

<b>Department</b>	Electrical and Computer Engineering
<b>Course Number</b>	<b>EE 206</b>
<b>Course Title</b>	Circuits I
<b>Course Designation</b>	Required
<b>University Catalog Description</b>	Semesters offered: F,S; Prerequisites: M 172, EE 101 -- Introduction to circuit analysis including Ohm's and Kirchhoff's Laws, nodal and mesh methods; network theorems; resistors, capacitors, inductors, independent and dependent sources, diodes; ideal operational amplifier and transistor circuits; R-L, R-C, and R-L-C responses; complex frequency and phasors; steady-state AC circuits.
<b>Faculty Coordinator</b>	Dr. James Becker
<b>Prerequisite by Topic</b>	Methods of differentiation and integration, analytic geometry, first order differential equations, use of meters and oscilloscopes
<b>Textbook</b>	R. Dorf & J. Svoboda: <i>Introduction to Electric Circuits</i> , 7 <sup>th</sup> Ed. John Wiley
<b>Course Objectives</b>	To produce graduates who understand the operation of electric DC resistive circuits, the natural and forced response of RC and RL circuits, and the operation of AC single phase circuits
<b>Course Learning Outcomes</b>	At the conclusion of EE 206, students are expected to : 1) To analyze resistive circuits using Ohm's Law, Kirchhoff's Laws, Network Theorems, and Mesh and Node methods 2) To calculate power dissipated and energy stored in circuit elements 3) To determine the natural and step response of RL and RC circuits 4) To analyze AC single phase circuits and compute real, reactive and complex power 5) To breadboard electric circuits 6) To know how to use laboratory equipment such as multimeters, signal generators and oscilloscopes to analyze electric circuits
<b>Topics Covered</b>	1) Circuit Variables and Elements 2) Series and Parallel Combinations 3) Kirchhoff's Laws 4) Mesh and Node Methods 5) Source Transformations 6) Network Theorems 7) Operational Amplifiers 8) Inductors and Capacitors 9) Natural and Step Response of RL and RC Circuits 10) Sinusoidal Steady State Response 11) Analysis in the Frequency Domain 12) Single Phase AC Circuits 13) RMS Values 14) Power in AC Circuits
<b>Class/Laboratory Schedule</b>	EE 206 meets three times /week for 50 minutes plus a two-hour laboratory session
<b>Professional Component (Criterion 5)</b>	This course strongly supports the use of basic electrical and electronic circuit principles to analyze electric circuits
<b>ECE Program Outcomes</b>	EE 206 supports following Program Outcomes: a. an ability to apply knowledge of mathematics, science and engineering b. an ability to design and conduct experiments, as well as to analyze and interpret data p. an ability to analyze electrical and electronic systems
<b>Total Credit Hours</b>	4
<b>Prepared by</b>	James Becker 5/28/2009