

## ELECTRICAL AND ELECTRONIC INSTRUMENTS AND CONTROLS SERIES

<u>Code No.</u>	<u>Class Title</u>	<u>Occ. Area</u>	<u>Work Area</u>	<u>Prob. Period</u>	<u>Effective Date</u>	<u>Last Action</u>
2582	Electrical and Electronic Instruments and Controls Mechanic	14	023	6 mo.		Rev.
1632	Electrical and Electronic Instruments and Controls Mechanic Foreman	14	023	6 mo.		Rev.

### Promotional Line: 312

#### Series Narrative

Employees in this series install, repair, and maintain electrical and electronic systems and related equipment (such as computer based building access and security systems, switching systems, and paging systems).

#### DESCRIPTIONS OF LEVELS OF WORK

#### Level I: Electrical and Electronic Instruments and Controls Mechanic 2582

Employees at this level of the series are responsible for installing, repairing, and maintaining electrical and electronic systems, instruments, and equipment. They work under the direct supervision of an Electrical and Electronics Instruments and Controls Foreman.

An Electrical and Electronic Instruments and Controls Mechanic typically –

1. inspects and adjusts electrical and electronic control devices and instruments (such as infrared intrusion detectors and flow switches); **responsible for all electronic and electric controls and the inspection of devices**
2. **designs, develops, and implements building automation systems, various building automation hardware and computer software systems keeping energy conservation and efficiency in mind at all times**
3. installs, repairs, and maintains, **overhauls** electrical and electronic control devices and instruments (such as thermostats, relays, motors, and flow meters, **connections for voice and data services that utilize campus cable facilities, data communication cabling networks, telephone sets, wired, cable, consoles, CRTS, power packs, etc.)**
4. **troubleshoots, repairs and/or coordinates the repair of building automation system's console equipment including printed circuit boards, modems, and data circuits;** diagnoses and remedies defects in control systems and other instrumented systems
5. **recommends improvement to existing building automation systems and associated hardware consistent with campus efforts to have all university building systems fully automated; develops specification for repair and/or replacement of equipment in conjunction with other departments**
6. assists in the preparation of estimates for contemplated overhaul, repair, or replacement of electrical and electronic equipment and systems

7. coordinates standing order service contract work on the computer and associated peripherals; coordinates personnel when needed for additions and modifications of building automation systems
8. assists in the preparation of material orders for purchase of equipment or repair parts
9. assigns and directs work of apprentices in this classification
10. trains others in electrical and mechanical aspects of this equipment
11. maintains records and prepares reports on repairs accomplished or devices requiring special attention
12. makes periodic safety checks on all fire alarm systems, smoke detectors, civil defense sirens, check on flow switches in campus sprinkler system
13. performs other related duties as assigned

**Level II: Electrical and Electronic Instruments and Controls Mechanic Foreman 1632**

Employees at this level are responsible for the direct supervision of, and coordination of work performed by, Electrical and Electronic Instruments and Controls Mechanics. They work under the general supervision of a designated supervisor.

An Electrical and Electronic Instruments and Controls Mechanic Foreman typically –

1. directs and supervises the work of Electrical and Electronic Instruments and Controls Mechanics installing, repairing, and maintaining electrical and electronic systems, instruments, and equipment
2. determines need for and requisitions parts and equipment necessary to perform various maintenance tasks
3. verifies and approves work order numbers and hours charged on employee time cards
4. prepares estimates for contemplated overhaul, repair, and replacement of electrical and electronic equipment and systems
5. verifies and approves materials used; reorders to maintain shop inventory
6. maintains overtime, cost, repair, and other job-related records
7. performs duties of lower level of this series
8. performs other related duties as assigned

MINIMUM ACCEPTABLE QUALIFICATIONS REQUIRED FOR ENTRY INTO:**Level I: Electrical and Electronic Instruments and Controls Mechanic****2582**

## CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. Experience sufficient to qualify as a journeyman electrician, with a minimum of four years of actual work in the trade, which may include apprentice and/or vocational training. *The trade for this purpose shall include work normally performed by Electrician, Maintenance Electrician, Journeyman Electrician, Inside Wireman, Control Electrician, Electrician Technician, Industrial Electrician, Journeyman Wireman Communication Journeyman, and any other classifications encompassed within the scope of work included in these trade categories.*
2. Three (3) years of experience/training in the maintenance of electrical and electronic systems, telecommunications systems, etc. that was gained in the last five (5) years. This experience/training may include experience/training used to satisfy Credential Requirement #1 above.

*Note: Completion of International Brotherhood of Electrical Workers' (IBEW) Communications Program with possession of a C-Card (Communications certification. ) or possession of Building Industry Consulting Services International (BICSI)'s ITS Technician credential or completion of BICSI's ITS Technician's continuing education/training within the last three (3) years may be substituted for Credential Requirement # 1 above .)*

## KNOWLEDGE, SKILLS AND ABILITIES (KSAs)

1. Knowledge of the principles of electrical and electronic systems
2. Knowledge of digital or analog circuits and uniform wiring methods for telecommunications or data channels
3. Skill in the use of tools and electronic test equipment
4. Ability to diagnose and correct defects in electrical and electronic instruments and control systems
5. Ability to organize circuit analysis in a logical manner
6. Ability to read and understand electronic schematics, prints, and cable configuration drawings.
7. Ability to install electrical and electronic instruments and control systems from sketches, diagrams, detailed drawings, or specifications

**Level II: Electrical and Electronic Instruments and Controls Mechanic Foreman****1632**

## CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. Experience sufficient to qualify as a journeyman electrician, with a minimum of four years of actual work in the trade, which may include apprentice and/or vocational training. *The trade for this purpose shall include work normally performed by Electrician, Maintenance Electrician, Journeyman Electrician, Inside Wireman, Control Electrician, Electrician Technician, Industrial Electrician, Journeyman Wireman, Communication Journeyman, and any other classifications encompassed within the scope of work included in these trade categories.*
2. Five (5) years of experience/training in the maintenance of electrical and electronic systems, telecommunications systems, etc. that was gained in the last seven (7) years. This experience/training may include experience/training used to satisfy Credential Requirement #1 above.

*Note: Completion of International Brotherhood of Electrical Workers (IBEW) Communications Program with possession of a C-Card (Communications certification. ) or Possession of Building Industry Consulting Services International (BICSI)'s ITS Technician credential or completion of BICSI's ITS Technician's continuing education/training within the last three (3) years may be substituted for Credential Requirement # 1 above .)*

## KNOWLEDGE, SKILLS AND ABILITIES (KSAs)

1. Supervisory ability
2. Record keeping ability
3. Knowledge of the principles of electrical and electronic systems
4. Knowledge of digital or analog circuits and uniform wiring methods for telecommunications or data channels
5. Skill in the use of tools and electronic test equipment
6. Ability to diagnose and correct defects in electrical and electronic instruments and control systems
7. Ability to organize circuit analysis in a logical manner
8. Ability to read and understand electronic schematics, prints, and cable configuration drawings
9. Ability to install electrical and electronic instruments and control systems from sketches, diagrams, detailed drawings, or specifications