EGR 211 - ELECTRICAL CIRCUITS I

Course Description

This course will cover basic electrical concepts, resistive circuits, nodal and loop analysis techniques, superposition, Thevenin and Norton equivalents, maximum power transfer, capacitance and inductance, AC steady-state analysis, steady-state power analysis. Group 2 course.

Credit Hours

³ Contact Hours

Lecture Hours

Required Prerequisites

MTH 142, may be taken concurrently. **Recommended Prerequisites or Skills Competencies**

ENG 111

General Education Outcomes supported by this course

Critical Thinking - Direct

Course Learning Outcomes

Knowledge:

- Explain basic electrical concepts.
- · Identify systems and subsystems of different types of circuits.
- Describe the fundamentals of electrical circuits and transient analysis.

Application:

- · Analyze the fundamental electrical processes of a physical device.
- Demonstrate mastery of AC and DC circuit analysis methods.
- Apply basic theorems and analysis techniques to describe electrical circuits.

Integration:

• Compute the energy and resistive work and transfer of a physical device and process using basic principles of electrical circuitry.

Human Dimension:

- Demonstrate an appreciation of how electrical circuits govern day-today life.
- Work effectively as a team member.

Caring - Civic Learning:

• Analyze contemporary energy issues and the impact of engineering solutions on society and the environment.

Learning How to Learn:

 Connect real-world observations of electrical device behaviors to class topics.