Title: Instructional Lab Technician / Physics-Astronomy

Unit: Office Technical

Job Code: J1092
Original Date: 01/1991
Last Revision: 07/2018
Staff Type: Classified
FLSA status: Non-exempt
Salary Range: 24

DEFINITION

Under the direction of an instructor or assigned supervisor or manager, assist in the instructional program by performing complex technical work in an instructional laboratory environment in the subjects of physics, physical sciences, astronomy, geology, and engineering.

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. Prepare and set out materials necessary to perform laboratory experiments. Design equipment configurations and procedures for experiments and demonstrations. Work with faculty and staff to assure that equipment and facilities are utilized efficiently, effectively, and properly.

2. Oversee the operation and maintenance of an instructional laboratory environment in the subjects of physics, physical sciences, astronomy, geology, and engineering; train and provide work direction to Instructional Assistants and student assistants.

3. Assist instructors and staff in the use of a variety of equipment, materials, and supplies found in a laboratory for physical science.

4. Order, receive, catalog, and store supplies, materials, and equipment; maintain inventories, ensuring that adequate quantities are available for timely instructional use.

5. Test, adjust, calibrate, and maintain apparatus and equipment. Assure there is adequate lighting in the laboratory. Check scales and other laboratory equipment for proper operation.

6. Maintain, repair, and make modifications to equipment, including replacing damaged parts. Design and fabricate custom instructional science equipment for the laboratory and classroom. May send equipment to district repair facilities or to outside agencies.

7 Assess infrastructure requirements, initial calibration and setup, and iterative optimizations of computer hardware and software for complex, specialized instrumentation. Install and troubleshoot specialized software.

8. Provide technical assistance in the preparation of specifications for equipment and material purchases; recommend selection of equipment as requested; may interview vendors to assess new equipment and supplies.

9. Provide oversight of department and laboratory safety reporting and compliance requirements based on federal, State, and District safety regulations. Observe appropriate safety procedures and provide instruction in the work area to student assistants and workers.

10. Participate in the preparation of the laboratory budget; monitor budget expenditures.

11. Make recommendations regarding the use of laboratory equipment, facilities, and experiments to maintain and improve the educational program.

12. Perform related duties as assigned.

DESIRABLE QUALIFICATIONS

Knowledge:

- Complex instrumentation and custom-built equipment and demonstrations needed to meet student and course learning outcomes.
- Computer hardware and software applications necessary for area of specialty.
- District organization, operations, policies, and objectives.
- English usage, grammar, spelling, punctuation, and vocabulary.
- General needs and behavior or students of various racial, ethnic, and cultural backgrounds.
- Oral and written communications skills.
- Physics, astronomy, electronics, electricity, electromagnetism, and modern physical science.
- Principles and practices of work direction and training.
- Principles, practices, procedures, and equipment of physics, physical sciences, astronomy, geology, and engineering.
- Record-keeping techniques.
- Safety regulations involving a physics laboratory and related activities.
- Theories of sound, heat, and mechanics as applied to physics.

Skills and Abilities:

- Assemble, maintain, repair, and make modifications to equipment.
- Assist students in understanding and applying basic principles of physical science.
- Communicate effectively both orally and in writing.
- Demonstrate competence in assigned areas of physical science.
- Design and fabricate custom instructional science equipment for the laboratory and classroom.
- Ensure the care and security of assigned equipment, materials, and supplies.
- Establish and maintain effective working relationships with others.
- Explain work assignments to students.
- Install and troubleshoot specialized software.
- Issue and receive equipment and supplies.
- Learn and apply techniques of precise measurement and notation.
- Maintain records and prepare reports.
- Make simple arithmetic calculations.
- Meet schedules and time lines.
- Plan and organize work.
- Relate effectively with people from varied cultural and socio-economic backgrounds.
- Train and provide work direction to others.
- Understand and follow oral and written directions.
- Work cooperatively with others.
- Work independently with little direction.
- Work with faculty and staff to assure that equipment and facilities are used efficiently and effectively.

Training and Experience:

Any combination of training and experience equivalent to: satisfactory completion of core courses for an AS in physics and at least two years of successful work experience in the field of physics or a Bachelor of Science degree in Physical Science. Experience in an instructional setting is desirable.

WORKING CONDITIONS

Physical Requirements:
Category II

Environment:
Favorable, involves an instructional laboratory setting. Includes exposure to high voltage and occasionally lifting and moving heavy objects.