STATE CENTER COMMUNITY COLLEGE DISTRICT
INSTRUCTIONAL LABORATORY TECHNICIAN – CHEMISTRY/PHYSICAL SCIENCE

DEFINITION

Under direction sets up laboratory materials and assists in the operation and maintenance of the physical science laboratory equipment, including preparing demonstrations for the class.

DISTINGUISHING CHARACTERISTICS

The Instructional Technician class is distinguished from the Instructional Aide class in that incumbents assigned to the class of Instructional Technician oversee complex instructional laboratories, possess specialized technical and academic training, and has experience in the assigned field. Additionally, the incumbent will provide administrative support for multiple instructors. Incumbents work independently and may provide instructional assistance to students and instructors in an instructional laboratory designated for a specific academic or vocational subject area. Instructional Technicians are responsible for applying district policies in regard to environmental, health, and safety regulations.

EXAMPLES OF DUTIES

Performs a variety of duties related to the chemistry/physical science program including but not limited to: assisting with demonstration of proper techniques and use of tools and equipment for students during laboratory classes; ordering, receiving, and inspecting chemicals and equipment; inventorying and maintaining supplies, chemicals and equipment, inspecting experiments and student work; maintaining stock rooms, laboratories, and other assigned areas in a clean and orderly condition; preparing, labeling, and maintaining stock solutions and reagents; preparing chemical solutions and unknowns for laboratory demonstrations, practical examinations and general instruction; implementing chemical hygiene and hazard communication programs; collecting, storing, and coordinating the disposal of hazardous chemicals and materials; assisting with managing and record keeping of toxic waste in accordance with regulations and other guidelines; and ensuring and enforcing security and safety of the lab according to established procedures, policies, and law. Screening, selecting, training, evaluating, and providing work direction for student workers. Performing other duties as needed.

EMPLOYMENT STANDARDS

Education: Bachelor’s degree in Chemistry OR Bachelor’s degree in Physics, or Geology with additional course work in Chemistry.

Experience: Experience in a physical science laboratory.

Knowledge:

- Knowledge of laboratory equipment.
- Knowledge of scientific supplies/procedures used in the physical sciences.
- Knowledge of procedures used in physical science laboratories (general and organic chemistry, physics, and geology).
- Knowledge of chemical equations, symbols and scientific notations.
- Knowledge of principles and proper handling of hazardous waste disposal.
- Knowledge of cleaning, fabrication, operation and repair of lab equipment.
- Knowledge of research procedures.
- Knowledge of proper storage and preservation procedures for physical science supplies and equipment.
- Knowledge of proper chemical hygiene.
- Knowledge of health and safety regulations.

Skills:
- Skill to learn, apply, and utilize hardware and specialized software applications to create spreadsheets, databases, and produce reports.
- Skill to issue, receive, and maintain records of equipment and supplies.
- Skill to synthesize special organic and inorganic reagents.
- Skill to demonstrate proper techniques and use of equipment for students; prepare purchase order requests.
- Skill to communicate with vendors.
- Skill to clean, adjust, operate, and repair lab equipment.
- Skill to communicate effectively both orally and in writing.
- Skill to give clear and concise instructions.
- Skill to review and evaluate the work of students assigned by instructors.
- Skill to keep accurate records.
- Skill to effectively communicate with individuals for whom English is not a primary language.
- Skill to train and direct student aides.
- Skill to employ proper English usage, spelling, grammar, and punctuation.
- Skill to receive and follow instructions.
- Skill to appropriately interact with a diverse population to include students, staff, faculty, and the public.
- Skill to and learn and apply college and district policies and procedures.

Abilities:
- Ability to operate computers and their peripherals.
- Ability to use current common software applications.
- Ability to accurately enter and retrieve data.
- Ability to maintain consistent, punctual and regular attendance.
- Ability to lift and carry office supplies and equipment weighing up to 40 lbs.

Examples of physical ability requirements necessary to perform the above job duties:
Have coordinated, precise movement of the fingers of one or both hands to perform tasks such as typing, writing and taking notes. (Finger Dexterity)

See clearly objects and close surroundings that are 36 inches or closer to perform tasks such as looking at computer monitors. (Near Visual Acuity)

See clearly objects and close surroundings that are six feet or further away such as being able to see other vehicles while driving. (Far Visual Acuity)

Distinguish between shades of one color or the difference between two or more colors such as working with computer monitors and filing systems. (Color Discrimination)

Hear and understand human speech in a relatively quiet environment such as hearing someone speak in quiet office or library setting. (Speech Intelligibility in Quiet)

Hear and understand human speech in a relatively noisy environment such as hearing someone speak to you while in the presence of loud equipment. (Speech Intelligibility in Noise)

Examples of mental ability requirements necessary to perform the above job duties:

- Listen to and understand information and ideas presented through spoken words and sentences. (Oral Comprehension)
- Come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem. (Originality)
- Arrange things or actions in a certain order or pattern, according to a specific rule or set of rules such as patterns of numbers, letters, words, or pictures. (Information Ordering)
- Identify or detect a known pattern, such as a figure, object, word, or sound that is hidden in other distracting material. (Flexibility of Closure)
- Generate or use different sets of rules for combining or grouping things in different ways. (Category Flexibility)
- Focus on a single source of sound in the presence of other distracting sounds. (Auditory Attention)
- Quickly make sense of, combine, and organize information into meaningful patterns. (Speed of Closure)
- Concentrate on a task over a period of time without being distracted. (Selective Attention)
- Shift back and forth between two or more activities or sources of information; multi-task to work on different projects simultaneously. (Time sharing)
- Remember information such as words, numbers, pictures, and procedures. (Memorization)
- Clearly communicate information and ideas through spoken words so others will understand. (Oral Expression)
- Identify and understand the speech of another person. (Speech Recognition)
- Recognize when something is wrong or is likely to go wrong. (Problem Sensitivity)
- Combine pieces of information to form general rules or conclusions such as finding a relationship among seemingly unrelated events. (Inductive Reasoning)
- Apply general rule, a premise, which is known to be true to specific problems to produce answers that make sense. (Deductive Reasoning)
- Read and understand information and ideas presented in writing. (Written Comprehension)
- Communicate information and ideas in writing so others will understand. (Written Expression)

Working conditions which may occur:

- Work inside protected from the weather.

- Noise exposure under 65 decibels, roughly that of a normal conversation or a ringing telephone.

- Exposure to fumes, vapors or airborne particles, hazardous chemicals, biological hazards and risk of electrical shock. NOTE: All exposure is under OSHA Permissible Exposure Levels (PEL).