

MICHIGAN CIVIL SERVICE COMMISSION
JOB SPECIFICATION

EQUIPMENT TECHNICIAN

JOB DESCRIPTION

Employees in this job maintain, install, troubleshoot, and repair a variety of electronic and electro-mechanical equipment, instruments, and systems.

Position Code Title - Equipment Technician-E

Equipment Technician 8

This is the entry level. The employee performs a range of Equipment Technician assignments while learning the methods of the work.

Equipment Technician 9

This is the intermediate level. The employee performs an expanding range of Equipment Technician assignments in a developing capacity.

Equipment Technician E10

This is the experienced level. The employee performs a full range of Equipment Technician assignments and uses independent judgement to make decisions in specific work situations.

Position Code Title - Equipment Technician-A

Equipment Technician 11

This is the advanced level. The employee functions as a crew leader overseeing the work of lower-level Equipment Technician, prisoners, and/or others and performing experienced-level Equipment Technician assignments; or as a senior worker performing the most complex assignments.

Position Code Title - Equipment Technician-SS

Equipment Technician 12

This is the staff specialist level. The employee uses specialized technical knowledge to perform highly complex Equipment Technician assignments involving sole, full-time responsibility and authority for an assigned specialty area.

JOB DUTIES

NOTE: Listed job duties are typical examples of work of positions in this classification. Not all duties assigned to every position are included, nor will all positions be assigned every duty. The general description of job duties does not authorize performance contrary to any state or federal licensing or certification requirements.

Operates, maintains, repairs, and calibrates electronic and electro-mechanical equipment such as monitoring and laboratory equipment; freeway signs; traffic recorders and signal controllers; computer controlled automated gas and liquid chromatographs; micro-processors; intercom, telephone, public address and paging systems; building and access control systems; building and facility security and fire alarm systems.

Constructs specialized equipment designed by engineers, scientists, and technicians.

Assists engineers and scientists in designing equipment.

Makes design sketches from which equipment is fabricated.

Determines materials to be used in the construction of electronic and electro-mechanical equipment.

Establishes specifications and makes computations for the manufacturing process.

Estimates labor and material costs for proposed equipment and maintains inventory.

Designs and builds equipment for the measurement of physical and chemical changes.

Performs testing of equipment and diagnoses operational deficiencies.

Makes on-site inspections and measurements when problems arise and recommends solutions.

Troubleshoots and resolves electronic and electrical malfunctions.

Programs automated equipment systems, runs diagnostic software programs, and identifies problems.

Maintains, repairs, and inspects alarm detection and communication systems and monitoring equipment.

Conducts studies on the efficiency of methods, materials, and equipment.

Prepares and maintains logs, records, and reports related to the work.

Performs related work and other tasks as assigned.

Additional Job Duties

Equipment Technician 11 (Crew Leader)

Assigns work to lower-level Equipment Technicians, prisoners, or others.

Instructs and trains in proper work methods and processes.

Reviews job performance by observing and critiquing work techniques and completed assignments.

Equipment Technician 11 (Senior Worker)

Regularly performs the most complex and difficult assignments in the work area.

Equipment Technician 12

Exercises independent authority and responsibility for an assigned departmental program.

Serves as the recognized expert within a specialty area and provides technical assistance to other departmental staff.

JOB QUALIFICATIONS

Knowledge, Skills, and Abilities

NOTE: Some knowledge 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 electrical and electro-mechanical principles.

Knowledge of analog and digital electronics.

Knowledge of electrical wiring.

Knowledge of electrical control and relay systems.

Knowledge of the theory and characteristics of solid state devices.

Knowledge of current developments in electronic equipment.

Knowledge of fire alarm systems.

Knowledge of basic mathematics.

Knowledge of occupational hazards and safety precautions applicable to the work.

Skill in the use of electrical and electronic testing equipment such as volt-ohmmeter, oscilloscope, integrated circuit tester, signal tracing equipment, logic probe, and soldering equipment.

Skill in electronic and electro-mechanical equipment repair and maintenance.

Ability to inspect and evaluate electrical and electronic equipment for proper operation and perform routine maintenance, cleaning, and adjustment.

Ability to conduct electronic tests on equipment and to analyze and troubleshoot problems in equipment operation.

Ability to disassemble and repair electrical and electronic equipment.

Ability to calibrate electronic measuring instruments.

Ability to interpret and follow plans, specifications, and instructions.

Ability to prepare and maintain records related to the work.

Ability to install and modify equipment.

Ability to construct equipment designed by engineers.

Ability to assist engineers in designing equipment.

Ability to prepare specifications for equipment.

Ability to communicate effectively.

Additional Knowledge, Skills, and Abilities

Equipment Technician 11 (Crew Leader)

Ability to train and oversee the work of others.

Ability to prioritize, organize, and coordinate the work of the unit.

Ability to prepare and maintain records related to the work.

Equipment Technician 11 (Senior Worker)

Ability to perform the most complex equipment technician assignments.

Equipment Technician 12

Knowledge of programmatic and developmental aspects of assigned specialty area.

Ability to organize and coordinate an assigned specialty area.

Ability to adapt to new technology and methods to increase specialty area effectiveness.

Working Conditions

Some jobs require an employee to work from ladders, scaffolds, and platforms.

An employee may be assigned to work any day of the week or on any shift.

Some jobs require an employee to work outdoors.

Some jobs require an employee to work in an environment that involves extreme temperatures and exposure to unpleasant and noxious fumes and odors.

Physical Requirements

The job duties require an employee to bend, reach, stoop, stand and/or walk for extended periods.

The job duties may require an employee to climb ladders.

The job duties may require an employee to work in confined spaces.

Education

Possession of an associate degree in electrical, electromechanical, or electronics engineering, computer science, engineering, or electronics technology.

Experience

Equipment Technician 8

No specific type or amount is required.

Equipment Technician 9

One year of experience in the installation, maintenance, troubleshooting, and repair of electrical and electronic equipment equivalent to an Equipment Technician 8.

Equipment Technician E10

Two years of experience in the installation, maintenance, troubleshooting and repair of electrical and electronic equipment equivalent to an Equipment Technician, including one year equivalent to an Equipment Technician 9.

Equipment Technician 11

Three years of experience in the installation, maintenance, troubleshooting, and repair of electrical and electronic equipment equivalent to an Equipment Technician, including one year equivalent to an Equipment Technician E10.

Equipment Technician 12

Four years of experience in the installation, maintenance, troubleshooting, and repair of electrical and electronic equipment equivalent to an Equipment Technician, including two years equivalent to an Equipment Technician E10 or one year equivalent to an Equipment Technician 11.

Alternate Education and Experience

Equipment Technician 8 - 12

Completion of 60 semester (90 term) credits including 24 semester (36 term) credits in any combination of course work in the following areas: electrical, electromechanical, or electronics engineering, electronics technology, computer science, highway or traffic technology, engineering, or mathematics may be substituted for the education requirement.

A certificate from a two year, post-secondary, technical program in electrical, electromechanical, or electronics technology may be substituted for the education requirement.

Four years of experience in the installation, maintenance, troubleshooting, and repair of electrical and electronic equipment may be substituted for the education requirement.

Equipment Technician E10

Possession of a bachelor's degree or higher with 16 semester (24 term) credits in job specific or related course work may be substituted for the education and experience requirements.

NOTE: Civil Service can individually evaluate equivalent combinations of education and experience providing required knowledge, skills, and abilities to qualify.

Special Requirements, Licenses, and Certifications

See individual position descriptions.

JOB CODE, POSITION TITLES AND CODES, AND COMPENSATION INFORMATION

Job Code

EQUIPTCH

Job Code Description

EQUIPMENT TECHNICIAN

Position Title

Equipment Technician-E

Equipment Technician-A

Equipment Technician-SS

Position Code

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Pay Schedule

L32-006

L32-012

L32-013

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07/20/2025