Department	Electrical and Computer Engineering
Course Number	**EE 207**
Course	Circuits II
Course Designation	Required
University Catalog Description	Semesters offered: F, S, Su 3 credit lecture, 1 credit lab Prerequisites: EE 206 and MATH 274. Transient response of RLC Circuits to DC and AC Excitations, Mutual Inductance and Transformers, Laplace Transforms and their applications to Electric Circuits, Fourier Series, Fourier Transform and Filters are covered in this series.
Faculty Coordinator	Dr. David Dickensheets
Prerequisites by Topic	Differential equations, Electric circuit laws, principles, and theorems, i.e. KVL, KCL, Thevenin's Theorem.
Textbook	R. C. Dorf and J. A. Svoboda: *Electric Circuits,* 7th Edition, John Wiley
Course Objectives	To produce graduates who understand the basics of electric circuit analysis and design, i.e. filter design, in time domain and frequency domain using Laplace transform techniques, Fourier series and Fourier transform techniques.
Course Learning Outcomes	At the conclusion of EE 207, students are expected to be able to: 1) Analyze passive electric circuits in time domain and in frequency domain. 2) Analyze linear electric circuits using Laplace transform techniques. 3) Design passive filters using circuit transfer function, represent waveforms in frequency domain using phase and amplitude spectra. 4) Analyze magnetically coupled circuits and two-port circuits.
Topics Covered	1) Transient response of RL, RC, RLC circuits. 2) Mutually coupled and two-port circuits. 3) Laplace transform and its application in circuit analysis. 4) Filters. 5) Fourier series. 6) Fourier transform. 7) Two Port Networks
Class/Laboratory Schedule	EE 207 meets three times/week for 50 minutes plus a two-hour laboratory session.
Professional Component (Criterion 5)	This course develops analytical skills necessary for analysis and design of electric circuits. Also, it strongly supports the development of logical thinking skills necessary for solving engineering problems.
ECE Program Outcomes	EE 207 supports the 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. e. An ability to identify, formulate and solve engineering problems g. An ability to communicate effectively. k. An ability to use the techniques, skills and modern engineering tools necessary for engineering practice.
Total Credit Hours	4
Prepared by	D. Dickensheets, 5/09