



## University System of Maryland Job Class Specification

**TITLE: RESEARCH MACHINIST III**  
**FLSA: NONEXEMPT**  
**EEO6: H60**  
**IPEDS-SOC: 51-4041**

**JOB CODE: N15RM3**  
**JOB TYPE: SYSTEMWIDE**  
**JOB FAMILY/SERIES: ENG**

**APPROVED BY: Chancellor's Designee**  
**James Sansbury, Acting Director of Human Resources**

**EFFECTIVE DATE: 02/03/2005**

### **JOB SUMMARY**

Under general supervision, performs complex work which involves building, modifying, and fabricating parts for working research apparatus. In consultation with shop supervisor, higher level research machinist, or research personnel and technical references, conceptualizes and constructs complex devices. Functions as a lead worker or resource person.

### **PRIMARY DUTIES**

1. Operates conventional machine shop equipment, including precision tools, instruments for micro-measurement, and non-traditional machining equipment to produce apparatus parts to the required level of accuracy.
2. Produces necessary jigs and fixtures for completion of work. Prepares own sketches as required.
3. Makes precise dimensional measurements of parts and their relationships in an assembly in order to achieve proper function. Suggests and makes alterations in design, subject to necessary approvals.
4. Performs precision hand operations at the workbench to achieve proper fit and finish of parts.
5. Assembles complete devices or sub-assemblies and inspects for proper function of mechanisms per project requirements.
6. Specifies and requisitions commercial hardware required for assembly of mechanisms, subject to supervisory approval.
7. Disassembles, cleans, lubricates, adjusts and re-assembles mechanical and electro-mechanical instruments.
8. Performs routine chemical finishing operations on parts.
9. Calculates basic clearances, positions, and fits on parts

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features.

10. Marks up drawings to reflect as built condition as changes are made to jobs in progress.

Note: The intent of this list of primary duties is to provide a representative summary of the major duties and responsibilities of this job. Incumbents perform other related duties assigned. Specific duties and responsibilities may vary based upon departmental needs.

### **MINIMUM QUALIFICATIONS**

**EDUCATION:** Graduation from an accredited trade or technical school in a related field.

**EXPERIENCE:** Seven years machine shop experience to include three years as a research machinist.

**OTHER:**

### **REQUIRED KNOWLEDGE/SKILLS/ABILITIES**

Thorough knowledge of and skill in applying standard machine shop practices including safe operation of required tools and equipment. Thorough knowledge of the standard system of measurement employed in area where assigned; of conventional materials used, their properties and limitations, and the methods of working with them; of manufacturing processes such as production welding, casting, forging, spinning, molding, or drawing and their relative merits; of applied arithmetic, geometry, and trigonometry as it applies to machine shop practice. Working knowledge of the essentials of engineering metrology; of metric standards of notations and the means of converting them; of general practices of engineering documentation such as assembly drawing hierarchies, parts list formats, advanced methods of tolerancing, and references to engineering standards. Skill welding and brazing applications, heat treating and tool design, elementary mechanical design, and non-traditional machining methods; in working with conventional engineering materials at close tolerances. Ability to work with exotic materials to close tolerances; to read and interpret complex engineering drawings, technical specifications, and manufacturing procedures; to communicate effectively both orally and in writing; to maintain effective working relationships; to handle multiple projects and priorities; to provide guidance, instruction, and technical supervision to assigned personnel; to wear and work in personal protective equipment.

**OTHER:** Except for qualifications established by law, additional related experience and formal education in which one has gained the knowledge, skills, and abilities required for full performance of the work of the job class may be substituted for the education or experience requirement on a year-for-year basis with 30 college credits being equivalent to one year of experience.

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**CONDITIONS OF EMPLOYMENT**

N/A