



## Department-Approved Course Requirements: 1-Hour Electrocution Prevention

<b>Course Required for:</b>	<input checked="" type="checkbox"/> <b>Worker Training</b>
<b>Purpose:</b>	This course is a general elective course that can help fulfill the requirement for an individual applying for a Site Safety Training Card. <b>THIS IS AN AWARENESS-LEVEL TRAINING ONLY and does not provide any other qualification or authorization outside of the Site Safety Training Card.</b>
<b>Duration:</b>	1 Hour of instructional time, excluding breaks
<b>Class Size:</b>	<b>1-40 Trainees</b>
<b>NYC Requirement:</b>	In order to continue to operate in the City of New York, the designated construction worker is required to complete a minimum number of hours of approved site safety training and to carry site safety identification cards as proof of completion of the training (As per New York City Local Law 196 of 2017 also known as 'LL196' or 'Local Law'). This course provides one hour towards the satisfaction of that requirement.
<b>Facility Requirements:</b>	<p>The Training Facility used by the Course Provider must:</p> <ul style="list-style-type: none"><li>• Have sufficient room to accommodate all expected attendees and the equipment needed to perform hands-on exercises where required as part of the course.</li><li>• Make provisions for the presentation of training material in all media types (computer, projectors, video/DVD players, etc.); and</li><li>• Comply with all applicable laws, rules and regulations relating to occupancy, zoning, egress, fire detection, fire suppression, light, ventilation, cleanliness, sanitary facilities, emergency notification and evacuation procedures.</li></ul> <p>Training may be held at construction sites, provided the above requirements are met.</p>
<b>Instructor Requirement:</b>	<p>To deliver this course the instructor(s) must demonstrate that he or she is credentialed or trained in instructional methods and learning processes. The instructor(s) must also successfully demonstrate his or her ability to solve or resolve problems relating to the subject matter by possession of a recognized degree, certificate, licensure or professional standing, or by extensive knowledge, training, and experience, in the subject matter being taught. To the extent that the course instructor(s) holds, or has held, a trade license issued by the Department, it must be in good standing and not be surrendered to, suspended by or revoked by the Department.</p> <p>The instructor(s) must also be authorized by the Occupational Safety and Health Administration ('OSHA') as a trainer(s) for its Construction and Outreach Program.</p>
<b>Curriculum Requirement:</b>	All <b>topics</b> listed under <b>Course Content Outline</b> must be covered using the listed <b>Instructional Delivery Method</b> . The time dedicated to each outline topic should be appropriate for the course content and can vary depending on the trade or job performed by the trainee. The <b>Instructional Delivery Materials</b> used in this course must contain all current applicable NYC Construction Code references, current rules, policies and bulletins.

**Course Curriculum  
Proposal Package  
Review:**

A comprehensive review will be performed by the **Department of Buildings** to determine compliance with these Course Curriculum Requirements.

**Instruction Delivery Method**

- Media:** Lecture/Discussion, Slide Presentation, Props; Lock-out tag-out kit (including locks and tags, a lockbox and examples of isolating devices)
- Handouts:** Slides, references and cards
- Guided Learning:** Trainees will create an electrical decision tree for electrical hazard controls for a predetermined task.

**Course Content Outline**

1. Introduction
  - a. Instructor introduces topic and describes their qualifications and relevant experience for training this module.
  - b. Establish that all trainees can hear and fully understand you i.e. 'raise your hand if you fully understand me' or 'clap your hands if you fully understand me'
  - c. State basic classroom rules, bearings and decorum
    - i. Inform trainees of duration or training and breaks (if any)
    - ii. Remind trainees about limiting distractions (phone use, texting, sidebar conversations)
    - iii. Emergency procedures (location and means of egress, exits or other contingencies)
    - iv. Location of restrooms
  - d. Training Objectives and Expectations:
    - i. Trainees will become generally familiar with terms and the phenomenon of electricity and how it causes harm.
    - ii. Trainees will be able to recognize electrical hazards and error traps associated with the potential for electricity to do harm.
    - iii. Trainees should become aware of administrative regulatory safety requirements associated with electricity.
2. Illustrate and describe the different types of electrical hazards and corresponding controls (include pre-task inspection of tools, equipment and cord sets as controls):
  - a. Shock and Cardio arrhythmias
  - b. Electrocution
  - c. Indirect falls
  - d. Fire
  - e. Arc flash and arc blast
  - f. Burns
  - g. Lightning
3. Explain the basic Principles of Electricity in terms (analogy) that trainees can understand
  - a. Electricity
  - b. Current
  - c. Circuit
  - d. Resistance
  - e. Conductors

- f. Grounding
  - g. Insulators
  - h. Incident energy (arc flash)
  - i. Describe temperature flash/bang
4. Illustrate the path to ground in a circuit
5. Illustrate and explain how Ground Fault Circuits Interrupters (GFCI's) work and the difference between electrical differential across a circuit and (OCP's) over-current protector, such as fuses and circuit breakers.
- a. Describe how to properly test and use a GFCI
  - b. Describe how to properly inspect electrical tools and extension cords
  - c. Illustrate proper use of extension cord sets
6. Explain common electrical 'Error Traps'
- a. Working on energized circuits
  - b. Unfamiliar with task, scope, hazards or skill sets
  - c. Pressure to perform task (multi-tasking).
  - d. Distractions
  - e. Inappropriately or insufficiently equipped to perform task
  - f. Less than adequate number of workers to perform a task
  - g. Personal preoccupations
  - h. Vague or incorrect assessments
  - i. Not accounting for contingencies and escalations
  - j. Mental Difficulty (attitude and aptitude)
  - k. Overconfidence
  - l. Poor or insufficient level of communication
  - m. Deviation from scope (Scope Creep)
  - n. External hazards
  - o. Flex cables inappropriately or not supported.
  - p. Uncontrolled Hazardous Energy (Lock-out Tag-out-LOTO).
  - q. Unrecognized secondary feeds
  - r. No documentation on prints to assess buried conduits in slabs, walls and other building enclosures
  - s. Panel schedule missing or inaccurate (branch circuit labels)
  - t. Exposed or Unidentified Conductors (wires)
  - u. Damaged or Antiquated Equipment, Appliances and devices
  - v. Inappropriate training (shock, arc-flash training, labeling, identification)
7. Explain the Control of Hazardous Energy (a.k.a. Lock-out Tag-out)
8. Resources:
- a. OSHA Title 29 CFR 1926.400 Subpart K
  - b. OSHA Title 29 CFR 1910.147 Control of Hazardous Energy
  - c. NFPA 70 (National Electrical Code)
  - d. NFPA 70 Arc Flash

- e. Worker's Rights (See OSHA: <https://www.osha.gov/Publications/OSHA3146.pdf>)
  - f. OSHA Regional Map: <https://www.osha.gov/html/RAmap.html>
9. Debriefing (Informal evaluation)
- a. Guided by instructor, trainees, in a class discussion talk about the course's content and means of delivery and provide verbal feedback to the instructor.
  - b. Instructor takes notes (either committing them to writing during discussion or ascribing them later into noted-comments).
  - c. Instructor applies lessons learned from debriefing to future trainings.
10. Written (Multiple Choice) Assessment