

# ELE 125 - PRE-COMMERCIAL ELECTRICAL

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## Course Description

Through structured classroom and hands-on skill building, the student will learn small sources of electricity, basics of alternating current, AC circuits containing inductance, AC circuits containing capacitors, AC circuits containing resistance-inductance-capacitance, three-phase power, transformers, DC machines, and AC machines. Group 2 course.

## Credit Hours

3

## Contact Hours

4

## Lecture Hours

2

## Lab Hours

2

## Required Prerequisites

ELE 121

## Course Learning Outcomes

### Knowledge:

- Identify the Fundamentals AC electricity.
- Describe traits associated with AC electricity circuits.
- Explain how to work with equipment and machines that use AC electricity.

### Application:

- Calculate the effects of AC electricity in different circuits.
- Implement skill building on different AC circuits with transformers and motors.
- Predict the effects of inductance and capacitance on a circuit.
- Solve issues of power factor.

### Integration:

- Discuss power distribution and its functional uses.
- Synthesize previous course knowledge into advanced AC applications.

### Human Dimension:

- Estimate how to do work quickly with as little impact as possible to meet customer needs.

### Caring - Civic Learning:

- Appraise the complexity of our current power distribution system.

### Learning How to Learn:

- Adapt course knowledge to better question current electrical uses.