LABORATORY TECHNICIAN, DESIGN AND MANUFACTURING TECHNOLOGY

DEFINITION

Under general supervision, performs repair, maintenance, and modification work on a wide variety of instructional equipment, conventional and computer numeric control (CNC) machinery, and tools; provides instructional support services for faculty and students; prepares and sets up exercises, demonstrations, instructional materials, and supplies; assists students and faculty in the use and operation of equipment, machinery, and tools related to the College's manufacturing technology program; and performs related duties as assigned.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from assigned Dean. Exercises no supervision of staff.

CLASS CHARACTERISTICS

This is a journey-level class responsible for the maintenance and repair of equipment, machinery, and tools and conducting a variety of instructional support activities to ensure student learning. Positions perform the full range of duties assigned, working independently, and exercising judgment and initiative. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit. This classification is distinguished from other laboratory technicians by having subject matter expertise in CNC and conventional machinery and tools, processes, and operations.

EXAMPLES OF TYPICAL FUNCTIONS (Illustrative Only)

- Installs, inspects, maintains, repairs, and troubleshoots broken machines, equipment, and tools, including computers, electronic and mechanical equipment, conventional and CNC mills and lathes, and other equipment pertaining to assigned program; ensures that all equipment, instruments, tools, and machines are in a safe and operational condition.
- Prepares and sets up laboratory/shop, demonstrations, and instructional materials; monitors laboratory/shop.
- Provides instructional support to students and faculty in the design and manufacturing technology program; assists in instructional demonstrations of procedures and techniques; explains related principles, practices, procedures, methods, materials, terminology, and equipment.
- Operates and demonstrates use of various equipment, tools, and machinery such as surface grinders, conventional and CNC mills and lathes, and precision inspection equipment; assists faculty and students in proper and safe methods in usage of equipment, tools, and machinery.
- Cleans and maintains facilities and equipment; ensures proper storage of equipment and materials; ensures laboratory/shop and work areas are maintained in a clean and orderly condition.
- Monitors use and ensures proper storage of hazardous materials and waste; performs daily and period inspections in accordance with District policies and procedures and county and fire ordinances.
- Maintains accurate material safety data sheets, reports, and records of work performed and materials and equipment used.
- Monitors, orders, receives, stores, and maintains adequate inventory levels of equipment and materials; monitors program budget and expenditures.

- Submits work orders for maintenance and repair of equipment and facilities.
- Maintains relationships with corporations to solicit donations of tools and equipment.
- Manages surplus of machine tools and equipment.
- Learns and applies emerging technologies, as necessary, to perform duties in an efficient, organized, and timely manner.
- Performs related duties as assigned.

QUALIFICATIONS

Knowledge of:

- Principles, practices, methods, equipment, materials, and tools used in maintenance and repair of equipment, tools, and machinery.
- Principles, theories, terminology, techniques, equipment, and materials related to design and manufacturing technology programs.
- General methods and procedures for preparing materials and demonstrations used in design and manufacturing technology programs.
- Principles and procedures for setting-up, operating, and demonstrating use of various equipment, tools, and machinery used in design and manufacturing technology programs.
- Occupational hazards and safety equipment and practices related to the work, including the handling of hazardous materials.
- Methods, practices, and techniques of student learning and instruction.
- Applicable federal, state, and local laws, rules, regulations, ordinances, and District policies and procedures relevant to assigned area of responsibility.
- Record keeping principles and procedures.
- English usage, grammar, spelling, vocabulary, and punctuation.
- Modern office practices, methods, and computer equipment and software relevant to work performed.
- Techniques for providing a high level of customer service by effectively dealing with the public, students, and District staff, including individuals of diverse academic, socio-economic, ethnic, religious, and cultural backgrounds, disability, and sexual orientation.

Ability to:

- Demonstrate understanding of, sensitivity to, and respect for the diverse academic, socio-economic, ethnic, religious, and cultural backgrounds, disability, and sexual orientation of community college students, faculty and staff.
- Troubleshoot and determine appropriate action in the maintenance and repair of equipment, tools, and machinery.
- Set up and operate computer-aided machine tools.
- Read, interpret, and apply a wide variety of technical information from manuals, specifications, blueprints, and schematics.
- Explain principles, theories, terminology, techniques, equipment, tools, and materials related to design and manufacturing technology programs.
- Engage students in positive learning in the laboratory/shop or other learning environments.
- Assist students and faculty and demonstrates proper use and maintenance of equipment, tools, and machinery used in design and manufacturing technology programs.

- Interpret, apply, explain, and ensure compliance with applicable federal, state, and local laws, rules, regulations, ordinances, and District policies and procedures relevant to assigned area of responsibility.
- Estimate and order required supplies and equipment.
- Safely and effectively use and operate equipment and tools required for the work.
- Maintain accurate records of work performed and materials and equipment and tools used.
- Organize work, set priorities, meet critical deadlines, and follow-up on assignments.
- Effectively use computer systems, software, and modern business equipment to perform a variety of work tasks.
- Use English effectively to communicate in person, over the telephone, and in writing.
- Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Education and Experience:
Any combination of training and experience which would provide the required knowledge, skills, and abilities is qualifying. A typical way to obtain the required qualifications would be:

Equivalent to an Associate's degree from an accredited college with major coursework in design and manufacturing technology or a related field and three (3) years of experience in mechanical or related maintenance and repair work.

Licenses and Certifications:

None.

PHYSICAL DEMANDS

Must possess mobility to work in a laboratory/shop/classroom environment; strength, stamina, and mobility to perform light to medium physical work, to operate varied equipment, tools, and machinery related to design and manufacturing programs; vision to read printed materials and a computer screen; and hearing and speech to communicate in person and over the telephone. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate above-mentioned equipment and tools. Positions in this classification bend, stoop, kneel, reach, and climb to perform work. Employees must possess the ability to lift, carry, push, and pull materials and objects weighing up to 50 pounds with the use of proper equipment. Reasonable accommodations will be made for individuals on a case-by-case basis.

ENVIRONMENTAL ELEMENTS

Employees primarily work in a laboratory/shop, classroom, and/or office environment that may contain various equipment, machinery, and tools, with moderate to high noise levels and controlled to varied temperature conditions. Employees may work outdoors and are occasionally exposed to loud noise levels and cold and/or hot temperatures. Employees are exposed to hazardous materials and mechanical and/or electrical equipment, machinery, and tools.

Salary Grade: C1-47

FLSA: Non-Exempt
EEO Code: H-50
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