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

3

Lecture Hours

3

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-to-day 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.