

## STATE OF SOUTH DAKOTA CLASS SPECIFICATION

**Class Title: Electronics Technician**

**Class Code: 40352**

**Pay Grade: GF**

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### **A. Purpose:**

Maintains, designs, calibrates, repairs and operates electronic equipment consisting of integrated circuitry by troubleshooting malfunctions and using a voltmeter, oscilloscope or other analyzers and schematic drawings to locate and repair problems. Performs the daily activities of assigned data collection projects.

### **B. Distinguishing Feature:**

The Electronics Technician services sophisticated electronic equipment consisting of integrated circuitry and may install, repair, calibrate, operate and maintain specialized vehicle data collection devices.

The Electronics Technician Supervisor supervises Electronic Technicians and clerical staff, participates in the servicing of highly sophisticated electronic equipment and is also involved in designing installation layouts and construction of special electronic devices.

Audio-Visual Technicians work within an educational facility and maintain audiovisual equipment such as televisions, video recorders or audio tape decks.

Broadcast Maintenance Technicians work with and service television and radio transmitting equipment.

### **C. Functions:**

*(These are examples only; any one position may not include all of the listed examples nor do the listed examples include all functions that may be found in positions of this class.)*

1. Repairs electronic equipment to ensure the continuous operating efficiency of the equipment.
  - a. Determines the cause of the malfunction.
  - b. Replaces parts or makes the necessary adjustments.
2. Calibrates electronic equipment to ensure the equipment operates correctly.
  - a. Tests and adjusts to verify the accuracy of data collected.
3. Troubleshoots defective components to maintain the equipment's continued and accurate operation.
  - a. Measures with volt meters, oscilloscopes, or other analyzers.
  - b. Replaces faulty parts or adjusts the equipment.
4. Maintains an electronic parts inventory to ensure items are in stock.
  - a. Purchases or orders items.
  - b. Receives shipments.
  - c. Signs invoices to authorize payment for merchandise.
5. Builds and tests special electronic equipment to ensure technological correctness and proper operation of equipment.
  - a. Constructs prototypes.
  - b. Develops and etches printed circuits designs.
  - c. Solders and assembles hardware components.

- d. Prepares operators manuals for the special electronic equipment.
6. Installs or relocates electronic computer data processing or word processing hardware to ensure the equipment is operating and users' needs are met.
  - a. Places the equipment in the desired location.
  - b. Makes the appropriate hookups.
7. Performs other work as assigned.

#### **D. Reporting Relationships:**

Reports to the Electronics Technician Supervisor.

#### **E. Challenges and Problems:**

Challenged to repair electronic equipment as quickly as possible because these devices are often vital to the effective functioning of a work unit; maintain outdated, worn-out, equipment for which replacement parts are difficult to find; keep abreast of technological advances with little time for training. In some instances, it is difficult to diagnose the source of a malfunction.

Typical problems include working in all types of weather and determining alternative way to accomplish assignments if there are equipment breakdowns.

#### **F. Decision-making Authority:**

Decisions made include prioritizing the work load; deciding the site location; what computer to use with counters; what data should be collected; when, where, and how to conduct special studies; method of repair; if a piece of equipment is repairable; whether to purchase supplies; and how to modify, reconfigure or rebuild existing equipment to do a better or different job.

Decisions referred include when to buy new equipment, when to contact outside help, approval of large expenditures, whether a repair is too costly to justify, and finalization of work priority.

#### **G. Contact with Others:**

Daily contact with electronic suppliers to purchase parts and with agency, department or campus personnel to make equipment repairs. Frequent contact with telephone companies and other utility companies for communication hookups; with the public for special studies and information; with landowners for permission to place equipment and with civil defense directors to maintain and calibrate radiological instruments.

#### **H. Working Conditions:**

Incumbents work in a general electronic workshop and travel to various work locations. Hazards include the possibility of electric shock. Some electronic equipment contains hazardous chemical such as liquid nitrogen and acids. Heavy lifting is required to transport electronic devices. Electronic Technicians are required to work in all types of weather.

#### **I. Knowledge, Skills and Abilities:**

Knowledge of:

- principles of electricity;
- electrical circuitry and basic metallurgy;

- electrical equipment calibration and troubleshooting techniques;
- the standard practices, methods, tools, and materials of the electrical trade;
- basic record keeping procedures;
- the occupational hazards and safety precautions of the trade;
- computer operation and software use.

Ability to:

- understand and apply instructions;
- communicate information clearly and concisely;
- use the tools, materials, and equipment used in the electrical trade;
- locate and adjust defects in electrical systems and equipment;
- operate electronic testing devices;
- troubleshoot electrical equipment using the operator's manual;
- install, hook up, maintain and repair electronic equipment;
- set up files and maintain records.