



EGR 233: Electrical Engineering I Laboratory

This course provides experience in experimental techniques, laboratory report preparation, familiarization and use of instrumentation, passive circuit investigations, and computer modeling experiments. Co-requisite: EGR 231. Three laboratory hours per week.

Course Student Learning Outcomes

1. Apply formulas for current, charge voltage, energy and power in the solution of applied problems including the power balance equation. 2. Apply Kirchoff's laws and other axioms and definitions to determine the voltage and currents in simple circuits and to analyze the general single-loop or series circuits. 3. Use derived equivalent components to reduce more complicated networks to equivalent series or parallel circuits. 4. Apply node-voltage analysis & mesh-current analysis approaches to network analysis. 5. Apply the properties of linearity and time invariance associated with input-output equations in simplifying network analysis. 6. Apply characteristics of operational amplifiers (OP AMP) and the concept of negative feedback. 7. Describe signal models and signal characterizations as applied to electrical engineering. 8. Apply differential equation definitions to solve the response of source-free circuits. 9. Analyze circuits which include independent sources (drivers) and to solve differential equations describing the circuits.

Credits: 1

Program: Engineering