EEL 3111 — Introductory Circuit Analysis **Spring 2007**

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Lecture Hours: TR 1:15-2:30pm
Office Hours: TR 10:00-11:00am

Prerequisites: MAC2312, PHY2048, & PHY2048L (grading C or better for all above courses)
Co-requisites: MAC2313 & PHY2049

Required Textbooks: J. David Irwin, Basic Engineering Circuit Analysis, 8th ed. John Wiley & Sons, Inc., 2005.

Course Description: This purpose of this course is to provide basic principles of current, voltage, and power; resistors, inductors, and capacitors; network theorems and laws; operational amplifiers; phasors; impedances; sinusoidal steady-state analysis.

Course Objectives:

1. Calculate power absorbed by element with passive sign convention.
2. Identify relationship between charge versus current, voltage versus energy, and energy versus power.
3. Identify voltage sources versus current sources, independent sources versus dependent sources.
4. Identify the voltage-current characteristics of resistors, capacitors and inductors.
5. Construct equivalent circuits of resistive circuits using series or parallel.
6. Solve a resistive circuit through nodal analysis.
7. Solve a resistive circuit through loop analysis.
8. Identify an Operational Amplifier and its ideal characteristics.
9. Identify a sinusoid with a phasor.
10. Calculate the impedances of circuit elements and RLC circuits.
11. Apply network theorems such as linearity, superposition, Thevenin's theorem and Norton's theorem to analyze resistive networks.
12. Solve an AC circuit using nodal analysis, loop analysis and/or other circuit theorems.

Relationship to ABET Program Outcomes: A, M, and N

Grading:	Two Examinations:	50%	(25% from each exam)
	Homework:	10%	
	Final Examination:	40%	(a comprehensive exam)

Grading scale: **A: >90%, B: 80-89.9%, C: 60-79.9%, D: 45-60%, F: <44.9%**
These breakpoints may be lowered slightly depending on overall class performance.

Policy Statements:

- Attendance is mandatory. The grade will be lower at least by one level, if one absents from class more than 3 times.

- Coming late (5 minutes) or leaving early (5 minutes) will be considered as the absence from class.
- Homework is due at the beginning of class. No exception!
- The general policy is no makeup exams and quizzes. In the event of an excused absence, you must notify the instructor prior to the exam to discuss proper procedure.
- Cellular phones and beepers must be turned off in the classroom.
- There is renewed emphasis on the Honor Code. Violation of this code can result in course failure and/or dismissal from the College of Engineering.