



## **INSTRUCTIONAL TECHNOLOGY SYSTEMS ENGINEER**

### **DEFINITION**

Under direction, plans, designs, coordinates and administers service and support engineering for the successful implementation of audio visual, digital, computer and other advanced instructional technology for the Foothill-De Anza Community College District; designs and implements systems utilized in classroom instruction; ensures consistency of design and operation of advanced instructional technology systems utilized by academic programs across the District; performs maintenance and repair of instructional audio/video technical equipment; trains and provides work direction to assigned personnel; and perform related work as required.

### **SUPERVISION RECEIVED AND EXERCISED**

Receives general supervision from the assigned ETS supervisor. Exercises no supervision of staff. Provides technical and functional direction to technical, support, and contracted staff on a project basis.

### **CLASS CHARACTERISTICS**

This is an experienced-level project management classification that oversees activities related to the design, implementation, contracting, and inspection of designated multimedia renovation of instructional technology utilized in District facilities. Responsibilities include performing diverse, specialized, and complex work involving accountability and decision-making responsibility. The incumbent organizes and oversees day-to-day activities in a variety of areas. Successful performance of the work requires skill in coordinating departmental work with that of other departments and outside agencies.

### **EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)**

- Provides audio/video design engineering services for District facilities including instructional computer labs, classrooms, lecture halls, labs, conference rooms, meeting spaces, and for other instructionally related technology projects in the Foothill-De Anza Community College District; designs additions and upgrades to the instructional technology systems to accommodate changing campus requirements; generates system diagrams utilizing the Computer Aided Design (CAD) tools.
- Designs and engineers the installation of audio/visual and computer equipment along with their integrated systems including: performing hardware, peripheral and software configurations for audio/visual devices, servers and workstations; develops installation requirements for mounting equipment, cabling and equipment configuration.
- Confers with administrators, deans, faculty, staff, Furniture Fixture and Equipment (FF&E) coordinators, students and others to identify instructional technology engineering requirements; gathers and analyzes data and information affecting instructional facility needs; makes recommendations considering existing and proposed facility infrastructure.
- Works with the Hardware and Software Education Technical Advisory Committee (ETAC) Standards Committee to develop hardware and software standards for instructional multimedia equipment;

- Solicits and administers instructional technology modification or construction contracts for District facilities from project definitions and requests for proposals through construction phase and warranty period.
- Coordinates with audio visual (AV) integration vendors by scheduling site walks and installations, reviewing quotes, coordinating warranty service repairs, and performing final acceptance testing after installations; coordinates implementation teams, contractors, engineers, estimators and inspectors; provides direction to others in completion of assignments.
- Performs advanced troubleshooting and repair of various AV analog and digital equipment including but not limited to: control systems, control panels, media players, switchers, cameras, conferencing systems, projectors, and flat screen displays; identify vendors and order parts as necessary; sends equipment to outside contractors for repairs as needed.
- Keeps abreast, learns, recommends and utilizes emerging technologies to improve instructional methods.
- Prepares and maintains a variety of records and reports to track multimedia projects, site walks, quotes, purchase requests, purchase orders, invoices, installations, repairs, and warrant service.
- Reviews and comments on construction drawings, specifications and submittals; performs construction site walks to examine multimedia infrastructure and provide comments.
- Trains and provides work direction to AV technical personnel; assists the District Technical Services Supervisor in identifying and assigning jobs.
- Provides advanced computer hardware and software support as needed; identifies operator errors or repairs damaged software programs; updates drivers or software programs as necessary; performs hardware diagnostic and software backup functions as necessary.
- Operates a variety of equipment including computers, tablets, scanners, cameras, audio video controllers and switchers and other related equipment.
- Works with the District Technical Services Supervisor and AV Technicians to maintain equipment; co-manages remote monitoring and control software; configures and supports video conferencing devices and network.
- Prepares a variety of written correspondence, including cost estimates, and contracts; prepares or coordinates special research studies and comprehensive reports related to District instructional technology.
- Performs related duties as assigned.

## **QUALIFICATIONS**

### **Knowledge of:**

- Administrative principles and practices, including project implementation, and evaluation, contract administration, and the work direction of staff and contractors.
- Multimedia technology required for District operations, including but not limited to: video and data projectors, computer systems, various AV equipment such as LCD, PLP, and laser projection systems, plasma, LCD, LED, and OLED flat screen displays, TCP/IP, IR, and RS232 remote control systems, and related wiring requirements for installation of such systems.
- Operation of various audio and video equipment such as AV control systems, switchers, amplifiers, and various types of video cabling including but not limited to: HDMI, VGA, RGBHV, component, and composite.
- Principles and practices of project management, identifying technology needs and issues, researching and evaluating technology, applications, and the most effective courses of action, and implementing solutions.

- Principles and practices of building design, construction, and facilities operations.
- Broadcast television analog and digital video systems and equipment.
- Cable television distribution systems.
- Computer hardware, software, and network systems and operations.
- Web- and hardware-based audio and video conferencing systems.
- Audio and video recording systems, including video surveillance systems.
- Fiber-optic transmission systems.
- Digital audio/video communications on proprietary or ATM/IP-based networks.
- Principles and practices of training and providing work direction to others.
- Record-keeping principles and practices.
- English usage, spelling, vocabulary, grammar, and punctuation.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, students, and District staff.

**Ability to:**

- Demonstrate understanding of, sensitivity to, and respect for the diverse academic, socio-economic, ethnic, religious, and cultural backgrounds, disability, and sexual orientation of community college students, faculty, and staff.
- Design and supervise installation of audio/video systems required for delivery of instructional content.
- Program and configure control systems, digital media switchers, transmitters, and receivers using SIMPL+ and various hardware and software tools.
- Perform maintenance and repair of video analog and digital equipment.
- Perform firmware updates to various AV equipment.
- Prepare clear and concise technical documentation, user procedures, reports of work performed, and other written materials.
- Train and provide work direction to others.
- Organize and prioritize a variety of projects and multiple tasks in an effective and timely manner, organize own work, set priorities, and meet critical time deadlines.
- Provide computer hardware and software support, advice, and consultation as needed.
- Read and understand construction drawings and specifications.
- Use English effectively to communicate in person, over the telephone, and in writing.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

**Education and Experience:**

*Any combination of training and experience that would provide the required knowledge, skills, and abilities is qualifying. A typical way to obtain the required qualifications would be:*

Equivalent to graduation from an accredited four-year college or university with major coursework in media engineering, network engineering, computer science, or a related field and four (4) years of progressively responsible experience in supporting and implementing multimedia technology infrastructure systems.

### **PHYSICAL DEMANDS**

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer; vision to read printed materials, computer screens, and projection screens; and hearing and speech to communicate and to evaluate audio output from speakers. Standing in and walking between work areas is frequently required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment as well as various tools. Positions in this classification occasionally bend, stoop, kneel, and reach to perform assigned duties. Employees must possess the ability to lift, carry, push, and pull audiovisual equipment and other objects up to 50 pounds with the use of proper equipment.

### **ENVIRONMENTAL ELEMENTS**

Employees primarily work in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Employees occasionally perform work in the field requiring work at heights accessing equipment and at construction sites exposing them to excessive noise levels, unpleasant odors, dust, fumes, and/or allergens, and requiring the use of safety equipment while performing job duties.

**Salary Grade:** C1-72

**FLSA:** Non-Exempt

**EEO Code:** H-30

**Board Approved:** April 2021