

## **LEAD BROADCAST ENGINEER**

### **DEFINITION**

Under general supervision, oversees, and performs technical support in the design, installation, operation, maintenance, troubleshooting, diagnosis, and repair of broadcast radio and television facilities; provides support for all campus and Police and Campus Safety radio communications facilities; provides technical support to students, faculty, and staff on the operation, maintenance, and repair of equipment and systems.

### **SUPERVISION RECEIVED AND EXERCISED**

Receives general supervision from the Manager, Broadcast Services. May exercise technical and functional direction over and provides training to assigned staff and student workers.

### **CLASS CHARACTERISTICS**

This is an advanced technical classification responsible for overseeing and performing technical support of all broadcast radio and television facilities. Responsibilities include inspecting and attending to assigned areas in a timely manner and performing a wide variety of highly technical tasks in the design, installation, maintenance, and repair of assigned facilities and systems. Incumbents are expected to work independently and exercise judgment and initiative. Incumbents at this level are required to be fully trained in all procedures related to assigned area(s) of responsibility, working with a high degree of independent judgment, tact, and initiative. This class is distinguished from the Production Specialist in that the latter performs technical and creative development work of video, audio, media, and broadcast production and post-production. This class is further distinguished from the Manager, Broadcast Services in that the latter oversees the entire department-and has ultimate responsibility for organizing, assigning, supervising, and reviewing the work of all staff involved in its operations.

### **EXAMPLES OF ESSENTIAL FUNCTIONS (Illustrative Only)**

1. Oversees and participates in the design, installation, configuration, operation, modification, and maintenance of television and radio production facilities, including broadcast studios, transmitters, and related lab studios; monitors land mobile and broadcast systems for indications of potential failure; ensures related activities comply with established standards, policies, and procedures.
2. Oversees technical operations and provides technical support for production activities in broadcast studios, master control, satellite operations, video and audio editing, duplication, mobile television production facilities, and other broadcast facilities across campus.
3. Provides complex broadcast engineering support for other areas of the College.
4. Oversees development, modification, operation, and repair of mobile television production truck, satellite, and communication equipment.
5. Installs, maintains, configures, and repairs audio and video recording systems, cameras and monitors, video switchers, audio amplifiers, speakers, microphones, lighting, theatrical rigging, and a variety of other broadcast, performance art, and radio equipment, systems, and devices.
6. Provides technical support for special across campus as needed; coordinates, prepares, and sets-up audiovisual, production, and broadcast equipment and systems for educational activities, conferences, and special events.
7. Provides technical support for all campus two-way radio and communications facilities.
8. Researches, reads, and interprets equipment manuals, schematics, diagrams, and other technical documentation used in the repair and upgrade of land mobile and broadcast facilities.
9. Interfaces and communicates with the Federal Communications Commission (FCC), consultants, and Federal broadcast attorneys; researches, interprets, and applies federal regulations pertaining to assigned area of responsibility.

10. Participates in audio and video production and post-production.
11. Trains employees in work methods, use of equipment, and relevant safety precautions.
12. Reviews maintenance and repair work for accuracy and completeness; inspects and evaluates work in progress and upon completion to ensure assigned maintenance and repair activities are performed in accordance with College standards and Federal rules and regulations.
13. Researches and recommends equipment purchases.
14. Responds to requests for technical assistance and answers questions from faculty and staff or refers to appropriate staff.
15. Participates on committees, task forces, and special assignments, including, but not limited to Screening and Selection Committees and affiliated trainings. Prepares and delivers oral presentations related to assigned areas if needed.
16. Learns and applies emerging technologies and, as necessary, to perform duties in an efficient, organized, and timely manner.
17. Performs other related or lower classification duties as assigned.

## **QUALIFICATIONS**

### **Knowledge of:**

1. Practices, procedures, techniques, tools, and materials used in the design, installation, operation, maintenance, troubleshooting, diagnosis, and repair of broadcast radio and television facilities and Police and Campus Safety communication facilities.
2. Operation and maintenance of radio, video, and communication systems and equipment including digital video and audio routers, multi-viewer systems, digital matrix intercom systems, digital video switchers, studio and broadcast cameras, digital video graphics systems, digital video recording systems, and reinforcement systems digital recording and reinforcement systems.
3. Theory and practice of electrical, electromechanical, and electronic principles in the fields of video and audio communications and radio frequency transmissions.
4. Basic principles, practices, and methods of system integration.
5. Analog and digital electronics and acoustics.
6. Digital signal types and associated standards for video and audio. Essential principles pertaining to the transmission, troubleshooting, and repair of broadcast signals via fiber optic equipment.
7. Operational characteristics of audio, video, communications, and facilities maintenance and repair equipment, including electronic and acoustic instrumentation.
8. Production techniques and procedures for video, audio, media, and broadcast production and post-production.
9. Basic principles and practices of providing technical and functional direction and training to assigned staff.
10. Principles and procedures of record keeping and report preparation.
11. Proper storage and care of equipment and tools.
12. Safe work methods and makes appropriate use of related safety equipment as required.
13. Modern office practices, methods, and computer equipment and applications related to the work.
14. English usage, spelling, vocabulary, grammar, and punctuation.
15. Techniques for effectively representing the College in contacts with governmental agencies, community groups, and various business, professional, educational, regulatory, and legislative organizations.

### **Skills & Abilities to:**

1. Lead and participate in inspecting, troubleshooting, diagnosing, and resolving television, radio, and communication problems and malfunctions.

2. Operate specialized troubleshooting, maintenance, repair equipment and tools, such as waveform monitors, vector scopes, signal analyzers, audio meters, digital voltmeters, network analyzers, fiber optic test equipment, soldering equipment, crimp equipment.
3. Perform or specify electrical power distribution for various projects related to area of assignment.
4. Read, interpret, and apply technical information from manuals, schematics, diagrams, and other technical documentation.
5. Inspect the work of others and maintain established quality control standards.
6. Train others in proper and safe work procedures.
7. Identify and implement effective course of action to complete assigned work.
8. Interpret, apply, and explain applicable Federal, State, and local policies, procedures, laws, and regulations, including FCC rules and regulations.
9. Maintain accurate logs, records, and basic written records of work performed.
10. Enforce and follow department policies and procedures related to assigned duties.
11. Understand and follow oral and written instructions.
12. Organize own work, set priorities, and meet critical time deadlines.
13. Use English effectively to communicate in person, over the telephone, and in writing.
14. Understand scope of authority in making independent decisions.
15. Learn and apply emerging technologies and, as necessary, to perform duties in an efficient, organized, and timely manner.
16. Review situations accurately and determine appropriate course of action using judgment according to established policies and procedures.
17. Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

### **Education and Experience:**

Equivalent to an Associate's degree from a regionally accredited college in electrical engineering or related field and three (3) years of progressively responsible experience in the design, installation, operation, maintenance, troubleshooting, diagnosis, and repair of television and radio communication facilities, systems, and equipment. Additional full time equivalent years of experience can be substituted for the required education on a year-for-year basis up to two (2) years.

### **Licenses and Certifications:**

Possession of, or ability to obtain, a valid California Driver's License by time of appointment.

### **Preferred Qualifications:**

1. Experience managing video and audio routers; and multi-viewer systems; control platforms; digital matrix intercom systems; shared file-based digital asset storage systems; or digital two-way radio systems.
2. Experience with tally, video, camera, amplification, and networking systems; digital audio consoles; video matrices; touch screen control processing; or mobile broadcast environment.
3. Experience with current FM radio and internet radio broadcast systems.

### **PHYSICAL DEMANDS**

Must possess mobility to work in a standard video, audio, media, and broadcast production setting; strength, stamina, and mobility to perform medium to heavy physical work, to climb and descend ladders, to operate varied tools and equipment, and to operate a motor vehicle and visit various College sites; vision to read printed materials and a computer screen; and hearing and speech to communicate in person, before groups, and over the telephone. Finger dexterity is needed to access, enter, and retrieve data using a computer

keyboard or calculator and to operate above-mentioned tools and equipment. Incumbents in this classification bend, stoop, kneel, reach, climb, and walk on uneven surfaces to participate in maintenance and repair activities; and push and pull drawers open and closed to retrieve and file information. Incumbents must possess the ability to lift, carry, push, and pull materials and objects, typically weighing up to 50 pounds, and occasionally heavier weights with the use of proper equipment.

### **ENVIRONMENTAL ELEMENTS**

Incumbents work in standard video, audio, media, and broadcast production environments with moderate to loud noise levels, controlled temperature conditions, exposure to electrical hazards, and no direct exposure to hazardous physical substances. Incumbents may occasionally work outdoors for assigned events and be exposed to loud noise levels, cold and/or hot temperatures, and dust, fumes, and allergens. Incumbents may interact with staff, students, and/or the public in interpreting and enforcing departmental policies and procedures.

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