

**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 such as scientific instruments, laboratory equipment, freeway information signs, television monitoring equipment, computer-controlled automated gas and liquid chromatographs, micro-processors, intercommunication systems, traffic recorders, telephone systems, public address and paging systems, and fire alarm systems.

There are five classifications in this job.

**Position Code Title – Equipment Technician-E**

Equipment Technician 8

This is the entry level. As a trainee, the employee works in a learning capacity performing a range of equipment technician assignments and receives close supervision

Equipment Technician 9

This is the intermediate level. The employee works in a developing capacity with increased responsibility for performing a range of equipment technician assignments.

Equipment Technician E10

This is the experienced level. The employee performs a full range of equipment technician assignments and uses considerable independent judgment in making decisions requiring the interpretation and application of established methods and procedures to specific situations with considerable latitude.

**Position Code Title – Equipment Technician-A**

Equipment Technician 11

This is the advanced level. The employee serves as a lead worker responsible for assigning and coordinating the work assignments of lower-level Equipment Technicians, or as a senior worker resolving the most complex technical problems related to the trouble-shooting, modification, fabrication, and maintenance of highly technical equipment. Senior-level employees perform complex assignments beyond those expected at the experienced level which have been approved by Civil Service.

**Position Code Title – Equipment Technician-SS**

Equipment Technician 12

This is the staff specialist level. The employee uses specialized technical knowledge in performing highly complex equipment technician assignments involving authority for an

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assigned program. Staff specialist positions have sole and full time responsibility for an assigned program area, and are recognized through approval by Civil Service.

### **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.

Operates, maintains, repairs, and calibrates electronic and electro-mechanical equipment.

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

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

Conducts tests on completed equipment of original design or commercial make.

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

Troubleshoots and resolves electronic and electrical malfunctions.

Maintains, repairs and inspects fire alarm detection and communication systems.

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

Modifies existing equipment to fit needs of the workplace.

May be required to operate small hand equipment.

Prepares technical reports related to the work.

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Performs related work as assigned.

### **Additional Job Duties**

#### Equipment Technician 11 (Lead Worker)

Schedules work assignments, determines work priorities, and oversees the work of lower-level Equipment Technicians.

Trains new Equipment Technicians.

#### Equipment Technician 11 (Senior Worker)

Performs on a regular basis equipment technician assignments which are recognized as the most complex.

#### Equipment Technician 12

Exercises independent authority and responsibility for an assigned departmental program.

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

### **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, thorough knowledge is required at the advanced level, and extensive knowledge is required at the specialist 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 and electron tubes.

Knowledge of current developments in electronic equipment.

Knowledge of fire alarm systems.

Knowledge of the hazards of electricity and appropriate safety practices.

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Knowledge of basic mathematics.

Skill in the use of the hand tools, power tools, and machine shop tools required in servicing electrical and electronic equipment.

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.

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 blueprints, specifications, and construction drawings.

Ability to modify equipment.

Ability to construct equipment designed by engineers.

Ability to install equipment.

Ability to utilize standard equipment repair manuals and schematic diagrams.

Ability to assist engineers in designing equipment.

Ability to prepare specifications for equipment.

Ability to keep records and to write technical reports.

Ability to tolerate outdoor working conditions and heights.

### **Additional Knowledge, Skills, And Abilities**

#### **Equipment Technician 11 (Lead Worker)**

Ability to assign and coordinate the work of other Equipment Technicians.

Ability to determine work priorities.

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### **Equipment Technician 11 (Senior Worker)**

Knowledge of the operation, maintenance, and repair of specialized departmental equipment.

### **Equipment Technician 12**

Ability to organize and carry out an assigned program.

Ability to adapt to new technology and methods to increase program effectiveness.

### **Working Conditions**

None.

### **Physical Requirements**

None.

### **Education**

Possession of an associate's degree in electrical, electromechanical, electronics 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.

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### Alternate Education and Experience

Four years of experience in the installation, maintenance, troubleshooting, and repair of electrical and electronic equipment may be substituted for the education requirement. This is in addition to the experience requirements for the specific levels.

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

Possession of a bachelor's degree or higher with 16 semester (24 term) credits in job specific or related course work qualifies for the Equipment Technician 10 level.

### Special Requirements, Licenses, and Certifications

Some positions within this class series are assigned job duties that may require possession of the Commercial Driver's License (CDL) issued by the Secretary of State as required by Public Act 346 of 1988 to operate a designated state vehicle.

**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  
EQUIPTCH

Job Code Description  
Equipment Technician

Position Title

Equipment Technician-E  
Equipment Technician-A  
Equipment Technician-S

Position Code

EQUIPTCHE  
EQUIPTCHA  
EQPTCHSS

Pay Schedule

L32-006  
L32-012  
L32-013