WAYNE STATE UNIVERSITY

ISSUED: 7/98
& 7/93

TITLE: Instrument Designer
SALARY SCHEDULE: Staff
CLASS CODE: SA515
UNION: Staff Association – Local 2071, U.A.W
SALARY GRADE: 14
EEO CODE: 50
FLSA: Non-Exempt
E-CLASS: SA

POSITION PURPOSE

Design and machine equipment and machines used in University research and testing. Utilize specialized knowledge of machine shop equipment and precision tools to provide faculty and students with one-of-a-kind fixtures and modifications.

ESSENTIAL JOB FUNCTIONS

- Design and fabricate scientific equipment and fixtures used in research tests and experiments. Obtain information from researcher's to determine equipment needs and specifications; modify existing equipment to meet new requirements; ensure equipment meets testing standards and demands. Unique testing situations necessitate the use of equipment expertise to make adaptations to meet specifications. May use programmable machining equipment.

- Consult with researchers about equipment specifications for research tests. Design and machine equipment based on researcher's concepts and testing intentions; ensure established deadlines are met; assist in design and set-up of testing situations; work with a variety of precision tooling machines requiring an understanding of use, maintenance and possible modification; utilize special techniques to ensure personal and lab safety. Order materials, supplies and equipment for laboratory use.

- Clean, maintain and repair laboratory equipment and machines. Ensure equipment is in proper working order; disassemble equipment to perform minor repairs; calibrate and realign machines; utilize precision measuring devises to ensure equipment will perform properly; repair or rebuild broken parts. Maintain equipment to safety standards; build and install new parts as needed.

- Assist others with equipment use and performance of research tests. Instruct students and researchers on safe use of machines and equipment; operate equipment during tests; work with researchers to design and plan experimental tests; participate in test set-ups. Ensure supplies and equipment needed are available and meet requirements.

- Perform related work as assigned.

ADDITIONAL COMMENTS

This classification level applies an in-depth knowledge of instrument design and machining in order to manufacture fixtures and equipment in support of University research. Position duties demand experience repairing and modifying equipment and working to close tolerances. Incumbents have latitude in determining which among many procedures and techniques should be followed along with the sequence to be followed. Differing situations necessitate that the incumbent search for solutions or new applications within an area of learned skills. Incumbents must exercise keen attention to detail and make precise measurements. Work activities require incumbents to use light physical effort consistent with frequent use of relatively light objects, materials and tools. This classification is typically found in an academic support unit and reports to and receives work direction from a management level position.

MINIMUM QUALIFICATIONS

- High school graduate or an equivalent combination of education and/or experience.
- Ability to make a variety of mathematical computations.
- Keen attention to detail.
- Extensive machining experience.
- Ability to machine to close tolerances and perform intricate machining.
- Considerable design and layout experience.
- Extensive experience in a machine shop.
- Prior computer experience desirable.
- Considerable welding experience.
- Typically, incumbents have held Instrument Maker or Instrument Technician positions.