



Office of Human Resources
Electronic Systems Technician II - CJ3312
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General Statement of Duties

Performs specialized, professional, and complex work in the acquisition, testing, setup, programming, modifying, troubleshooting, repairing, and maintaining a wide variety of specialized technical electronic equipment and electrical systems.

Distinguishing Characteristics

The Electronic Systems Technician II is distinguished from the Electronic Systems Technician I which performs full performance work installing, programming, modifying, troubleshooting, repairing, and maintaining a wide variety of specialized technical electronic equipment and electrical systems. It is also distinguished from the Electronic Systems Technician III which installs, diagnoses, programs, designs, configures and maintains a wide variety of complex electronic communication infrastructure and access control systems. These positions are primarily found at DEN.

Essential Duties

Performs acquisition, testing, setup, programming, repair and product enhancement of electronic systems and equipment such as, radars, radios, computers, cellular phones, closed circuit TV camera systems, Smart City devices, cable TV, security, runway lighting, paging, fire alarm and other related electronic, control and signaling systems. Access Control systems consisting of security device controllers, fingerprint, and facial authentication, biometric readers, and card readers.

Troubleshoots, tests, diagnoses, calibrates, and performs bench and field repairs to the component level.

Updates new software and firmware for existing infrastructure to ensure it is kept up to date.

Serves as the technical lead on all equipment that is brought in for testing and review. This includes the testing of software and firmware. Also serves as the lead for the battery backup systems from the design, upgrade, and installation of new equipment.

Designs, engineers, and integrate systems regarding transit, freight, fire, light rail, commuter rail and heavy rail priority and preemption.

Designs and fabricates circuits and related equipment as needed to utilize existing equipment, modify applications, or resolve unusual problems.

Operates a variety of computer systems designed to monitor and/or operate specific electronic and electrical systems.

Maintains detailed documentation of data collection on required and completed repair work.

By position, maintains power supplies, video cameras, alarm and signaling equipment, encoders and decoders, computer data systems, and other related communication systems. Performs preventative maintenance for electronic control and communication equipment to minimize repair problems and to meet manufacturers' specifications.

By position, works with various stakeholders to be able to engineer Smart City infrastructure and ensure it operates with the existing traffic network currently in place.

By position, writes computer programs compatible with operating systems to expand functions.

By position, may be required to be on-call to address emergent needs.

By position, participates in snow removal duties.

By position, responds to after-hours calls or emergency calls outside of normal scheduled or business hours.

Performs other related duties as assigned.

Employees may be re-deployed to work in other capacities in their own agencies or in other City agencies to support core functions of the City during a City-wide emergency declared by the Mayor.

Any one position may not include all of the duties listed. However, the allocation of positions will be determined by the amount of time spent in performing the essential duties listed above.

Competencies

Attention to Detail - Is thorough when performing work and conscientious about attending to detail.

Reading - Understands and interprets written material, including technical material, rules, regulations, instructions, reports, charts, graphs or tables; applies what is learned from written material to specific situations.

Technical Competence - Uses knowledge that is acquired through formal training or extensive on-the-job experience to perform one's job; works with, understands, and evaluates technical information related to the job; advises others on technical issues.

Technical Problem Solving - Troubleshoots diagnoses, analyzes, and identifies system malfunctions to determine the source and cause of the problem.

Technology Application - Uses machines, tools, or equipment effectively; uses computers and computer applications to analyze and communicate information in the appropriate format.

Written Communication – Composes, reviews, edits, and issues written materials for diverse audiences and communicates purpose in a succinct and organized manner that is appropriate for context, time, and place.

Knowledge & Skills

Knowledge of circuit boards, processors, chips, and computer hardware and software, including applications and programming.

Knowledge of electronic theory, circuits, components, and material properties (excluding computers).

Knowledge of electrical equipment, components, instruments, and systems, including their design, installation, testing, uses, repair, or maintenance.

Knowledge of safety hazards and necessary safety precautions sufficient to be able to establish a safe work environment for self and others.

Level of Supervision Exercised

By position, performs lead work.

Education Requirement

Graduation from high school or the possession of a GED, HiSET or TASC Certificate.

Experience Requirement

Five (5) years' experience building and maintaining electronic systems and equipment and making component level repairs.

Education & Experience Equivalency

Additional appropriate education may be substituted for the minimum experience requirements.

Licensure & Certification

This job requires driving. Requires a valid Driver's License at the time of application.

By position, requires a valid Commercial Driver's License (CDL "B") with appropriate endorsements by the end of probation.

By position, requires FCC General Radio Telephone Operator's License by the end of the probationary period.

For positions in DOTI:

- Requires IMSA Traffic Signal Field III within six (6) months of hire.
- Requires IMSA Traffic Signal Bench Technician Level II within one (1) year of hire.
- Journeyman Electrician license can be used as an equivalency for the IMSA certifications.

For positions in DEN:

- At least one (1) of the below licenses or certifications are required at the time of application: Mass Notification Systems Installer, Access Control Supervisor Certificate, Fire Alarm License, NICET Certificate (level II or greater), BICSI Technician Certificate, CSI certification, CVT certification, or CSSI certification.

Licenses and certifications must be kept current as a condition of employment.

Working Environment

Potential exposure to hazards from electrical/mechanical/power equipment.

Potential exposure to temperature changes: variations in temperature from hot to cold.

Subject to pressure for multiple calls, inquiries, and interruptions.

Subject to varying and unpredictable situations.

Temperature Changes: Variations in temperature from hot to cold when works in the field.

Works in precarious or high locations.

Level of Physical Demand

3-Medium (20-50 lbs.)

Physical Demands

(Physical Demands are a general guide and specific positions will vary based on working conditions, locations, and agency/department needs).

Carrying: Transporting or moving an object.

Climbing: Ascending or descending an object or ladder.

Color vision: Ability to distinguish and identify different colors.

Crawling: Moving about in a low or crouched position.

Depth Perception: Ability to judge distances and space relationships.

Field of Vision: Ability to sharply detect or perceive objects peripherally.

Fingering: Picking and pinching, through use of fingers or otherwise.

Lifting: Moving objects weighing no more than 50 pounds from one level to another.

Vision Far Acuity: Ability to perceive or detect objects clearly at 20 feet or more.

Vision Near Acuity: Ability to perceive or detect objects at 20 inches or less.

Background Check Requirement

Criminal Check

Employment Verification

Motor Vehicle Record

By position, License/Certification

Assessment Requirement

None

Probation Period

Six (6) months.

Class Detail

Pay Grade: NE-18

FLSA Code: N

Established Date: 7/4/2021

Established By: BM

Revised Date: 7/9/2024

Revised By: AOF

Class History: 1/14/22 – Revised DOTI certification requirements; 10/11/22 – Revised DOTI specific licenses/certifications; 7/9/24 – Revised DEN specific licensure & certification requirements.