

**LABORATORY TECHNICIAN – PHYSICS**

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are **not** intended to reflect all duties performed within the job; however, any additional duties will be reasonably related to this class.*

**SUMMARY DESCRIPTION**

Under general supervision, provides instructional support services by performing technical work in physics and astronomy laboratories; orders, issues, prepares, and maintains laboratory materials, supplies, and associated equipment; assists in the preparation of laboratory experiments and demonstrations; performs related duties as required.

Positions in the Laboratory Technician class are assigned duties requiring considerable technical knowledge and ability in the assigned field of specialization. Incumbents are expected to exercise independent judgment in the performance of duties and are responsible for supervising and maintaining all laboratory supplies, materials, equipment, and records. Positions in this class specialize in the assigned subject area.

**REPRESENTATIVE DUTIES**

*The following duties are typical for this classification.*

1. Sets up and prepares class demonstrations and experiments working from knowledge of the subject area, reference materials, course outline and without specific instructions.
2. Inventories, orders, receives, and stocks materials, supplies, and equipment for laboratory use.
3. Issues and maintains records of materials and equipment loaned to students, instructors, and other departments.
4. Demonstrates and provides instruction to students in proper use and care of laboratory materials and equipment.
5. Assists in maintaining security of laboratories, laboratory equipment, supplies and materials.
6. Cleans up after each lab session by washing, and if necessary, sterilizing tools, equipment, and supplies.
7. Calibrates, maintains, and performs repairs on scientific and electronic equipment and apparatus.
8. Supervises student use of computers in computer lab; provides guidance and instruction to students on proper use of computers and related peripheral equipment.
9. May supervise and assign work of student assistants.
10. May assist faculty in assembling printed class materials.
11. May maintain expenditure records and provide data for budget estimates.
12. Monitors production of, collects, and processes hazardous waste materials and toxic chemicals resulting from lab classes; collects and properly stores hazardous waste.
13. Performs related duties as required.

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**QUALIFICATIONS**

*The following generally describes the knowledge and ability required to enter the job and/or be learned within a short period of time in order to successfully perform the assigned duties.*

**Knowledge of:**

- Course content, equipment, safety and other procedures, supplies, and reference materials related to the appropriate science laboratory.
- Concepts and applications of physics.
- Electronic and mechanical equipment maintenance and repair techniques; including the principles of digital devices.
- Techniques used in the fabrication of electronic and mechanical apparatus.
- Methods and procedures of preparing instructional materials used in appropriate laboratory.
- Sufficient human relation skills to guide students and student workers, and to convey technical concepts.
- Operational characteristics of laboratory apparatus, equipment, and materials pertaining to assigned laboratory and subject area.
- Occupational hazards and standard safety practices including methods and techniques used in handling and disposing of hazardous chemicals.
- Principles and procedures of record keeping and filing.
- Basic inventory and purchasing processes and procedures.
- English usage, spelling, grammar, and punctuation.

**Ability to:**

- Identify and work with physics and astronomy laboratory equipment, supplies, and materials.
- Set up, modify, service, adjust, and make minor repairs to laboratory apparatus and equipment.
- Analyze equipment malfunctions and perform repairs on optical, electrical, and mechanical equipment.
- Construct and circuit diagrams and sketches.
- Construct special projects from schematics, blue prints or sketches; utilize machining tools.
- Operate, calibrate, and perform minor troubleshooting and repair of laboratory and office equipment and tools.
- Maintain the lab and equipment in a safe and organized manner including the handling of hazardous or dangerous materials and equipment as required for some labs.
- Observe safety procedures and protocols including those for safe handling and storage of hazardous materials.
- Read and understand technical manuals and protocols.
- Instruct students in the use of lab equipment and lab procedures.
- Listen actively and effectively, identify and solve problems, and facilitate problem solving.
- Operate office equipment including computers and supporting word processing.
- Perform routine record keeping and report writing duties.
- Work independently and collaboratively.
- Plan and organize work to meet changing priorities and deadlines.
- Communicate clearly and concisely, both orally and in writing.
- Establish and maintain effective working relationships with those contacted in the course of work.

**Education and Experience Guidelines** –*A typical way to obtain the knowledge and abilities would be:*

**Education/Training:**

Completion of 60 semester units of college level coursework that includes a minimum of 18 semester units of physics or astronomy laboratory courses.

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**Experience:**

Some experience as a laboratory technician in the appropriate subject field including the operation, maintenance, and repair of electronic equipment.

**PHYSICAL DEMANDS AND WORKING ENVIRONMENT**

*The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions.*

**Environment:** Work is performed primarily in a classroom/laboratory setting or machine shop; exposure to dusts, fumes, moderately high levels of noise and electrical energy; work with laboratory and electronic equipment and apparatus.

**Physical:** Primary functions require sufficient physical ability and mobility to work in a classroom/laboratory setting; to stand or sit for prolonged periods of time; to occasionally stoop, bend, kneel, crouch, reach, and twist; to lift, carry, push, and/or pull light to moderate amounts of weight; to operate office, laboratory and electronic equipment requiring repetitive hand movement and fine coordination including use of a computer keyboard; and to verbally communicate to exchange information; requires the wearing of personal protective equipment including safety glasses or goggles, lab coats, rubber or plastic gloves, respirators, or face shields.

**Vision:** See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents; and to operate assigned equipment; distinguish color.

**Hearing:** Hear in the normal audio range with or without correction.

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