MACHINIST

DEFINITION

Designs, installs, repairs, inspects, and modifies machines, tools, power transmissions, and mechanical building devices or equipment.

TYPICAL DUTIES

Moves, installs or reinstalls, levels, aligns, and anchors machines, mechanical equipment, and power units to foundations using necessary rigging, hoists, lift trucks, dollies, rollers, and slings.
Inspects, tests, and analyzes the malfunctioning of all types of mechanical, automatic, hydraulic and numerical-controlled machinery and equipment such as pumps, compressors, food-processing machines, woodworking machines, machine tools, ventilating systems, conveyors, overhead doors, window controls, backstop hoist, and mechanical power transmissions, and makes necessary field and/or shop repairs.
Dismantles and rebuilds various machines and machine tools.
Performs layout work and uses precision measuring devices, hand tools, and machine tools such as lathes, planers, presses, shapers, milling machines, and precision grinders to fabricate and/or repair metal parts to tolerances of .0002 inch.
Designs, develops, and constructs safety attachments and modifications for all types of machinery and equipment.
Determines methods for making repairs.
Makes recommendations on the replacement and/or purchase of parts and/or equipment.
Estimates costs for parts and equipment.
Makes recommendations regarding repair by outside contractors.
Orders supplies, parts, and tools needed for repairs.
Maintains an inventory of supplies and tools for assigned area/projects.
Inspects machines and equipment, when received, in cooperation with the central storekeeping operation at a college.
Performs heli-arc, arc, oxygen-acetylene and spot welding.
Performs sheet metal work on various building components and equipment such as hinges, doors and instructional aids.
May improve existing safety devices.
May work from ladders or scaffolding.
May assign, review the work of, and provide training to assigned lower-level staff.
Performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

A **Machinist** sets up and operates a variety of metal working machines; fabricates machine parts to tolerances of .0002 inch; and installs, inspects, and repairs parts, machines, tools, and equipment.

There are currently no closely related classes in the District.

SUPERVISION

General supervision is received from a General Foreman or facilities management personnel. Work direction may be provided to Maintenance Assistants.

CLASS QUALIFICATIONS

Knowledge of:

- Design and operation of a wide variety of machinery and equipment used in machinist and millwright trades
- Practices, techniques, and terminology of the machinist and millwright trades
- Machinery installation, leveling, and alignment
- Tools, materials, and parts involved in the repair of mechanical, automatic, hydraulic, and numerical controlled machinery
- Properties of metals and alloys
- Blueprint reading, mechanical drawing, mechanical design, and shop mathematics
- California Occupational Safety and Health Act standards, and other safety standards and codes pertaining to the machinist and millwright trades
- Heli-arc, arc, oxygen-acetylene, and spot welding
- Heat treating of different kinds of metals
- Basic recordkeeping procedures
- Basic operations of computer equipment

Skill in:

- Use of tools and equipment of the machinist and millwright trades

Ability to:

- Diagnose and correct malfunctioning of mechanical, automatic, hydraulic, and numerical controlled equipment
- Lay out and shape metal parts to precise dimensions by use of hand and machine tools
- Move, install, and align machinery
- Initiate, sketch, and fabricate safety and design modifications for machinery
- Work independently
- Work effectively and cooperatively with District staff, students, and outside contractors
- Keep accurate records
- Learn the characteristics of new equipment and update technical skills to adapt to changing technology
- Learn general and specialized software applications

ENTRANCE QUALIFICATIONS

Education and Experience:

A. An associate degree or its equivalent, from a recognized college or university, with a major in machine tool technology, computer numerical control programming or its equivalent **AND** three years of full-time paid experience in machinist or millwright work under the supervision of a journeyman or crafts supervisor. One year of the required experience must have been at the journey level. Machinery installation, leveling, welding, and aligning experience is desirable.

OR

B. Graduation from high school or its equivalent **AND** completion of a recognized apprentice training program of at least four years' duration in the machinist or millwright trade **AND** one year of full-time paid journey-level experience in machinist or millwright work. Machinery installation, leveling, welding, and aligning experience is desirable.

OR

C. Graduation from high school or its equivalent **AND** five years of full-time paid experience in machinist or millwright work under the supervision of a journeyman or crafts supervisor. One year of the required experience must have been at the journey level. Machinery installation, leveling, welding, and aligning experience is desirable.