

## Washtenaw Community College Comprehensive Report

### UAT 163 NFPA® 70E® Electrical Safety (UA 2163)

**Effective Term: Spring/Summer 2023**

#### Course Cover

**College:** Advanced Technologies and Public Service Careers

**Division:** Advanced Technologies and Public Service Careers

**Department:** United Association Department

**Discipline:** United Association Training

**Course Number:** 163

**Org Number:** 28200

**Full Course Title:** NFPA® 70E® Electrical Safety (UA 2163)

**Transcript Title:** NFPA 70E Electric Safety 2163

**Is Consultation with other department(s) required:** No

**Publish in the Following:**

**Reason for Submission:** New Course

**Change Information:**

**Rationale:** New United Association course

**Proposed Start Semester:** Spring/Summer 2023

**Course Description:** In this course, students will identify electrical safety hazards in the workplace to reduce or eliminate workers' exposure to those hazards. Students will participate in instructional activities including hands-on exercises, videos, and review of relevant policies and procedures in compliance with Occupational Safety and Health Administration (OSHA) 1910 Subpart S and OSHA 1926 Subpart K and National Fire Protection Association (NFPA)® 70E®. Students will create a project safety plan for jobsite electrical hazards. Upon successful completion of this course, students will be prepared to facilitate the 1-Day NFPA 70 E class. Limited to United Association program participants.

#### Course Credit Hours

**Variable hours:** No

**Credits:** 1.5

**The following Lecture Hour fields are not divisible by 15: Student Min ,Instructor Min**

**Lecture Hours: Instructor: 22.5 Student: 22.5**

**The following Lab fields are not divisible by 15: Student Min, Instructor Min**

**Lab: Instructor: 1.5 Student: 1.5**

**Clinical: Instructor: 0 Student: 0**

**Total Contact Hours: Instructor: 24 Student: 24**

**Repeatable for Credit:** NO

**Grading Methods:** Letter Grades

Audit

**Are lectures, labs, or clinicals offered as separate sections?:** NO (same sections)

#### College-Level Reading and Writing

College-level Reading & Writing

#### College-Level Math

#### Requisites

## **General Education**

### **Degree Attributes**

Below College Level Pre-Reqs

## **Request Course Transfer**

### **Proposed For:**

## **Student Learning Outcomes**

1. Identify applicable job site requirements and compliance with NFPA® 70E® standards, OSHA 1910, Subpart S, and OSHA 1926, Subpart K.

### **Assessment 1**

Assessment Tool: Outcome-related quiz

Assessment Date: Spring/Summer 2023

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Answer key

Standard of success to be used for this assessment: 80% of the students will score 80% or higher.

Who will score and analyze the data: U.A. Instructors

2. Demonstrate the required NFPA Electrical Safety employee training for workplace safety.

### **Assessment 1**

Assessment Tool: Outcome-related demonstration

Assessment Date: Spring/Summer 2023

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Checklist

Standard of success to be used for this assessment: 80% of the students will score 80% or higher.

Who will score and analyze the data: U.A. Instructors

3. Recognize and demonstrate the required NFPA Lockout/Tagout Procedure training as it relates to workplace safety.

### **Assessment 1**

Assessment Tool: Outcome-related demonstration

Assessment Date: Spring/Summer 2023

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Checklist

Standard of success to be used for this assessment: 80% of the students will score 80% or higher.

Who will score and analyze the data: U.A. Instructors

4. Present a five-minute lesson plan for NFPA Emergency Response Training as it applies to electrical hazards.

### **Assessment 1**

Assessment Tool: Presentation

Assessment Date: Spring/Summer 2023

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: SII

How the assessment will be scored: Rubric

Standard of success to be used for this assessment: 80% of the students will score 80% or higher.

Who will score and analyze the data: U.A. Instructors

### Course Objectives

1. Discuss the history of electrically safe working conditions and jobsites.
2. Review the purpose and reasons for NFPA and OSHA regulations and procedures.
3. Review the electrical policies and procedures in NFPA 70E along with the OSHA 1910 Subpart S and OSHA 1926 Subpart K.
4. Identify and demonstrate the donning of personal protective equipment (PPE) including arc flash, insulating, and shielding materials.
5. Review and demonstrate the precautionary procedures and techniques involved in working around electrical hazards.
6. Review and demonstrate insulating tools and test equipment when working with live electrical sources.
7. Explain the employer's responsibilities and requirements to establish, implement, and document a lockout/ tagout program to safeguard workers from exposure to electrical hazards.
8. Review and demonstrate all required procedures and practices involved in a lockout/tagout program.
9. Review and demonstrate the ability to recognize and distinguish exposed, energized conductors and circuits from other non-energized electrical equipment.
10. Explain and calculate nominal voltage.
11. Explain and calculate arc flash boundaries and safe approach distances from energized electrical circuits.
12. Discuss job safety planning, including the identification of electrical hazards, risk assessment, and PPE selection of jobsite electrical hazards.
13. Present a five-minute lesson plan for job safety planning for peer review.

### New Resources for Course

#### Course Textbooks/Resources

##### Textbooks

Natioal Fire Protection Association. *NFPA® 70E®: Handbook for Electrical Safety in the Workplace (2021 Edition)*, 2021 ed. National Fire Protection Association, 2021, ISBN: 1455926248.

##### Manuals

##### Periodicals

##### Software

#### Equipment/Facilities

| <u>Reviewer</u>   | <u>Action</u>             | <u>Date</u>         |
|---|---------------------------|---------------------|
| <b>Faculty Preparer:</b><br><i>Tony Esposito</i>                | <i>Faculty Preparer</i>   | <i>Mar 10, 2023</i> |
| <b>Department Chair/Area Director:</b><br><i>Marilyn Donham</i> | <i>Recommend Approval</i> | <i>Mar 14, 2023</i> |
| <b>Dean:</b><br><i>Jimmie Baber</i>                             | <i>Recommend Approval</i> | <i>Mar 15, 2023</i> |
| <b>Curriculum Committee Chair:</b><br><i>Randy Van Wagnen</i>   | <i>Recommend Approval</i> | <i>Apr 18, 2023</i> |
| <b>Assessment Committee Chair:</b><br><i>Shawn Deron</i>        | <i>Recommend Approval</i> | <i>Apr 18, 2023</i> |

**Vice President for Instruction:**

*Victor Vega*

*Approve*

*Apr 24, 2023*