

EE204

Course Objectives

Content	Objectives
Basic concepts: circuit, charge, voltage, power and energy	Students will understand the basic concepts of electric circuits and their relationships.
Kirchhoff's Laws	Students will be able to understand and apply Kirchhoff's Laws to simple resistive circuits.
Nodal analysis and mesh analysis	Students will understand and apply nodal analysis and mesh analysis techniques to resistive circuits.
Linearity and Superposition	Student will be able to understand and apply linearity and superposition principle to linear circuits
Thevenin and Norton's theorems	Students will understand the Thevenin and Norton' theorems, and apply the theorems to linear two-terminal circuits.
Operational Amplifier	Students will understand the equivalent model of an op amp and some useful op amp circuits.
Resistors, capacitors and inductors	Students will understand the characteristics of resistance, capacitance, and inductance, and how to combine them in series or in parallel.
First order circuit	Students will understand and derive the solutions of differential equations describing RL or RC circuits. Students are able to solve for the complete response for RL or RC circuits.
Sinusoids and phasors	Students will understand the concepts of sinusoids and phasors, the complex number calculations, and the phasor relationships for circuit elements.
AC Power	Students will understand different power concepts and be able to calculate different powers for AC circuits.