

INSTRUMENT SHOP SUPERVISOR

I. DEFINITIONS

INSTRUMENT SHOP SUPERVISOR

This is managerial and administrative work supervising the activities of Instrument Makers and Mechanics in large fully equipped, departmental instrument shops. Employees in this class are responsible for assigning work to employees under their supervision after determining the difficulty of the work and considering the capabilities of those working for the supervisor. Assignments are reviewed with the project sponsor, the supervisor and the person to be assigned to the project in order to become fully acquainted with the purpose and use of the instrument, and at times it may be necessary for the supervisor to closely direct all the major phases of a project. Instructions received may take the form of blueprints, sketches, or oral presentations; and it is the responsibility of the supervisor to be able to visualize what form the desired product will take, make estimates of the time required for construction, and be available to answer questions when called upon. The supervisors will only work on the more complicated projects where their expertise is necessary. Auxiliary duties include responsibility for maintenance and repair of shop equipment, ordering material, keeping stock records, maintaining vacation and related personnel records. Direction received is general in nature and comes from the chairman of the particular department with periodic reviews and reports made by staff professors.

Examples of Work Performed:

- Receives work orders and assigns jobs of design and construction.
- Supervises the activities of others, advising on problems and evaluating the work.
- Recommends hiring, disciplinary actions, or related personnel actions regarding employees in the shop.
- Acts as liaison between project sponsor and person assigned project as necessary.
- Consults with other shops regarding special fabrication and material problems.
- Requisitions supplies and plans purchases of new equipment.
- Inspects and maintains complicated precision machines.
- Makes detailed drawings and specifications for specialized large scale work.
- Performs work as an Instrument Maker on the more complicated work.
- Develops instruments from rough sketches or oral descriptions by project sponsor with only desired results known.
- Expertly uses machine and hand tools to perform specialized work in the fabrication of parts from suitably selected material such as glass, wood, plastics, bronze, copper, Invar, Inconel, steel or other materials.
- Designs and creates new or unique laboratory equipment and precision instruments requiring highly skilled workmanship and extreme accuracy for observations and scientific operations in the field for which the equipment or instrument is to be made.
- Supervises and trains Instrument Makers, Machinists and Mechanics on an assigned task.

- Keeps records and makes reports.
- Performs related work as required.

II. QUALIFICATIONS

Required Aptitudes, Knowledges, Skills and Abilities:

- Thorough knowledge of the tools, equipment, methods and practices of the trade of Instrument Maker.
- Ability to layout or aid in the design of new research instruments and plan the work distribution of men and materials.
- Ability to visualize completed instruments with reference to blueprints, sketches or oral descriptions and to perform fine tolerance precision work utilizing creative techniques for specialized departmental problems.
- Considerable knowledge of supervisory procedures.
- Thorough knowledge of the characteristics of metals, plastics, glass, special alloys, and other materials such as their machinability, coefficients of expansion, heat treatment characteristics, annealing, hardening, tempering, drawing ,carburizing, and cyaniding.
- Considerable knowledge of welding, brazing and soldering involving independent judgment concerning materials used.

Training and Experience:

Such training as may be gained through high school graduation and five years of progressively responsible experience as a journeyman in the machine trades; with three years of experience in the independent layout design, and construction of original and unique instruments associated with research projects; or an equivalent combination of training and experience.

III. RELATED TITLES

Instrument Maker, Machinist or Mechanician.