

ELECTRONICS TECHNICIAN, SENIOR

KIND OF WORK

Advanced-level technical work constructing, repairing, and maintaining electronic equipment.

NATURE AND PURPOSE

Under general supervision, an employee in this class is responsible for performing highly technical and complex work constructing, repairing, and maintaining a variety of electronic equipment. Designs and modifies equipment, planning purchases of parts and supplies. Works independently, often providing direction to other lower level technicians and/or student workers. Performs related work as required. This classification differs from lower level Electronics Technicians in that it provides leadwork direction as well as advanced, specialized, highly complex expertise in the construction, repair, and maintenance of electronic equipment.

EXAMPLES OF WORK (A position may not include all the work examples given, nor does the list include all that may be assigned.)

Install, repair, maintain, and operate traffic control devices so that devices will operate in the field efficiently and effectively after turn-on by repairing, maintaining, and modifying signal cabinets to specifications; performing preliminary checkout procedures; testing bench equipment to assure proper operation during maintenance and repair procedures; responding to field calls to repair or replace equipment in the field.

Maintain and repair industrial hygiene electronic equipment so that equipment is returned for use with minimum delays by maintaining and repairing noise dosimeters, sound level meters, carbon monoxide monitors, combustible gas meters, oxygen meters, cameras and related equipment, and calculators; maintaining and repairing detector tube pumps, air pressure gauges, velometers, and calibration devices; calibrate industrial hygiene equipment; provide technical support to staff related to industrial hygiene equipment.

Install, repair, maintain, and operate electronic security and communications systems within a correctional facility so that security is maintained and staff and inmate safety is protected by selecting, installing, and monitoring security cameras, motion detectors, metal detectors, fire and duress alarm systems, and a nurses call system; selecting, installing, and maintaining perimeter security systems, such as inertia guard systems, taut wire systems, and traffic control systems; informing supervision and security staff of ongoing repairs to ensure that security is not breached; assisting in selection of fire security equipment; providing technical input on current developments in security systems technology to supervision, making recommendations regarding changes, additions, and updates to institution security systems.

Diagnose, install, repair, and maintain computer hardware and software systems so that system operations are available when needed and repairs and problems are taken care of effectively and efficiently by installing and maintaining non-standard EDP equipment, including DEC VAX hardware, Novell networking equipment, network servers, bridges, and routers; managing network security; troubleshooting complex problems, such as software installations on microcomputers, computer boards, and modem electronics; reconfiguring control unit software; utilizing advanced test equipment such as digital line monitors and transmission impairment test sets; isolating and repairing data circuit failures, initiating loopbacks manually or via Netmaster, while coordinating testing with phone company, user agency, and other personnel to determine causes of circuit failure.

Install, repair, and maintain CCTV, radar, and electronic scale equipment so that equipment is operational when needed by certifying scales and radar for operation; installing equipment in proper location; repairing malfunctioning equipment; calibrating radar and scale equipment, using required instruments; repairing CCTV equipment to original operating condition, such as VCR's, cameras, monitors, and video editing and playback equipment; certifying tuning forks for speed verification on radar equipment; design and recommend test equipment as needed.

Install, repair, and maintain telecommunications systems and equipment so that communications are maintained and equipment is functional when needed by recommending installation of twisted pair vs. coaxial cable; recommending details of wiring systems to installation personnel; diagnosing and troubleshooting equipment; acting as liaison between phone company personnel and agency dealing with telecommunications installations.

Maintain inventory of parts and supplies to support electronic equipment installation and repair by maintaining supply usage statistics; preparing requisitions for replacement parts and supplies; performing acceptance testing of vendor supplied and repaired equipment; maintaining storage areas in a clean and orderly manner; designing and recommending new test equipment and parts as needed.

Train employees in the usage and upkeep of electronic equipment, including providing leadwork direction to other technicians and/or student workers in the provision of repair and maintenance of electronic equipment so that employees will be able to identify problems and provide elementary service to other users by assisting in training personnel in operation of electronic systems; providing technical assistance to departments where necessary; recommending appropriate testing procedures for systems and equipment; planning, prioritizing, and assigning projects to others; assuring timely and successful completion of projects, following up at completion.

KNOWLEDGE, SKILLS AND ABILITIES REQUIRED

Knowledge of:

Standard practices, materials, test equipment, and tools used in the construction, diagnosis, repair, and maintenance of complex electronic equipment sufficient to assure safe and efficient equipment operation when required.

Electronic systems and operation sufficient to recommend modification and repair where required.

Skill in:

Operating measuring devices sufficient to calibrate electronic product servicing equipment.

Ability to:

Identify and classify electronic supplies and equipment sufficient to maintain stock records and supplies.

Troubleshoot and identify problems with electronic equipment sufficient to locate faulty equipment and repair problem areas.

Make use of testing devices sufficient to identify proper calibration levels and adjustments needed.

Understand and follow oral and written directions sufficient to carry out electronic equipment installation, maintenance and repair.

Communicate effectively sufficient to provide direction to others in the repair, maintenance, and installation of electronic equipment.

EST.: 07/69 T.C.: 06/70; 07/73

Rev.: 08/91 Former Title(s): College Electronics Technician

Senior Electronics
Technician