Information Technology Series
Equipment/Systems Specialist

CLASSIFICATION OVERVIEW

Positions in this classification are primarily responsible at varying levels for technical system support and capabilities, including the installation, maintenance, modification, and repair of equipment, products, and/or systems. Technical systems may be electromechanical or computerized (e.g., computer and peripheral equipment, telecommunications and network devices, audio and video equipment, and related transmission equipment and systems) and typically are integrated with or interconnected to larger systems. Positions in this classification may also have a role as a technical/ hardware user support representative.

Positions in this classification typically reside in the computer center, telecommunications, media, administrative or academic departments, or extended education/university television. Common working titles include Electronic Technician, Electromechanical Technician, Equipment Repair Technician, Computer Technician, etc.

ENTRY QUALIFICATIONS

To enter this classification, a basic foundation of knowledge and skills in technical systems and equipment is a prerequisite. This foundation would normally be obtained through an associate of arts degree in electronics, telecommunications, or industrial technology or equivalent education, training, and/or directly related experience. Foundation knowledge and skills for the Equipment/Systems Specialist include a basic knowledge of electronic (digital or analog) theories, mechanical design, and understanding of the operation and use of the equipment and systems commonly utilized in the assigned area

Further progress within this classification is based on department need and work assignments requiring higher levels of skills and knowledge. ***Reference the Information Technology Series Introduction for level definitions.***

CORE FUNCTIONS

The core functions of the Equipment/Systems Specialist are:

- Equipment Services
- Systems Integration

These core functions represent major categories of work within the Equipment/Systems Specialist classification. Typical activities and core skills for each core function cited below are illustrative; campus assignments may vary.

CORE FUNCTION
Equipment Services

Examples of Typical Activities:

Hardware Operation and Maintenance:
Ensure that equipment and systems in assigned areas are in good condition and are properly maintained. Examples of typical work activities include:

- Perform preventative maintenance, equipment alignment and calibration;
- Replace or repair worn parts;
- Evaluate replacement alternatives;
- Perform equipment and system set up (including necessary interconnections) and performance monitoring;
- Maintain and repair media/video production equipment systems and facilities;
- Provide technical set-up of teleconferencing systems;
- Maintain technical shop facilities, inventory, repair logs and/or work order systems;
- Maintain licensing agreements and operations manuals.

Field Service:
Service user equipment or systems quickly and efficiently with minimal disruption. Examples of typical work activities include:

- Diagnose equipment and/or system malfunctions and perform corrective action;
- Use of appropriate test structures;
- Pre-test and configure equipment and/or systems following service procedures;
- Research system/equipment malfunction history;
- Service microwave and/or satellite transmission sites;
- Analyze and adjust equipment to restore proper operation;
- Coordinate repair or maintenance through vendor resources;
- Repair voice and data circuit problems.

Prototype Development:
Develop prototype equipment and/or systems to meet specialized user requirements. Examples of typical work activities include:

- Design and fabricate nonstandard equipment or subsystems;
- Redesign of systems at the component level;
- Design test boards;
- Retrofit system/equipment;
- Construct temporary systems.

CORE SKILLS
Equipment Services

- Ability to differentiate between hardware and software problems.
- Ability and manual dexterity to assemble components and parts, and/or cable or wiring, by reading and interpreting reference manuals and schematics.
- Familiarity with materials, methods, and techniques used in the completion of equipment service assignments. Adept at using required tools, including computer systems, to accomplish tasks.
- Knowledge of applicable industry and safety codes and/or standards that apply to work environment and equipment.
- May possess specialized vendor training or licenses as required.
- General knowledge of digital and analog theories (or relate technical areas) and ability to apply these in resolving equipment repair and system performance problems.
- Ability to use a variety of test equipment and diagnostic software to ensure system operation.
- Machine tooling capability and/or ability to work at the component level.

CORE FUNCTION
Systems Integration

Examples of Typical Activities:

Physical Installation:
Perform the installation of equipment and/or systems in a timely manner ensuring appropriate installation and connections. Examples of typical work activities include:

- Assist in planning and implementing installations and/or facility layouts;
- Install and test PC/workstations, printers and other peripherals;
- Determine routing and placement of cabling, wiring, etc.;
- Perform physical installation (e.g., wiring, cables, microwave/satellite communications modules, components, and sound systems and necessary interface cards);
- Document and/or log equipment/system installations and/or modifications;
- Act as vendor liaison;
- Move or relocate equipment;
- Plan, estimate, and order equipment and materials necessary for project completion;
- Construct multimedia production sets (e.g., lighting systems, monitors, displays);
- Ensure compliance with building and/or safety codes.

System Configuration:
Configure systems to optimize operations, meet connectivity needs and future expansion requirements. Examples of typical work activities include:

- Recommend equipment/system configuration and interface alternatives;
- Participate in system enhancement and equipment evaluation and planning;
- Implement system/equipment upgrade migration and required modifications;
- Prepare equipment purchase recommendations and cost justification;
- Reconfigure and test newly installed systems;
- Alert network staff to network failures;
- Prepare and maintain documentation on systems and networks.

System Software:
Provide PC/workstation support for-hardware and systems software interfaces. Examples of typical work activities include:

- Install and configure standard operating and network systems and integrate them with related systems;
- Ensure system integrity between hardware and operating systems;
- Troubleshoot errors in system operations and related networks;
- Perform software and hardware modifications;
- Maintain and support hardware and software for stand-alone systems;
- Perform local area network (LAN) and system backups;
- May administer and maintain a LAN, file server, and/or network operating system.

CORE SKILLS

Systems Integration

- Ability to physically install and configure equipment, connections, wiring and cable as required working from layout or plans.
- Ability to read and understand technical manuals and related documentation for equipment/systems that interconnect with or interface to installed equipment base.
- Basic knowledge and ability to use operating system features and network protocols as applicable to equipment area. Able to use common package application programs.
- Basic knowledge of programming concepts; has the technical understanding to work with vendors and/or subject experts in system programming to isolate and solve equipment related problems.
- Ability to track system performance and ensure system/equipment reliability using knowledge of system/equipment operation thresholds and optimal performance levels.
- Ability to utilize specialized software utilities and features in assigned equipment, and install and configure standard software.
- Ability to create system layout and develop operating procedures.
- Familiar with cable and wiring standards as defined by the institution and industry standards and configure systems to meet requirements.
- Ability to prepare network diagrams or system schematics with an understanding of component functionality.