

TITLE: Impact Sled Technician SALARY SCHEDULE: Staff CLASS CODE: SA546  
UNION: Staff Association - Local 2071, U.A.W. SALARY GRADE: 11 EEO CODE: 50  
FLSA: Non-Exempt E-CLASS: SA

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**POSITION PURPOSE**

Participate in the set up and operation of impact sled research activities for the Department of Bio-Engineering, College of Engineering to ensure conformance to research protocols and safety standards as developed for automotive impact research and study. Perform technical procedures operating complex mechanical and electronic equipment.

**ESSENTIAL JOB FUNCTIONS**

- Participate in the set-up and operation of human dynamic impact tests and research related to the development of automotive safety standards. Operate electronic diagnostic equipment (e.g. amplifiers, multiplexers and photographic instrumentation) for impact sled experimental procedures.
- Monitor and schedule experimental test procedures to ensure conformance to research protocols and safety standards. Compile research data; perform numeric calculations as necessary; analyze results and summarize findings in report format. Maintain computer inventory of testing specimens, e.g. number of human cadavers.
- Oversee design, fabrication and modification of instrumentation, apparatus and support equipment utilized in impact sled research. Operate machinery and mechanical equipment (e.g. mill, lathe, etc.) to construct fixtures and instrumentation. Perform preventative maintenance on all equipment. Monitor and maintain supply and equipment inventory for impact sled procedures.
- Prepare specimen (human cadaver) for impact sled test. Take blood samples to determine if testing specimen is free from infectious diseases. Set-up and operate medical equipment (e.g. x-ray and processor, bone saws, etc.) to conduct research tests; x-ray to locate specific anatomical landmarks for placement of scientific instruments.
- Place, implant and remove specimen (human cadaver and/or anthropomorphic dummy) on test sled or fixture. Set-up and fix instrumentation and wiring where appropriate. Perform post experiment examination of testing specimen; contact licensed pathological examiner to perform autopsy. Store anatomical parts for further research and study. Transport and place human cadaver in appropriate location, e.g. test facility and/or morgue.
- Maintain cleanliness of research facility; sanitize equipment and materials in accordance with appropriate procedures. Maintain and monitor materials and equipment utilized in impact sled research.

- Provide functional supervision over a small number (1-3) of support personnel. Train in appropriate technical methods and procedures. Assign work and provide guidance and instruction as needed.
- Interact with outside clients, vendor representatives and research professionals regarding research protocols and test specifications. Serve as information source answering questions, resolving problems or referring inquiries to appropriate personnel.
- Perform related work as assigned.

### **ADDITIONAL COMMENTS**

This classification is designed to perform technical procedures requiring proficiency in the operation of complex mechanical and electronic equipment in the study of automotive impact tests and research. Work activities require the operation of machine shop equipment (e.g. mill and lathe), electronic diagnostic equipment (e.g. oscilloscopes), data acquisition equipment (e.g. amplifiers, multiplexers and photographic instrumentation) and other electronic and mechanical engineering technology. In addition, impact sled tests require the use of human cadavers for analysis and research. Functional supervision is exercised over a small number of (1-3) student support personnel which includes training in technological methods, assigning work and providing guidance as needed. The incumbent should possess strong technical and analytical skills. Work activities are performed given the following working conditions factors, i.e. light physical effort (unload, transport and placement of equipment and human cadavers), good environmental factors; moderate controllable hazards and normal sensory attention. This classification generally is located in the Department of Bio-Engineering in the College of Engineering. This classification reports to and receives work direction from a faculty member, research professional or management level position.

### **MINIMUM QUALIFICATIONS**

- High school graduate or equivalent combination of education and/or experience. An Associate degree and/or advanced coursework and training in electronic and/or mechanical engineering technology preferred.
- Considerable machine shop and/or mechanical knowledge and skill is necessary.
- Ability to compile and analyze data; keen attention to detail.
- Considerable knowledge and experience with automotive impact tests and/or biodynamic human trauma research.
- Considerable knowledge and experience working in a research laboratory.
- Ability to work within established deadlines and in pressure situations.
- Ability to communicate effectively with others.
- Ability to unload, transport and place scientific technical equipment and testing specimens (human cadaver and/or anthropomorphic dummy) in appropriate location.
- Some knowledge of human anatomy, radiological and surgical procedures.
- Typically, Incumbents have held positions which require the use of electronic and mechanical equipment or have worked in a research laboratory.