



AUTOMATION | ELECTRICAL  
DATA COMM & SECURITY  
INDUSTRIAL & SAFETY  
FLUID POWER

## INDUSTRIAL & SAFETY

TUES. SEPT. 20

8 AM - 4 PM

SMC SEDALIA  
1616 W. MAIN ST.  
SEDALIA, MO 65301

# NFPA 70E - ELECTRICAL SAFETY & ARC FLASH COMPLIANCE

## TRAINING EVENT

This course is designed for electrical engineers, safety managers, electricians, electrical contractors, plant managers, facility maintenance personnel, electrical inspectors, risk managers, and project managers. In this course, you will learn 2021 NFPA 70E fundamentals.

We will review the NFPA 70E 2021 updates and comparisons to 2018 standards. Students will learn the best practices for Electrical Safe Work, Electrical Hazards, Safety Maintenance Practices. In this course, you will cover:

- Establishing electrical safe work conditions
- Explain Article 100 definitions
- Cover consensus standards: ASTM, IEEE, ANSI
- Describe the relationship between voltage, current, and resistance in an electrical system
- Identify the three main electrical hazards and explain their significance
- Explain the significance of fault current in electrical systems and its relationship to electrical safety
- Identify several types of electrical hazard controls and describe their benefits and limitations
- Review labeling requirements for electrical equipment
- Selection of proper PPE
- Test instruments procedures for safe use
- Energized electrical work permits
- Use of temporary grounding

**Upon completion of this course, you will receive a certificate of completion to remain in compliance.**



COST

\$600 Per Student  
Includes lunch



REGISTER

To register, contact Ashli Anderson  
at [aanderson@smcelectric.com](mailto:aanderson@smcelectric.com) by Tuesday, August 23.

# COURSE AGENDA

---

## SCHEDULE

- Introduction
- How does Electricity Act
  - Types of Electrical Hazards
    - Shock
    - Difference of Potential
    - How is an Electrical Shock Received?
    - Dangers of Electrical Shock
- Arc
  - Determining the Degree of Arc Hazards
  - Arc Faults
  - Bolted Faults
  - Warning Label
  - Blast
  - Incident Energy
  - NFPA70E Hazard Categories
- Test Instruments & Equipment
  - Safeguards for Personal Protection
    - Use of Protective Equipment
      - Types of PPE
    - Insulated Tools
    - Meter safety and usage
    - Meter transient protection
    - Usage of temporary grounding
- Arc Flash analysis
  - What is it?
  - Basics of how it is calculated
  - Important considerations
  - Methods to reduce calorie ratings
- Safe Work Practices
  - Establishing electrically safe work conditions
    - Procedures
- Personal Protection
  - Approach Boundaries
  - Flash Approach Boundary
  - Selection of Personal Protective Equipment
    - Personal Protective Equipment Required for Various Tasks
  - Protective Clothing & Personal Protective Equipment
  - Simplified Two-Category, Arc Rated Clothing System
  - Testing and Inspection Intervals
- Warning Label
  - Discuss critical information required
- Energized Work Permit
  - Procedures for utilizing this permit and when they are allowed