

**MICHIGAN CIVIL SERVICE COMMISSION
JOB SPECIFICATION**

LABORATORY SCIENTIST

JOB DESCRIPTION

Employees in this job complete or oversee a variety of tests, analyses, or production and research activities involving chemical, biochemical and biological samples, specimens, and products.

There are four classifications in this job.

Position Code Title – Laboratory Scientist-E

Laboratory Scientist 9

This is the entry level. As a trainee, the employee carries out a range of professional laboratory scientist assignments while learning the methods of the work.

Laboratory Scientist 10

This is the intermediate level. The employee carries out an expanding range of professional laboratory scientist assignments in a developing capacity.

Laboratory Scientist P11

This is the experienced level. The employee performs a full range of professional laboratory scientist assignments in a full-functioning capacity. Considerable independent judgment is required to carry out assignments that have significant impact on services or programs. Guidelines may be available, but require adaptation or interpretation to determine appropriate courses of action.

Position Code Title – Laboratory Scientist-A

Laboratory Scientist 12

This is the advanced level. The employee may function as a lead worker or senior worker. At this level, employees are responsible for overseeing the work assignments of other professionals or have regular assignments which have been recognized by Civil Service as having significantly greater complexity than those assigned at the experienced level.

NOTE: Employees generally progress through this series to the experienced level based on satisfactory performance and possession of the required experience.

LABORATORY SCIENTIST

PAGE No. 2

JOB DUTIES

NOTE: The job duties listed are typical examples of the work performed by positions in this job classification. Not all duties assigned to every position are included, nor is it expected that all positions will be assigned every duty.

Tests and analyzes a variety of samples, specimens, products, or materials for chemical composition or presence of specific substances; follows standardized analytical procedures.

Employs analytical instrument techniques such as spectroscopy, spectrophotometry, and chromatography to characterize materials and identify samples and specimens; develops new instrument methods.

Carries out qualitative and quantitative analyses.

Conducts chemical, biological, and physical tests on materials to determine that standards are met.

Devises and adapts technical procedures and modifies equipment, as needed.

Keeps informed of new analytical or manufacturing methods.

Participates in developing new methods for carrying out biochemical, biological, and chemical analyses.

Tests and analyzes samples of air, water, soil, municipal, and industrial wastes, etc., for the presence of contaminants or other target substances.

Tests and analyzes a variety of food and agricultural products for composition, purity, or the presence of specific substances.

Participates in the production and manufacture of biochemical, chemical, biological, and immunological products, such as anti-cancer agents, blood derivatives, antigens, antisera, and vaccines.

Conducts experiments seeking biochemical relationships in organically damaged and mentally ill patients.

Carries out examinations of portions of human tissues or body fluids for poisons, drugs and alcohol, antibody titers, and infectious agents.

Tests for the presence and type of blood in stains or other specimens.

Analyzes specimens related to arson and hit-and-run accidents.

LABORATORY SCIENTIST

PAGE No. 3

Participates in field investigations and makes on the scene examinations.

Analyzes paints, wood products and cement for conformance to established standards for highway materials.

Conducts laboratory and field research to determine acceptability of products for highway use.

Determines photometric properties of reflective and light emitting devices.

Testifies in court as a witness.

Performs routine maintenance on laboratory equipment, and inventories and orders required supplies.

Assists in the training of new laboratory personnel.

Maintains records and prepares reports and correspondence related to the work.

Performs related work as assigned.

Additional Job Duties

Laboratory Scientist 12 (Lead Worker)

Oversees the work of professional staff by making and reviewing work assignments, establishing priorities, coordinating activities, and resolving related work problems.

Laboratory Scientist 12 (Senior Worker)

Performs on a regular basis professional laboratory scientist assignments that are recognized by Civil Service as more complex than those assigned at the experienced level.

JOB QUALIFICATIONS

Knowledge, Skills, and Abilities

NOTE: Some knowledge in the area listed is required at the entry level, developing knowledge is required at the intermediate level, considerable knowledge is required at the experienced level, and thorough knowledge is required at the advanced level.

Knowledge of the principles and practices of general, qualitative, quantitative, organic, physical, and physiological chemistry.

Knowledge of the principles of biochemistry.

Knowledge of the principles of microbiology.

LABORATORY SCIENTIST

PAGE NO. 4

Knowledge of the fundamentals of physics and mathematics.

Knowledge of laboratory tests and control techniques.

Knowledge of statistical techniques used in the treatment of scientific data.

Knowledge of the fundamentals of analytical instrumentation.

Knowledge of departmental rules, regulations, and policies related to the work.

Knowledge of the analysis of blood and other biologic products.

Knowledge of the physical, chemical, and biological testing of materials.

Knowledge of biochemical, chemical, and physical laboratory tests used in crime detection.

Knowledge of appropriate health, safety, and environmental regulations to provide for safe laboratory practices.

Knowledge of foods, feeds, fertilizers, economic poisons, and agricultural products.

Knowledge of the methods used in the production and testing of biologic products involving the application of biochemical, microbiological, and immunological principles and practices.

Knowledge of techniques used in crime scene investigations.

Knowledge of computer application programs for laboratory activities and data management.

Ability to conduct methodological research; from the assignment of a project through the various steps, including reporting of results.

Ability to provide effective courtroom testimony.

Ability to plan and conduct research projects.

Ability to carry out laboratory procedures, tests, and analyses required in the work and to interpret results obtained.

Ability to set up and carry out quality control programs for laboratory operations.

Ability to set up, use, and maintain laboratory equipment.

Ability to prepare technical reports, records, and papers related to the work.

LABORATORY SCIENTIST

PAGE No. 5

Ability to maintain records and conduct correspondence related to the work.

Ability to communicate effectively with others.

Ability to maintain favorable public relations.

Additional Knowledge, Skills, and Abilities

Laboratory Scientist 12 (Lead Worker)

Ability to organize and coordinate the work of others.

Ability to set priorities and assign work to other professionals.

Working Conditions

Some jobs require an employee to work in a laboratory environment with some exposure to noxious fumes and unpleasant noises.

Some jobs require an employee to work in an environment that involves some risk of sustaining illness and injury from the use of chemicals, high pressure laboratory systems, biological materials and organisms, and high energy light sources and voltage.

Physical Requirements

Some jobs require an employee to stand for long periods of time.

Education

Possession of a bachelor's degree in chemistry, biochemistry, biology, microbiology, forensic science, or a related pure or applied science.

Experience

Laboratory Scientist 9

No specific type or amount is required.

Laboratory Scientist 10

One year of professional experience carrying out a variety of tests, analyses, or production and research activities involving chemical, biochemical and biological samples, specimens, and products equivalent to a Laboratory Scientist 9.

Laboratory Scientist P11

Two years of professional experience carrying out a variety of tests, analyses, or production and research activities involving chemical, biochemical and biological samples, specimens, and products equivalent to a Laboratory Scientist, including one year equivalent to a Laboratory Scientist 10.

LABORATORY SCIENTIST

PAGE No. 6

Laboratory Scientist 12

Three years of professional experience carrying out a variety of tests, analyses, or production and research activities involving chemical, biochemical and biological samples, specimens, and products equivalent to a Laboratory Scientist, including one year equivalent to a Laboratory Scientist P11.

Special Requirements, Licenses, and Certifications

None.

NOTE: Equivalent combinations of education and experience that provide the required knowledge, skills, and abilities will be evaluated on an individual basis.

JOB CODE, POSITION TITLES AND CODES, AND COMPENSATION INFORMATION

Job Code
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Job Code Description
Laboratory Scientist

Position Title
Laboratory Scientist-E
Laboratory Scientist-A

<u>Position Code</u>	<u>Pay Schedule</u>
LABSCIE	H21-001
LABSCIA	H21-009

ECP Group 2
Revised 6/1/06
TeamLeaders