

# ELE 105 - BEG RESIDENTIAL ELECTRICAL

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## Course Description

Through structured classroom and hands-on skill building, the student will learn general information for electrical installations in the residential field to include: electrical symbols and outlets, determining the required number of lighting and receptacle outlets, conductor sizing and connections, switch control, bonding/grounding, ground-fault circuit interrupters and similar devices, and begin calculations for wiring various rooms in a common residential building. Group 2 course.

## Credit Hours

3

## Contact Hours

4

## Lecture Hours

2

## Lab Hours

2

## Required Prerequisites

ELE 101 or EET 103 or HVA 101, may be taken concurrently.

## Course Learning Outcomes

### Knowledge:

- Cite the fundamentals of residential wiring.
- Identify the grounding of electrical circuits.
- Explain the value of the AFCI/GFCI in homes.
- Relate the importance of proper wire sizing.

### Application:

- Demonstrate proper wiring techniques.
- Calculate load values.
- Solve circuit sizing properly.
- Design a residential wiring layout.

### Integration:

- Students will evaluate their own house wiring.
- Students will distinguish potential for advanced residential wiring.

### Human Dimension:

- Collaborate with others, particularly other trades.
- Identify what electricians do on a daily basis.
- Judge the need, by our society, for electricity.

### Caring - Civic Learning:

- Estimate the value of layout and proper circuiting of electrical components in a house.

### Learning How to Learn:

- Identify practical home wiring methods.