

LABORATORY TECHNICIAN – MICROBIOLOGY

*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 a microbiology laboratory; orders, issues, prepares, and maintains laboratory materials, supplies, and associated equipment; 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 on materials loaned to students, instructors, and other departments; issues and maintains records on lockers.
4. Demonstrates and provides instruction to students in proper use and care of laboratory materials and equipment; assists in maintaining security of laboratories, laboratory equipment, supplies, and materials.
5. Prepares and dispenses solutions and chemical materials used for lab classes which may include reagents, chemicals, acids, bases, buffers, stains, and unknowns.
6. Cleans up after each lab session by washing, and if necessary, sterilizing tools, equipment, and supplies.
7. Demonstrates and provides instruction to students in bacteriologic techniques and aseptic handling of infectious agents of disease; provides contamination free laboratory environment.
8. Prepares, maintains, and performs quality control testing of all laboratory media used for the growth and propagation of microorganisms.
9. Cultures by propagation viable pathogenic and nonpathogenic stock cultures of bacteria, viruses, and fungi.
10. Maintains viability and quality control of bacterial cultures used during consecutive laboratory sessions.
11. Plans and directs critical time schedules necessary for propagation of bacterial cultures by reculturing to new growth media.

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12. Prepares and performs analyses on bacteria used for student unknowns to observe for mutation and effectiveness.
13. Operates scientific equipment such as: autoclave, analytical balance, chromatography and electrophoresis equipment, spectrophotometer, pH meter, and microscopes.
14. Calibrates, maintains, and performs repairs on scientific equipment and supplies.
15. May assist faculty in assembling printed class materials.
16. May supervise and assign work of student assistants.
17. May maintain expenditure records and provide data for budget estimates.
18. Monitors production of, collects, and processes hazardous waste materials and toxic chemicals resulting from lab classes; collects and properly processes and disposes of biohazard waste.
19. Performs related duties as required.

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 associated with microbiology.
- Mathematics skill to make calculations such as metric weights and volumes, percents, and molar solutions.
- 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:

- Set up, modify, service, adjust, and make minor repairs to laboratory apparatus and equipment.
- Prepare chemical and reagent solutions, extracts, and dilutions to specifications
- Aseptically transfer and isolate pure cultures of bacteria, prepare electrophoresis gels, DNA laboratory samples, and associated chemical solutions.
- Cultivate various living organisms.
- Prepare instructional equipment and specimens for laboratory exercises.
- 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

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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 20
18 semester units ~~in~~ of biological laboratory sciences including microbiology.

Experience:

Some experience as a laboratory technician in the appropriate subject field.

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; exposure to dusts, mists, fumes, moderately high levels of toxic chemicals, allergenic plants and materials; work with laboratory 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 laboratory and office 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; to operate assigned equipment; and to distinguish color.

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

Board Approved:

Johnson & Associates Revised: January 2007

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