

Hands-On

# Low Voltage Qualified Based on the NFPA 70E Standard



## Course Description

This low voltage qualified course focuses on electrical safety training for employees who work on 600V and below. This NFPA 70E based course goes beyond the theoretical to give attendees a complete understanding of the rules and regulations relating to electrical and arc flash safety and how to apply them in real-world situations.

Based on the 2018 NFPA 70E, this course helps you and your employees stay compliant with OSHA regulations, and provides updates from the 2015 NFPA 70E to the 2018 version.

This course is current with the NFPA 70E Standard and OSHA Regulations (as applicable)

## Students Will Learn

- Practical compliance with NFPA 70E electrical safety in the workplace
- How to do table-based hazard assessments using NFPA 70E
- How to choose Personal Protective Equipment (PPE) based on the NFPA 70E tables
- Differences between the NEC, NESC, NFPA 70E and OSHA standards
- PPE do's and don'ts for workers exposed to shock and electric arc hazards
- Standards to use in clothing and PPE selection
- Explanations of arc ratings ATPV and EBT, and how they are applied
- The ins and outs of flame resistant (FR), arc-rated (AR) clothing and other shock and arc PPE
- And more...

## Target Audience

Safety directors, Electrical contractors, Maintenance electricians, Linemen, Owners and managers

## Prerequisites

None.

## Course Outline

### Module 1. Electrical Safety Facts/Risks

### Module 2. Electrical Related Government Regulations & Standards

Applicable: NFPA 70E/OSHA ?  
How Standards Are Used ?  
Key Definitions/Issues

?

### Module 3. Shock Hazards & Protection Strategies

Types ?  
Understanding Shock ?  
Variables Impacting Hazard ?  
Protection Boundaries ?  
Voltage Rated Gloves and Other Shock PPE ?  
Rated Insulated Tools and Other Equipment

?

### Module 4. Arc Flash Hazards & Protection Strategies

Causes/Types ?  
Arc Blast ?  
Common Places ?  
Mitigating Hazard through Engineering Design and Work Methods ?  
Arc Flash Boundaries ?  
Practical Application

### Module 5. Arc Rated Personal Protective Equipment

Overview ?  
Protecting Head, Hands and Feet ?  
PPE Programs: Categories, Levels, Systems ?  
Environmental Considerations ?  
PPE Guidelines and Maintenance

### Module 6. Job Planning

Elements of Safety Planning ?  
Job Briefing ?  
Energized Electrical Work Permit

### ?Module 7. Risk Assessment

Components of Assessment ?  
Methods: Tables or Incident Energy Calculations ?  
Labeling ?  
Steps to Determine PPE Required ?  
Task Assessment Exercise

## **?Module 8. Safety Related Work Practices ?**

- Defining Electrically Safe Work Condition
- Identifying and Securing Boundaries
- Tools and Equipment
- Best Practices for Lock Out/Tag Out, Verifying De-energization and LV Grounding
- Situational Conditions (Overhead, Underground, etc)
- Special Equipment?
- Training?
- Administrative Guidelines?
- Recognizing Hazards and Poor Work Practices

## **Notes**

Where in the NFPA 70E does it say that I need retraining every 3 years?

110.2 (A)(3) Retraining. Retraining in safety-related work practices and applicable changes in this standard shall be performed at intervals not to exceed 3 years. (NFPA 70E, 2018)

## **Delivery Method**

Instructor-Led with numerous exercises.

## **Equipment Requirements**

**(This apply's to our hands-on courses only)**

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

## **Course Length**

1 Day