

Electrical Level 1

Occupational Overview: The Electrical Industry (Module ID 26101-20)

Provides an overview of the electrical craft and discusses the career paths available to electricians, including apprenticeship requirements.

Safety For Electricians (Module ID 26102-20)

Discusses hazards and describes the various types of personal protective equipment (PPE) used to reduce injuries. Covers the standards related to electrical safety and the OSHA-mandated lockout/tagout rule.

Introduction to Electrical Circuits (Module ID 26103-20)

Introduces electrical concepts used in Ohm's law and how the power equation can be used to determine unknown values. Covers basic atomic theory and electrical theory, electrical schematic diagrams, and electric power equations.

Electrical Theory (Module ID 26104-20)

Introduces basic circuits, as well as the methods for calculating the electrical energy within them. Covers resistive circuits, Kirchhoff's voltage and current laws, and circuit analysis.

Introduction to the National Electrical Code (Module ID 26105-20)

Introduces the NEC® and explains how to use it to find the installation requirements. Provides an overview of the National Electrical Manufacturers Association and Nationally Recognized Testing Laboratories.

Device Boxes (Module ID 26106-20)

Describes the various types of boxes and explains how to calculate the NEC® fill requirements for outlet adjunction boxes under 100 cubic inches (1,650 cubic centimeters).

Hand Bending (Module ID 26107-20)

Covers methods for hand bending conduit, including 90-degree bends, back-to-back bends, offsets, and saddle bends. Describes how to cut, ream, and thread conduit.

Wireways, Raceways, and Fittings (Module ID 26108-20)

Introduces various types of raceway systems, along with their installation and NEC® requirements. Describes the use of various conduit bodies.

Conductors and Cables (Module ID 26109-20)

Discusses conductor types, cable markings, color codes, and ampacity derating. Describes how to install conductors using fish tape and power conduit fishing systems.

Basic Electrical Construction Documents (Module ID 26110-20)

Describes how to interpret electrical drawings, including the use of architect's and engineer's scales.

Residential Wiring (Module ID 26111-20)

Covers basic load calculations and NEC® requirements for residential electrical systems. Describes how to lay out branch circuits, install wiring, size outlet boxes, and install wiring devices.

Electrical Test Equipment (Module ID 26112-20)

Covers the applications of various types of electrical test equipment. Describes meter safety precautions and category ratings.