

STATE OF SOUTH DAKOTA CLASS SPECIFICATION

Class Title: Laboratory Technician

Class Code: 40642

Pay Grade: GF

A. Purpose:

Performs technical laboratory work involving the completion of routine chemical or microbiological tests, preparation of medias or solutions, and analyzing samples for their contents to complete required laboratory procedures.

B. Distinguishing Feature:

The Laboratory Technician performs routine/standardized tests looking for a known reaction/result or type of reaction to indicate a positive or negative presence of a disease, bacteria, or fungi; prepares solutions, medias, reagents, or buffers; or analyzes products for the presence of specified factors/contents or percentages thereof.

The Laboratory Aide performs non-technical duties to support laboratory activities.

C. Functions:

(These are examples only; any one position may not include all of the listed examples nor do the listed examples include all functions which may be found in positions of this class.)

1. Prepares samples or specimens for testing or analyses to prepare them for laboratory testing.
 - a. Racks and centrifuges specimen tubes.
 - b. Measures, dries, weighs, grinds, and autoclaves samples.
 - c. Places samples into laboratory equipment for sorting or dividing.
 - d. Combines reagents, solutions, or antigens with specimens.
 - e. Separates samples into desired components.
 - f. Filters samples.
2. Performs routine and supplemental laboratory tests on various types of specimens or samples to determine the presence of diseases, bacteria, or fungi.
 - a. Draws specimens and applies to test cards, plates, or petri dishes; adds antigen, shakes or rotates, and observes for reactions or coagulation.
 - b. Examines samples and divides into different components for analysis.
 - c. Combines reagents with specimens or samples, places within laboratory test equipment, operates the equipment, and reads results.
 - d. Isolates and identifies pathogens.
3. Prepares medias, solutions, mediums, buffers, culture plates, or stock cultures to be used by laboratory staff in the completion of tests or studies.
 - a. Performs routine transfers, purities, and transfers of stock culture.
 - b. Maintains culture growth schedules.
 - c. Inoculates cultures of fungi and bacteria to artificial media.
 - d. Follows standardized recipes to prepare, mix, and store.
 - e. Applies media to culture plates or petri dishes.
 - f. Autoclaves medias and solutions.
 - g. Prepares ion free water.

- h. Stains tissues and coverslip slides.
- 4. Maintains records and reports to document laboratory activities.
 - a. Records and distributes test results.
 - b. Prepares laboratory reports.
 - c. Logs test results into the computer.
- 5. Posts diseased animals for pathologist examinations.
 - a. Excises animal brains for rabies testing.
 - b. Performs euthanasia of animals for examinations.
- 6. Performs other work as assigned.

D. Reporting Relationships:

May provide work direction to Laboratory Aides and students.

E. Challenges and Problems:

Challenges include explaining test results to individuals submitting samples for tests/analysis; this is difficult because test results may indicate a negative condition or presence of a disease. Also challenging is ensuring accuracy and consistency, this is difficult because of variances in samples and mediums and in working with finite measurements.

Typical problems include rush orders, coordinating supplies and equipment, scheduling changes, determining what has gone wrong in an analysis, lab instruments not operating properly, abnormal test results, working out new methodology for unusual samples, coordinating the activities of others, contaminated samples or reagents, disposal of toxic waste, and working with precision equipment.

F. Decision-making Authority:

Decisions include determining the presence of restricted or prohibited properties; whether test results indicate positive or negative results; whether samples are ready for tests/analyses; medias, solutions, or mediums mixed correctly; recording test results; correct procedures for each sample; acceptance or rejection of test results based on known samples; when to mix reagents, medias, or solutions; when to order antigens, buffers, or solutions; priority of sample analysis; work assignments to students or Laboratory Aides; repair needs of equipment; where errors are in tests or analysis; whether test instruments are working properly; how samples should be prioritized; preparation for supplemental test; and the identification of weed and grass seeds.

Decisions referred to a superior include questionable test results, validity of unexpected values, establishment of quality control limits, changes in testing procedures, facility equipment needs, reporting of regulatory data, the official classification of an animal as being infected, and the technical evaluation of test results.

G. Contact with Others:

Daily contact with laboratory users to give and receive information, with faculty to discuss needs and problems in student labs and research needs, and the public to inform them of available

tests; weekly contact with private veterinarians on tests ran or to be run, with livestock herd owners on samples brought to the lab, and with state meat inspectors on locker samples; and occasionally with laboratory equipment service to request or verify equipment service.

H. Working Conditions:

Located in a typical laboratory environment subject to noise from blowers and fans, fumes and odors from samples/specimens, caustic and acidic chemicals, equipment operating at high speeds or temperatures, xylene, and toxic pesticides and herbicides.

I. Knowledge, Skills and Abilities:

Knowledge of:

- methods, materials, equipment, and techniques of laboratory testing, analysis, and media preparation related to the specific area of work;
- basic principles, practices, and procedures of laboratory testing;
- laboratory equipment, procedures, operation, and terminology;
- safe laboratory practices.

Ability to:

- follow detailed directions and instructions;
- interpret subject matter, and specialized laboratory procedures of the particular laboratory concerned;
- perform mathematical computations;
- maintain accurate laboratory records;
- use and maintain laboratory equipment;
- perform laboratory tests or analysis;
- review test results;
- deal tactfully with others.