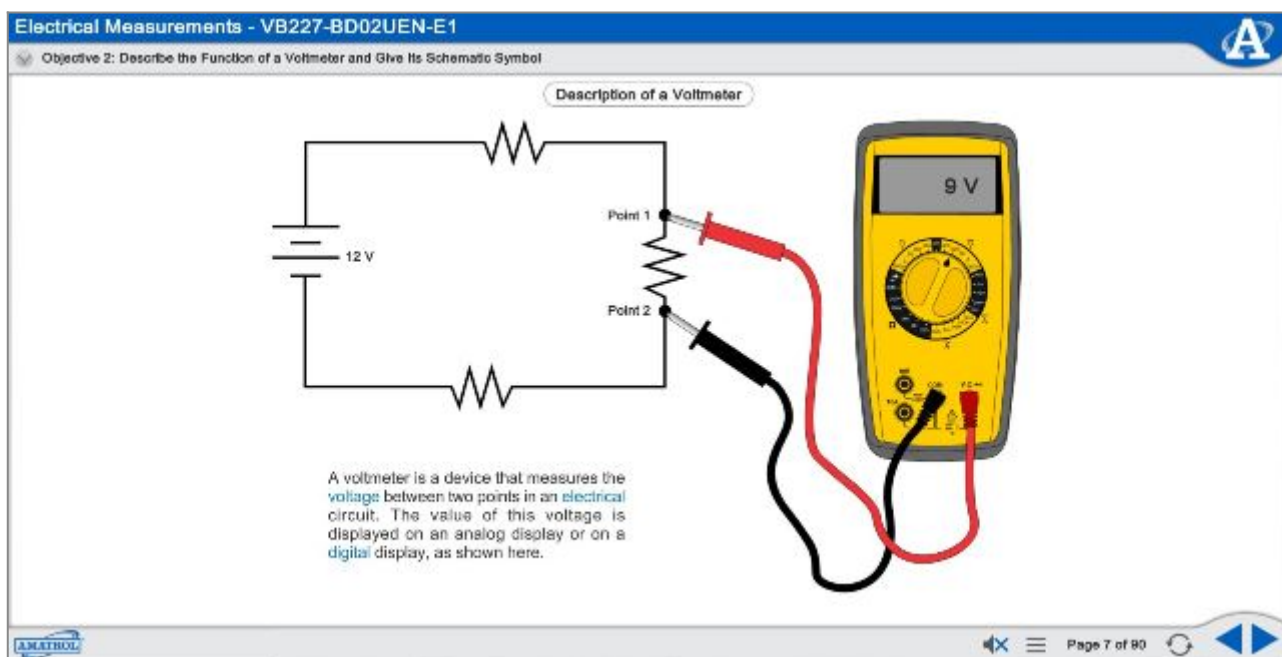


Basic AC/DC Electrical Training | eLearning Course with Virtual Simulator



eLearning Course: NB227

Amatrol's Virtual Trainer Courseware - AC/DC Electrical (NB227) introduces the fundamentals of AC and DC electrical systems used for power and control in industrial, commercial, agricultural, and residential applications. This virtual trainer allows learners to develop skills and knowledge needed to apply the use of AC/DC electrical devices in modern industry. It takes learners through key topics and skills in measurement, including how to install, operate, repair, and design equipment, and teaches learners essential AC/DC electrical concepts and skills applicable throughout modern industry.

In-Depth Basic AC/DC Electrical Curriculum

Comprehensive Basic Electrical Curriculum Connected to Real-World Skills

Amatrol's basic AC/DC electrical eLearning course covers important topics, such as:

Basic Electrical Circuits

Learners begin with an introduction into basic electrical circuits, including fundamentals of electricity, electrical circuit components, manual input devices, and output devices. Individual lessons focus on the operation of a circuit tester, how to read an electrical schematic, and understanding the five types of electrical output devices. Learners will also practice skills, such as connecting and operating a power supply, connecting and operating a circuit using three types of manual switches, and connecting and operating an electrical circuit with a motor.

Electrical Measurements

Learners will study voltage measurement, series and parallel circuits, current measurement, and resistance measurement in the next module of this course. Individual lessons focus on how to use a voltmeter to measure voltage, characteristics of series and parallel circuits, how to use an ammeter, and how to use an ohmmeter. Learners will also practice skills, such as using a DMM to measure voltage drops in series and parallel circuits, using an analog voltmeter to measure the voltage of a ground point, and testing the continuity of wires using a

DMM.

Circuit Analysis

Learners using Amatrol's AC/DC Virtual eLearning course will be introduced to circuit analysis, including power series circuits, power in parallel circuits, and circuit protection devices. Individual lessons include the difference between Ohm's Law and Kirchhoff's Voltage Law, using Kirchhoff's Current Law, and describing the operation of a fuse. Learners will also practice skills, such as calculating series resistance given each load's resistance, operating a circuit using a fuse, and testing and resetting a circuiting breaker.

Inductance and Capacitance

Learners will study various aspects of inductance and capacitance, including electromagnetism, inductance, capacitance, characteristics of capacitance, and inductor and capacitor applications. Individual lessons focus on describing the function of four electromagnetic devices, calculating total series and parallel inductance and inductive reactance, operating a capacitor, using a capacitor in an AC circuit, and describing the function of a fluorescent light fixture. Learners will also practice skills, such as connecting and operating a relay in a circuit, calculating the total load on an AC circuit with inductors, discharging a capacitor, testing a capacitor with a DMM, measuring the voltage across a charged capacitor, and calculating the time to charge and discharge a capacitor.

Combination Circuits

In this module, learners will study combination circuits, including characteristics, lighting circuits, voltage dividers, and troubleshooting. Individual lessons include steps for solving a combination circuit, describing how switches are used, the operation of three types of voltage dividers, and the effect of a short circuit. Learners will also practice skills, including solving a combination circuit, connecting and operating a ceiling fan circuit, designing a voltage divider network, and locating a short circuit.

Transformers

In the final module, learners will be introduced to transformers. Individual lessons include the function and operation of a transformer, describing how to size a transformer, and describing the function of two basic categories of transformers. Learners will also practice skills, including calculating the secondary coil voltage of a transformer, sizing a transformer, and designing a control transformer circuit to provide a given output voltage.

Interactive eLearning with Learning Management System

Highly-Interactive Multimedia Format Appeals to All Learning Styles

Amatrol's basic AC/DC electrical eLearning course features interactive eLearning curriculum that integrates various types of learning methods to create an engaging, effective learning experience. Amatrol's multimedia [eLearning](#) curriculum includes text with voiceovers, videos, 3D animations, pictures, and interactive activities, quizzes, and self-reviews.

Free Learning Management System (LMS)

Amatrol eLearning is easy-to-use for both students and instructors. Its web-based interface is simple to navigate and available on any WebGL-compatible Internet browser. Instructors love Amatrol eLearning for its simple, yet sophisticated Learning Management System (LMS). The LMS allows instructors to create custom courses, monitor student participation, track course progress, assess knowledge levels prior to a course, and test knowledge levels after completion. Learners appreciate the fact that they can start and stop as needed, moving through each Amatrol course at their own pace. If a self-review reveals that they didn't understand a particular topic as well as they thought they did, they can revisit it before moving on.

Virtual Simulator

This eLearning course includes a virtual simulator!

Amatrol's basic AC/DC electrical eLearning course also features a virtual simulator that allows learners to practice hands-on skills even when they don't have access to a physical trainer. Virtual simulators replicate hands-on equipment in such great detail that learners will feel like they are using actual equipment. Learners perform essentially the same industry-based tasks using the virtual equipment that they would perform using equipment hardware. Virtual simulators offer instructors and learners great flexibility when learning remotely or when a physical trainer must be shared by multiple learners.

Additional Info

Requires:

- Computer (see [Computer Requirements](#))

Options:

- AC/DC Electrical Learning System (T7017A)
- Portable AC/DC Electrical Learning System (990-ACDC1) (eLearning Course for Portable AC/DC Electrical is M11133)

NOTE:

- The basic AC/DC electrical eLearning course is also available in a high-school version, which is conveniently divided into two semester-long segments. (NB707/NB708)

Address

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