

COURSE – A
BASIC INDUSTRIAL ELECTRICAL THEORY I
(Level 1)

- TEXT BOOK:** Electrical Principles and Practices - Mazur/Zurlis
(supplied by Schaedler / YESCO Distribution)
- TOOLS/MATERIALS:** Students should bring the following to class:
- Calculator
- Textbook listed above
- Writing utensils and notepaper
- TIME FRAME:** Half-day session (4 Hours)
- PREREQUISITE(s):** (None)

General Sequence

- **Introduction**
- Chapter 1 Electricity Principles**
- Chapter 2 Basic Quantities**

At the end of this training session, students should be able to.....

Chapter 1

- List and describe common forms of electricity.
- Describe the fundamental properties of matter and atomic structure.
- Describe the properties of conductors, insulators, and semiconductors.
- Identify chemical elements that have special interest to the electrical field.
- Identify applications where the electrical properties of compounds are important.
- Describe the law of electric charges and common theories of current flow.
- Describe common methods of electricity production.

Chapter 2

- Describe the fundamental properties of energy.
- List and describe common types of voltage.
- Calculate common types of AC voltage values.
- List and describe common types of current and current flow.
- List and describe common types of power.
- List and describe common types of circuits.
- Calculate power factor.
- Explain the function of resistance, conductors, and insulators in an electrical circuit.