

## **SOUTHWESTERN COMMUNITY COLLEGE DISTRICT**

### **CLASS TITLE: LOW VOLTAGE SYSTEMS TECHNICIAN/ELECTRICIAN**

#### **SUMMARY DESCRIPTION**

Under general supervision of the Maintenance Supervisor, perform skilled maintenance on fire and intrusion alarms; work in the installation, maintenance, and repair of electrical systems and equipment including low voltage and related systems; troubleshoot, diagnose, and calibrate electrical equipment and systems; perform predictive, preventative, and corrective maintenance as assigned; ensure compliance with safety codes and District standards; and assist in performing other skilled and semi-skilled maintenance duties as assigned.

#### **DISTINGUISHING CHARACTERISTICS**

This is a journey level classification with primary responsibility for performing work on low voltage systems and secondary responsibility for working on electrical systems. Incumbents work with increasing independence as greater breadth and depth of SWC systems is acquired, are expected to maintain current knowledge of system requirements and emerging trends in the field of fire and intrusion systems, and provide assistance to other skilled and semi-skilled workers as needed.

#### **REPRESENTATIVE DUTIES**

*The following duties are typical for this classification. Incumbents may not perform all of the listed duties and/or may be required to perform additional or different duties from those set forth below to address business needs and changing business practices.*

1. Utilize desktop and laptop computers, manufacturers' programmers, and specialized software to write and download alarm programs into networked and local fire and intrusion alarm systems; program and install communication equipment used for data transmission for fire alarm and intrusion systems networked with the Campus Dispatch Center; program, service, and install complete addressable and conventional fire alarm and intrusion systems as required.
2. Inspect, repair, install, service, and maintain fire alarm, intrusion alarm and electrical systems including conduit and duct systems, lighting and power circuits, transformers, generators, control equipment, switchers, switch boards, fire and intrusion alarms, smoke control systems, fans, fixtures, bell and buzzer systems, clocks, and related electrical devices and systems.
3. Update, monitor, and maintain system configurations for all alarm points; respond to trouble conditions and investigate ground faults and fire alarm control panel wiring issues; maintain communication with Campus Police to resolve/reset false alarm conditions.
4. Observe and comply with federal, state, and local codes including fire, life/safety and electrical codes.
5. Operate a variety of tools and power equipment including electronic tester, pipe bender, multimeter and other maintenance tools and equipment.
6. Read, interpret, and work from sketches, schematics, plans, drawings, blueprints, and specifications.
7. Install, troubleshoot, repair, and/or replace interior and exterior wiring for equipment, appliances, lighting, FA panels and batteries, external horn/strobe devices, intrusion system, access control systems, and related systems and equipment; replace fuses.
8. Install, troubleshoot, and perform repair and preventive maintenance of electrical systems for lighting, heating, ventilation, and air conditioning systems, smoke detectors, power supplies, control/relay modules, and other low voltage systems.
9. Prepare cost estimates for repairs and order materials needed; order materials and provide for a properly supplied maintenance vehicle; maintain and monitor Computerized Maintenance Management System (CMMS) inventory control related to material received and used.
10. Diagnose and resolve difficult fire and intrusion alarms systems, electrical problems; call vendors as necessary; observe safety of others and recommend precautionary action if necessary while repairs are in progress.

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11. Inspect College buildings and off-site Higher Education Centers; develop and implement preventive maintenance plan for fire and intrusion alarms as well as electrical systems utilizing the CMMS software.
12. Prepare and maintain a variety of written records and reports; prepare progress reports on projects; maintain asset management and preventive maintenance program records as required.
13. Perform occasional welding, soldering, and brazing operations incidental to electrical duties.
14. Assist in performing other skilled and semi-skilled maintenance duties as assigned including to assist in air conditioning troubleshooting and repair as assigned.
15. Assist in designing and installing new fire and intrusion alarms systems, electrical systems as necessary.
16. Meet with consultants, vendors, and contractors to provide information on fire and intrusion alarms systems, electrical issues; respond to questions and inquires as necessary.
17. Perform related duties and responsibilities as assigned.

**KNOWLEDGE AND ABILITIES**

**Knowledge of:**

Operational characteristics of a variety of electrical and electronic systems and internal components.

Operational characteristics of computer data communications, access control system, and intrusion/fire life/safety systems.

Principles of electrical and electronic repair.

Methods, techniques, practices, equipment, and tools used in the installation, repair, and maintenance of alarm systems, access control systems and electronic systems including lighting circuitry, wiring systems, conduit systems, and electrical mechanisms.

Electrical theory and calculation of formulas; basic principles of mathematics.

Use and maintenance of a variety of power and hand tools including instrumentation equipment and precision tools.

Operating characteristics and application of electronic and electrical test equipment.

Preventive and corrective maintenance techniques.

Blueprint schematics and symbol identification.

Office procedures, methods, and equipment including computers.

Principles and procedures of record keeping.

Occupational hazards and standard safety practices; precautions necessary for working with electricity.

Pertinent federal, state and local codes, laws, and regulations including fire and life safety codes as well as Cal/OSHA safety rules, regulations, and other safe work practices.

**Ability to:**

Perform a variety of installation, repair, and maintenance duties on electrical and electronic equipment and systems.

Install, troubleshoot, maintain, and repair various types of electrical equipment and motors including lighting circuitry, fire and alarm systems, conduit systems, and electrical control mechanisms.

Operate a variety of hand and power electrical testing, maintenance, repair, and installation equipment and tools competently and in a safe and effective manner including voltmeter and ohm meter

Operate a light truck and hydraulic truck lifts.

Read, interpret, and work from blueprints, electrical diagrams and schematics, and manufacturer instructions and directions.

Read, interpret, and follow rules, regulations, policies, and procedures; perform assigned work in accordance with appropriate safety practices and regulations.

Perform arithmetic calculations related to specialty quickly and accurately.

Understand and follow oral and written instructions.

Work independently with little direction.

Prioritize and schedule work; meet schedules and time lines.

Analyze situations accurately and adopt an effective course of action.

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- Operate office equipment including computers.
- Maintain required work logs, records, and related operational and maintenance data.
- Prepare clear and concise written reports.
- Perform other skilled and semi-skilled maintenance work as assigned.
- Work with and exhibit sensitivity to and understanding of the diverse racial, ethnic, disabled, sexual orientation, and cultural populations of community college students.
- Communicate clearly and concisely, both orally and in writing.
- Establish and maintain effective working relationships with those contacted in the course of work.

**EDUCATION AND EXPERIENCE**

Any combination equivalent to: graduation from high school supplemented by technical training in low voltage systems including fire alarm panels, intrusion alarms and access control systems, electrical technical training, and four years of related experience

**LICENSE OR CERTIFICATE**

Valid California driver's license and a safe driving record.

Highly desirable certifications:

- Certified Electrical Safety Worker (CESW)
- Honeywell Fire Detection Systems: Fundamentals – XLS140/XLS3000 System Programming, Commissioning and Implementation

or similar certifications that demonstrate the requisite knowledge and skills.

**PHYSICAL DEMANDS AND WORKING ENVIRONMENT**

*The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions.*

**Environment:** Work is performed in both indoor and outdoor environments; travel from site to site; exposure to noise, dust, grease, smoke, fumes, electrical energy, and all types of weather and temperature conditions; work at heights on scaffolding and ladders; work and/or walk on various types of surfaces including slippery or uneven surfaces. Incumbent may be required to work evenings, nights, and weekends.

**Physical:** Primary functions require sufficient physical ability and mobility to perform moderately strenuous manual labor; walk, stand, and sit for prolonged periods of time; frequently stoop, bend, kneel, crouch, reach, and twist; lift, carry, push, and/or pull light to moderate amounts of weight; dexterity of hands and fingers to operate specialized hand and power tools and equipment; operate assigned equipment and vehicles; and to verbally communicate to exchange information.

**Vision:** See in the normal visual range with or without correction; vision abilities required by this job include close, distance, and peripheral vision, color perception, depth perception, and the ability to adjust focus and to operate assigned equipment.

**Hearing:** Hear in the normal audio range with or without correction.