

# ELE 135 - ADV COMMERCIAL ELECTRICAL

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## Course Description

Through structured classroom and hands-on skill building, the student will learn special circuits, panelboards selection and installation, the electric service, lamps and ballasts for lighting, luminaires, emergency, standby and optional standby systems, overcurrent protection, short-circuit calculations, equipment and conductor short-circuit protection, low-voltage remote-control, and the cooling system. Group 2 course.

## Credit Hours

3

## Contact Hours

4

## Lecture Hours

2

## Lab Hours

2

## Required Prerequisites

ELE 131

## Course Learning Outcomes

### Knowledge:

- Explain panelboard selection.
- Define overcurrent protection.
- Describe optional power systems.
- Recall low voltage remote control.

### Application:

- Design the electrical distribution layout for commercial buildings.
- Develop Emergency/Optional power systems for commercial use.
- Calculate lighting/special circuit loads.

### Integration:

- Evaluate load distribution to determine number/size/location of multiple panelboards.
- Relate the variance in electrical demands from residential to commercial projects.
- Illustrate layout and design techniques.

### Human Dimension:

- Adapt the ability to conceptualize and anticipate the need for various power requirements.
- Assess the larger degrees of responsibility placed upon them.

### Caring - Civic Learning:

- Debate what are the best types of alternate power.

### Learning How to Learn:

- Identify their potential leadership ability.