**Course Name:** **NFPA 70E Review**

**Credit Hours:** 4 hours

**Course Description:** This course is based on the latest version of the NFPA 70E.

**Course Objectives:** After completing this course, the licensee will be able to apply information from the NFPA 70E and understand the most common aspects of the code. All electricians should have a solid understanding of the NFPA 70E and the recent changes.

**Method of Presentation:** This course is available via correspondence booklet. Each section in the booklet includes commentary and multiple-choice questions. The student will be required to provide their state license number as part of registration.

**Method of Evaluation:** The licensee must complete all 100 multiple choice questions with a score of 75% or better in order to receive credit for the course.

**Course Outline:**

*NFPA 70E* Standard for Electrical Safety in the Workplace:

* 1. **Standard Arrangement**
	2. **Organization Informative annexes**

**10 minutes**

# Chapter 1

Definitions:

Qualified Person Risk

Risk Assessment ARTICLE 105

Application of Safety-Related Work Practices

105.3 Responsibility ARTICLE 110

General Requirements for Electrical Safety-Related Work Practices

110.1 Electrical Safety Program

1. **Maintenance.**
2. **Awareness and Self-Discipline**
3. **Electrical Safety Program Principles Informational Note**
4. **Electrical Safety Program Controls Informational Note**
5. **Electrical Safety Program Procedures Informational Note**

ARTICLE 120

Establishing an Electrically Safe Work Condition

120.2 De-energized Electrical Equipment That Has Lockout/Tagout Devices

Applied. (B) Principles of Lockout/Tagout Execution. (1) Employee Involvement

Informational Note

120.2 De-energized Electrical Equipment That Has Lockout/Tagout Devices Applied. (B) Principles of Lockout/Tagout Execution.

(B) (3) Retraining.

(B) (4) Training Documentation.

Informational Note

30 minutes

# Chapter 2

250.1 Maintenance Requirements for Personal Safety and Protective Equipment

250.4 Test Instruments

5 minutes

# Chapter 3

ARTICLE 320

Safety Requirements Related to Batteries and Battery Rooms

320.3 Safety Procedures. (A) General Safety Hazards. (1) Battery Risk Assessment

ARTICLE 330

Safety-Related Work Practices for Use of Lasers

* 1. **Safety Training.**
1. **Personnel to Be Trained**
2. **Scope of Training**
	1. **Safeguarding of Employees in the Laser Operating Area.**
3. **Eye Protection**
4. **Warning Signs**
5. **Master Control**
6. **High-Power Radiation Emission Warning**
7. **Beam Shutters or Caps**
8. **Aiming**
9. **Label**
10. **Personal Protective Equipment (PPE)**

**ARTICLE 340**

Safety-Related Work Practices: Power Electronic Equipment.

340.7 Specific Measures for Personnel Safety

1. **Employer Responsibility**
	1. **Scope**
	2. **Definitions Field Evaluated Laboratory**
	3. **Specific Measures and Controls for Personnel Safety**
	4. **Listing Requirements.**

35 minutes

# Informative Annex C Limits of Approach

C.1 Preparation for Approach.

C.1.2.1

C.1.2.2

C.1.2.3

* + - 1. **Column 1**
			2. **Column 2**

25 minutes

# Informative Annex D Incident Energy and Arc Flash Boundary Calculation Methods

D.1 Introduction

D.2.1 Basic Equations for Calculating Arc Flash Boundary Distances.

D.4.5 Arc Flash Boundary.

D.5.3 Short Circuit Current

20 minutes

# Informative Annex E Electrical Safety Program

* 1. **Typical Electrical Safety Program Principles**
	2. **Typical Electrical Safety Program Controls**
	3. **Typical Electrical Safety Program Procedures**

15 minutes

# Informative Annex F Risk Assessment Procedure

* + 1. **Parameters Used in Risk Estimation**.
		2. **Severity of the Possible Injury or Damage to Health (Se)**

F.2.4.1 Frequency and Duration of Exposure (Fr)

Table F.2.4.2 Likelihood of a Hazardous Event (Pr) Classification

F.2.4.3

F.3.1.2 Awareness Devices

F.3.1.5 Personal Protective Equipment (PPE)

* + - 1. **Design — Use of Engineering Controls.**
			2. **Use of Systems that Increase Awareness of Potential Hazards.**

25 minutes

# Informative Annex G: Sample Lockout/Tagout Procedure

1.0 Purpose

2.0 Responsibility 3.4

5.4

6.1

6.6 Remove lockout/tagout devices

9.0 Complex Lockout/Tagout 9.2

9.5

13.0 Lockout/Tagout Training

20 minutes

# Informative Annex H Guidance on Selection of Protective Clothing and Other Personal Protective Equipment (PPE)

# H.3

5 minutes

# Informative Annex K General Categories of Electrical Hazards

* 1. **General Categories**
	2. **Electric Shock**
	3. **Arc Flash**
	4. **Arc Blast**

15 minutes

# Informative Annex L Typical Application of Safeguards in the Cell Line Working Zone

L.2 Electrical Power Receptacles

5 minutes

# Informative Annex M Layering of Protective Clothing and Total System Arc Rating

M.1.1

5 minutes

# Informative Annex N Example Industrial Procedures and Policies for Working Near Overhead Electrical Lines and Equipment

N.2 Overhead Powerline Policy (OPP)

N.4.3.1 Heavy Mobile Equipment

N.4.5 Vehicles with Loads in Excess of 4.25 m (14 ft) in Height

10 minutes

# Informative Annex O Safety-Related Design Requirements

O.2.1

O.2.2

* + 1. **Incident Energy Reduction Methods**
		2. **Other Methods**.

10 minutes

# Informative Annex P Aligning Implementation of This Standard with Occupational Health and Safety Management Standards

P.1 General

5 minutes