

# Electrician Helper Course Description



## DC Circuit Analysis

*4 Credits*

An introduction to direct current (DC) and analysis of series, parallel, and series-parallel circuits. Topics include electrical quantities, units of measurement, measurement instruments, resistors, current, voltage, power, energy, network theorems, equivalent circuits, magnetism, and electromagnetism. Laboratory experiments include circuit analysis; the proper use of measurement equipment and techniques; and troubleshooting.

**Prerequisite(s):** M 090 or ALEKS score >2 recommended prior to taking course.

## AC Circuit Analysis

*3 Credits*

Analysis of alternating current (AC) circuits and the behavior of capacitors, inductors, reactance, impedance, transformers, and signal filters. Laboratory experiments include circuit analysis, the use of proper measurement equipment, and troubleshooting.

**Prerequisite(s):** None

## NCCER Electrician Level 1 & NCCER Core

*4 Credits*

Students will learn the fundamentals of installing electrical systems in structures. These systems will include wiring, circuit breaker panels, switches, and light fixtures. Students will also learn to read and follow blueprints in accordance with the National Electrical Code® as well as state and local codes. The course largely follows the first level of NCCER's 4-level Electrical curriculum that complies with DOL time-based standards for apprenticeship.

**Prerequisite(s):** None

## Safety/Rigging & OSHA 30

*3 Credits*

This course provides an overview of safe industrial practices and provides students with hands-on experiences in rigging for a variety of industries. Students will also learn elements of first aid, cardio-pulmonary resuscitation (CPR), and proper use of Automated External Defibrillators (AED's).

**Prerequisite(s):** None

# Electrician Helper Course Description



## Technical Math

*3 Credits*

Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing. Markdowns, inventory turnover, and other basic formulas. Credit does not count toward Associate of Arts or Baccalaureate degrees.

**Prerequisite(s):** ALEKS placement  $\geq 2$

