to, data collection, and mathematical and statistical analysis.
- Write sections of scientific reports and papers for inclusion in journal publications and contract reports.
- Format and summarize data and write technical reports based on research findings.
- May be required to develop and deliver technical presentations to engineering colleagues, industry, and contract agencies.
- Recommend resource requirements and in consultation with supervisor will determine priorities in order to schedule work activities.
- Provide advice in a specialized field to colleagues, collaborators, and students.
- Exchanges technical and scientific information with others.
- Liaise with external clients and project partners.
- May be required to perform activities which require dexterity and precision including, but not limited to, the manual calibration of laboratory equipment, and assembly of circuit boards,
- Remain current with frequent advances in a technical field or scientific discipline.

Supervision

- No formal supervision of others is required.
- Provide orientation and show procedures to others.

Qualifications

- Bachelor's degree in Engineering in a relevant field of study.
- Requires a minimum of 3 years of relevant experience.

Effort

Physical Effort:

- A typical work day consists of greater than 3.5 hours of low physical effort for activities such as:
 - Intermittent periods of keyboarding to word process documents and enter data into databases.
- A typical work day consists of up to 3.5 hours of moderate physical effort for activities such as:
 - Standing to conduct experiments.
 - Moving and carrying moderate weight and awkward objects.
- Elements of high physical effort are not a regular feature of this job.

Mental Effort:

- A typical work day occasionally requires routine mental effort for activities such as:
 - Collecting information, responding to routine inquiries, processing routine documents, and inputting data into databases.
- A typical work day consists of greater than 3.5 hours of moderate mental effort for activities such as:
 - Conducting standardized research experiments using specialized equipment and instruments.
 - Applying standardized engineering methods and principles of the relevant specialized field or discipline to solve problems.
 - Summarizing data and writing technical reports based on research findings.
 - Providing advice in a specialized field to colleagues, collaborators, and students.
 - Exchanging technical and scientific information with others.
- A typical work day consists of up to 3.5 hours of high mental effort for activities such as:
 - Designing equipment and instruments requiring the application of engineering standards and practices.
 - Analyzing and solving a variety of engineering research problems as presented in the research project or contract.
 - Evaluating and analyzing data.

Working Conditions

Physical Environment:

- Occasionally required to work in confined spaces when performing maintenance work or calibrating equipment.
- Occasionally exposed to loud and irritating noises from laboratory equipment and tools for fabricating equipment.
- Frequently exposed to dirt, dust, and grease when fabricating and assembling equipment.
- Frequently required to wear protective equipment including, but not limited to, safety shoes, goggles, and masks.

Psychological Environment:

- Occasionally interacts with individuals who may be rude or upset.
- Frequently handles competing requests with simultaneous deadlines.

Health & Safety:

- Operating power tools to fabricate and assemble equipment.
- Handling chemicals when conducting experiments.

JD #:	JD00402	Pay Grade:	8
JD Title:	Research Engineer (I)	Total Points:	524
Job Family:	Engineer		

Factor	Subfactor	Level Rating	Points
Skill	1. Applied Reasoning and Analytical Skills	5.0	105
	2. Breadth of Knowledge	2.0	13
	3. Adaptation to Change/Updating of Learning	2.5	17
	4. Interpersonal Skill	3.0	39
	5. Education and Experience	E3	100
	6. Dexterity and Coordination	3.0	21
Effort	7. Physical Effort	2.0	11
	8. Mental Effort	4.0	78
Responsibility	9. Planning and Coordination	2.0	28
	10. Responsibility for Others	1.0	10
	11. Accountability for Decisions Actions Affecting People, Assets, and Information	3.0	66
Working Conditions	12. Physical Environment	2.0	10
	13. Psychological Environment	2.0	10
	14. Health and Safety	2.0	16