

NFPA® 70E – 2021 Electrical Safety

2 Days, 1.4 CEUs

The NFPA® 70E Standard for Electrical Safety in the Workplace has been updated for 2021. This updated standard contains significant changes when compared to the 2018 version. The course covers the requirements for working safely in the electrical environment based on the NFPA® 70E. Understanding this standard is imperative for compliance with the OSHA® mandates regarding electrical safety in the workplace. OSHA® specifically mandates employer assessment of generally recognized hazards in the workplace, and provisions for protecting the employee from those hazards.

The NFPA® 70E is updated to reflect ongoing research to improve electrical safe work practices and PPE. OSHA® compliance and a safe workplace are the desired outcomes. NFPA® 70E provides the directions on how to achieve that outcome. Fewer electrical accidents are in everyone's best interest.

This two-day course is intended for any qualified personnel who work on or around AC or DC voltages of 50 volts or more, or that are responsible for safety in the workplace. Personnel in any industry where the hazards of electricity are a reality will benefit from this knowledge. This course assists in meeting the mandated training requirements of OSHA® 1910.332. Participants will receive the 2021 edition of the NFPA® 70E.

Lab and Classroom Attire

AVO is committed to the personal safety of each participant and requires long pants and ANSI rated "safety toe" work shoes for class and lab activities. Lecture courses may involve a tour of a work or shop area and for this reason open toe shoes and shorts are not considered appropriate attire for the classroom.

Learning Objectives

To receive 1.4 CEUs, participants must attend 2 days of class (14 contact hours) and attain a minimum grade of 80% on the final exam. Upon completion of this course, the participant will demonstrate that he/she is able to:

- Outline the arrangement of the material in the NFPA® 70E.
- Explain the hazards of electrical work and their effects on the employee.
- Summarize the requirements for establishing an electrically safe work condition.
- Establish the requirements for a shock risk and arc flash assessment.
- Implement approach boundaries for shock protection and arc flash hazard for qualified and unqualified employees.
- Select personal protective equipment for shock and arc flash protection.
- Practice safe work practices if an arc flash hazard is present.

SCOPE

Day 1* (7 contact hours)

- I. Introduction - Electrical Safety
- II. Article 90 & Chapter 1, Article 100
 - A. Article 90, NFPA® 70E Introduction
 - B. Article 100, Definitions
- III. Chapter 1, Article 105
 - A. Recognized Hazards of Electrical Work
 - B. Responsibilities of Employers and Employees

- IV. Chapter 1, Article 110
 - A. Electrical Safe Work Condition
 - B. Energized Work
 - C. Electrical Safety Program
 - D. Training Requirements
 - E. Host/Contractor Responsibilities
 - F. Test Instruments and Equipment
 - G. Portable Cord- and Plug-Connected Electric Equipment

- H. Ground-Fault Circuit-Interrupter (GFCI) Protection
- I. Overcurrent Protection Modification
- J. Equipment Use
- V. Chapter 1, Article 120 (1.5 hrs)
 - A. LOTO Program
 - B. LOTO Principles
 - C. LOTO Equipment
 - D. LOTO Procedure
 - E. LOTO Process

*Class scheduling times may vary based on discussions and size of class

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SCOPE (continued)

Day 2 (7 contact hours)

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| <ul style="list-style-type: none">VI. Chapter 1, Article 130<ul style="list-style-type: none">A. Work Involving Electrical HazardsB. Energized Electrical Work PermitC. Electrical Shock Risk AssessmentD. Arc Flash Risk AssessmentE. Personal and Other Protective EquipmentF. Other Precautions for Personnel ActivitiesG. Overhead LinesH. Underground Electrical Lines and EquipmentI. Cutting or Drilling | <ul style="list-style-type: none">VII. Chapter 2 Safety-Related Maintenance Requirements<ul style="list-style-type: none">A. IntroductionB. General Maintenance RequirementsC. Substations, Switchgear, etc.D. Premises WiringE. Controller EquipmentF. Fuses and Circuit BreakersG. Rotating EquipmentH. Hazardous LocationsI. Batteries and Battery RoomJ. Portable Electric Tools and EquipmentK. Personnel Safety and Protective Equipment | <ul style="list-style-type: none">VIII. Chapter 3 Safety Requirements for Special Equipment<ul style="list-style-type: none">A. IntroductionB. Safety Related Work Practices for:<ul style="list-style-type: none">Electrolytic CellsBatteries and Battery RoomsLasersPower Electronic EquipmentR&D LabsCapacitorsIX. Overview of Informative AnnexesX. Conclusion<ul style="list-style-type: none">A. ReviewB. Final Exam |
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STANDARD EQUIPMENT LIST

NFPA 70E® - ELECTRICAL SAFETY

REVISED JULY 27, 2022
COURSE NUMBER 431-2021
2 DAY

BY: G. RICHMOND

TEXT

1 / STUDENT

NFPA 70E® 2021 *STANDARD FOR
ELECTRICAL SAFETY IN THE WORKPLACE®*

1 / STUDENT

STUDENT PACKET

1 / STUDENT

AVO BOOK NFPA 70E – 2021 ELECTRICAL SAFETY,
OCTOBER 2020

FOR VIRTUAL CLASSES:
CONTENT MATERIAL WILL BE PROVIDED IN DIGITAL FORMAT