

ELE 121 - ADV RESIDENTIAL ELECTRICAL

Course Description

Through structured classroom and hands-on skill building, the student will learn advanced residential wiring techniques including: workshop circuits, special purpose outlets, gas and oil central heating systems, low-voltage wiring, alarms and security systems, service entrance equipment, overcurrent protection, service entrance calculations, swimming pools, home automation systems, and standby power systems. Group 2 course.

Credit Hours

3

Contact Hours

4

Lecture Hours

2

Lab Hours

2

Required Prerequisites

ELE 105

Course Learning Outcomes

Knowledge:

- Describe what makes up low voltage in the home.
- Recall swimming pool precautions.
- Explain service load calculations.
- Assemble home security/smoke alarms.

Application:

- Calculate the home service load.
- Identify the location of in-home security/safety measures.
- Develop a plan for proper grounding/bonding of pools, spas, and hot tubs.

Integration:

- Perform Advanced Residential wiring techniques.
- Integrate Smart home wiring.
- Explain proper location and installation of residential services.

Human Dimension:

- Recognize opportunities for self-employment.
- Relate to the complexity of electrical wiring/contracting.

Caring - Civic Learning:

- Recognize there will always be a need for knowledgeable electricians.

Learning How to Learn:

- Estimate the proper circuiting of a residential service.