

Electrical Systems for Facilities Maintenance 1

2 Days

Hybrid Course – Physical Hands-On Class with
Optional Free Online Course

In this course, students will gain valuable experience in working with electrical circuits and components. The course covers all aspects of electricity, including Ohm's Law, terminology, common circuits, and test equipment. Students will have "Real World" experience building and understanding commonly used circuits. They will learn how to properly use test equipment to measure current, voltage and resistance.

We will cover standard electrical systems and the different voltages that serve buildings.

Scope

POWER TRANSMISSION AND DISTRIBUTION SYSTEMS

- Generators
- Transmission Substations
- Transmission lines
- Distribution Substations
- Distribution lines
- Electrical Services
- Building Power Requirements
- Building Voltage-level Requirements
- Switchgear /Switchboards
- Transformers
- Power Protection and Monitoring
- Automatic Transfer Switches
- Feeder Panels
- Conduit and Busway Systems
- Motor Control Centers
- Panelboards and Branch Circuits
- Receptacles
- Building Distribution System Drawings

PRACTICING ELECTRICAL SAFETY

- Safety Labels
- Electrical Shock
- Arc Flash and Arc Blast
- Personal Protective Equipment
- Lockout/Tagout
- Basic First Aid
- Fire Extinguishers
- Grounding for Property and Equipment Safety
- Double-Insulated (1000 V) Electric Safety Tools
- Fuses, Circuit Breakers, and Overload Protection

ELECTRICAL QUANTITIES AND CIRCUITS

- DC Voltage
- AC Voltage
- Voltage Problems
- Direct Current
- Alternating Current
- Current Problems
- Resistive Circuits
- Ohm's law and Impedance
- True Power
- Reactive Power
- Apparent Power
- Phase Shift
- Power Formula
- Series Circuits
- Parallel Circuits
- Series-Parallel Circuits
- Magnetism
- Electro- magnetism
- Electric Circuit Sections

USING ELECTRICAL TEST INSTRUMENTS

- Test Instrument Usage
- Test Instrument Terminology
- Test Instrument Abbreviations
- Test Instrument Symbols
- Voltage Testers
- Digital Multimeters
- Multimeter Resistance Measurement
- Multimeter Current Measurement
- Multimeter Voltage Measurement
- Megohmmeters
- Megohmmeter Measurement Procedure

Class Options:

2-Day Class Electrical Systems for Facilities Maintenance 2

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