



INSTRUCTIONAL TECHNOLOGY SOLUTIONS SYSTEMS ENGINEER

SALARY GRADE: [C1-64](#)

DEFINITION:

Under the direction of an assigned supervisor, plan, coordinate and direct 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; design and implement systems utilized in classroom instruction; ensure consistency of design and operation of advanced instructional technology systems utilized by academic programs across the District; perform maintenance and repair of instructional audio/video technical equipment; train and provide work direction to assigned personnel.

EXAMPLE OF DUTIES AND RESPONSIBILITIES:

Depending upon assignment, duties may include, but are not limited to, the following:

1. Perform audio/video design engineering and design services for instructional computer labs, mediated classrooms, and other instructionally related technology projects in the Foothill-De Anza Community College District.
2. Communicate with administrators, deans, faculty, staff, students and other services groups to identify instructional technology engineering requirements.
3. Plan, design and implement technical systems utilized for classroom instructional delivery; Working with the Hardware and Software ETAC Standards Committee, develop hardware and software standards, specifically for instructional multimedia equipment; Perform additions and upgrades to the instructional technology systems to accommodate the changing campus requirements. Technology solutions include but are not limited to web-ready classrooms, video conferencing, multimedia consoles in classrooms, and digital and audiovisual technologies supporting construction projects.
4. Perform advanced maintenance and repair of audio/video analog and digital equipment including digital video disk (DVD) players and recorders, videotape recorders, audio/video switchers, pan/tilt cameras, non-linear edit systems, audio mixing boards, audio/video conferencing systems, network video distribution systems, audio playback and recording systems, lighting systems, and other related equipment; identify vendors and order parts as necessary; send equipment to outside contractors for repairs as needed.
5. Design system flow diagrams utilizing the Computer Aided Design (CAD) systems; manage equipment and cabling requirements utilizing databases, spreadsheets and word processor applications; prepare and maintain documentation of projects.
6. Train and provide work direction to assigned personnel; assist in identifying and assigning jobs.
7. Provide advanced computer hardware and software support as needed; identify operator errors or repair damaged software programs; perform hardware diagnostic and software backup functions as necessary.
8. Operate a variety of equipment including a computer, plotter, graphic scanner, modems, oscilloscope, various hand tools, video switchers, audio boards, video-audio routing systems and other related equipment.
9. Prepare and maintain a variety of records and reports related to assigned activities.
10. Work with outside consultants and installation vendors.
11. Work with the Client Services Technical Services Supervisors in maintaining the equipment.

12. Perform related duties as assigned.

EMPLOYMENT STANDARDS:

Knowledge of:

1. LCD, DLP and Plasma large screen display systems.
2. IR and RS232C remote control systems.
3. Broadcast television analog and digital video systems.
4. Cable television distribution systems.
5. Video conferencing systems.
6. Fiber-optic transmission systems.
7. Video surveillance systems.
8. Digital audio/video communications on an ATM and IP based computer network.
9. Computer hardware, software and network systems and operations.
10. Operation of various audio and video equipment.
11. Technology requirements for instructional labs and classrooms, including but not limited to, video and data projectors, computer systems, various AV equipment, and related wiring requirements for installation of such systems.
12. Oral and written communication skills.
13. Interpersonal skills using tact, patience and courtesy.
14. Principles of training and providing work direction.
15. Record-keeping techniques.
16. Technical aspects of field of specialty.

Ability to:

1. 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.
2. Design and implement audio/video systems required for delivery of instructional content.
3. Perform maintenance and repair of video analog and digital equipment.
4. Create documentation for broadcast and instructional systems.
5. Train and provide work direction to others.
6. Provide computer hardware and software support as needed.
7. Communicate effectively both orally and in writing.
8. Establish and maintain cooperative and effective working relationships with others.
9. Maintain current knowledge of technological advances in the field.
10. Maintain records and prepare reports.
11. Meet schedules and time lines.
12. Work independently with little direction.
13. Plan and organize work.

Education and Experience

Any combination equivalent to:

1. Bachelor's degree in broadcast media engineering, electronic engineering, computer science or related field.
2. Four (4) years of related work experience.

WORKING CONDITIONS:

Environment:

1. Office environment.

Physical Abilities:

1. Hearing and speaking to exchange information in person and on the telephone.

2. Dexterity of hands and fingers to operate computer keyboard and operate video equipment.
3. Seeing to read various materials and monitor and repair equipment.
4. Standing for extended periods of time.
5. Reaching overhead, above the shoulders and horizontally.
6. Bending at the waist, kneeling or crouching.
7. Climbing ladders to repair equipment.
8. Lifting, carrying, pushing or pulling heavy objects up to 30 lbs.

Date Approved:
EEO Code: H-30