

San Diego Community College District

CLASSIFICATION DESCRIPTION

Title: Instructional Lab Technician / Machine Shop

Unit: Office Technical

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Job Code: J1670
Original Date: 07/2003
Last Revision: 05/2016
Staff Type: Classified
FLSA status: Non-exempt
Salary Range: 23

DEFINITION

Under the direction of an instructor or assigned supervisor or manager, assist and support the instructional program; perform complex technical work in machine technology instructional laboratories; perform technical computer work in support of the instructional program; and prepare instructional materials as assigned.

DISTINGUISHING CHARACTERISTICS

The Instructional Lab Technician class is distinguished from the Instructional Assistant class in that positions assigned to the class of Instructional Lab Technician oversee a complex instructional laboratory for an academic or vocational area and must possess extensive technical or academic training and experience in the field of specialty. Under the direction of an administrator or specified faculty member, incumbents work independently and provide work direction and training to Instructional Assistants and/or student assistants.

EXAMPLE OF DUTIES

1. Oversee the operation and maintenance of an instructional laboratory environment in the subject of machine technology; setup, operate, and maintain equipment, machinery, computers, LANs, and file servers; make appropriate hardware connections and install software for the different applications along with associated application programs.
2. Assist faculty, students, and staff in the proper use and operation of equipment, machinery, computers, and technology common to machine technology; assist faculty and students in modifying computer connections, software, and programs (Computerized Numerical Control, Computer-Assisted Design, and Computer-Assisted Machining). Assist students in the selection, operation, and care of instructional materials and equipment.
3. Explain concepts, principles, and terminologies and provide information to students, instructors, and others. Assist students in the completion of assignments; tutor students individually or in small groups; reinforce or follow up on instructions provided by the instructor; provide relevant information to instructors regarding student progress.
4. Control the circulation of instructional supplies, materials, tools, and equipment to students and instructors; check items in and out and maintain appropriate records and inventories.
5. Order, receive, catalog, and store supplies, tools, materials, and related components; maintain appropriate records and local inventory control for equipment and materials. Provide technical assistance in the preparation of specifications for equipment and material purchases; recommend selection of equipment as requested. Schedule repairs of all lab equipment according to approved procedures.
6. Make minor repairs on equipment; check, repair, and replace worn, loose, broken, or damaged parts and electrical connections. Test, adjust, and maintain equipment; make visual and operational checks of equipment to ensure it is functioning properly. Assure proper storage and handling of equipment. Troubleshoot faulty operation of equipment.
7. Prepare materials for demonstrations by instructors or for use by students; maintain records of materials and equipment loaned out to students. Perform clerical duties, such as answer telephones, take messages, open

- and route mail, schedule appointments, collect fees, prepare, administer, score and record student assignments and tests, prepare reports, and maintain records and files.
8. Maintain and ensure instructional areas, laboratory, storeroom, and technical areas are in a safe, secure, clean, and orderly condition. Ensure that students observe appropriate safety procedures.
 9. Provide training and work direction to student aides and hourly assistants.
 10. Monitor laboratory budget expenditures. Assist in the preparation of the laboratory budget.
 11. Perform related duties as assigned.

DESIRABLE QUALIFICATIONS

Knowledge:

- Basic knowledge of blueprint reading and geometric tolerancing, shop math, tool geometry, safety, machinist handbook, and speeds and feeds.
- District organization, operations, policies, and objectives.
- English usage, grammar, spelling, punctuation, and vocabulary.
- General needs and behavior of students of various ethnic, racial, and cultural backgrounds.
- Instructional methods and techniques.
- Computer operating systems and programming in Computerized Numerical Control (CNC), Computer-Assisted Design (CAD), and Computer-Assisted Machining (CAM).
- Operation, maintenance, uses, and characteristics of a wide variety of equipment used in instructional labs and learning centers for machine technology, including operation of lathe and attachments; milling machines, vertical and horizontal; surface grinders; bench grinders; drill presses; and basic hand tools and measuring instruments.
- Oral and written communications skills.
- Principles and practices of work direction and training.
- Principles, practices, and procedures of machine technology, computers, and basic programming.
- Programming languages and familiarity with Assembly language and an Editor.
- Record-keeping techniques.
- Safety regulations involving machine technology.
- Technical aspects and maintenance of machine tools and tool crib.

Skills and Abilities:

- Advise students in the proper operation and use of lathe and attachments, milling machines, surface grinders, drill presses and bench grinders, basic hand tools, and measuring tools.
- Assemble, maintain, and repair laboratory equipment.
- Assist students in understanding and applying basic principles of a machine shop.
- Communicate effectively both orally and in writing.
- Complete precise and detailed work.
- Demonstrate competence in the field of machine technology and CNC.
- Ensure the care and security of assigned equipment, materials, and supplies.
- Establish and maintain effective working relationships with others.
- Explain work assignments to students.
- Follow set standards and procedures and make decisions based on facts and test results.
- Issue and receive equipment and supplies.
- Learn and apply techniques of precise measurement and notation.
- Maintain records and prepare reports.
- Make simple arithmetic calculations.
- Make visual comparisons to check for accuracy
- Meet schedules and time lines.
- Perform minor maintenance and repair of equipment.

Plan and organize work.
Provide orientation to instructors, staff, and students in the operation of equipment.
Relate effectively with people from varied cultural and socio-economic backgrounds.
Train and provide work direction to others.
Understand and follow complex oral and written directions.
Visualize objects from drawings and blueprints
Work cooperatively with others.
Work independently with little direction.

Training and Experience:

Any combination of training and experience equivalent to: satisfactory completion of 15 semester units of courses related to machine technology and at least two years of successful work experience in the field of machine technology. Experience in an instructional setting is desirable.

WORKING CONDITIONS

Physical Requirements:

Category II

Environment:

Involves a machine shop; may be exposed to hazards of power machinery, lifting, and fumes from chemicals.