EE 411 Circuit Theory – Fall 2010
LECTURE M-W 5:00PM-6:30PM, ACA 1.104.
RECITATIONS: W 1:00PM-3:00PM, ENS 109 (U. 16145), F 3:00PM-5:00PM, ENS 115 (U. 16150)
(Lecture and recitation times may be swapped occasionally)

Professor: Dr. Alexis Kwasinski, ENS528, akwasins@mail.utexas.edu, 232-3442. Office hours: M 1:30 – 3:00 pm and W 12:00 to 1:30 pm; or by appointment

TA: Anamika Dubey (ana.iitr@gmail.com). Room: ENS124. Office hours TBA.

Course Home Page: http://users.ece.utexas.edu/~kwasinski/EE411SFa10.html (contains notes, and solutions to homework and tests)


Course Description: Capacitance and inductance; first- and second-order transient circuit response, including operational amplifier circuits; sinusoidal steady state analysis; Bode plots; three-phase circuits; transformers; two-port networks (Z-parameters and Y-parameters); and computer-aided analysis and design. Three lecture hours and two recitation hours a week for one semester. Prerequisite: Electrical Engineering 302 or 302H with a grade of at least C; credit with a grade of at least C or registration for Mathematics 427K; and credit with a grade of at least C or registration for Physics 303L and 103N.

Course Objectives: This is the circuit theory course which introduces basic circuit principles; steady-state response to signals; operational amplifiers; simple transient response; nodal and mesh analysis; power circuit analysis and two-port networks.

Schedule:
Week 1 (Aug. 30). Complex numbers. Nodal and mesh analysis Appendix A9, Ch 3.
Week 2 (Sept. 6). Mon. holiday. Nodal and mesh analysis cont. Chap. 3.
Week 3 (Sept. 13). Superposition. Thevenin and Norton equivalents. Chap. 4. (Dr. K. at ECCE)
Week 5 (Sept. 27). First-order circuits. Chap. 6 and Chap. 7.
Week 11 (Nov. 8) Three-phase power cont.. Magnetic circuits Chap. 12 and 13. (Dr. K. at ISABEL)
Week 12 (Nov. 15) Class on Monday. Magnetic circuits and transformer. Frequency response Chap. 13 and 14
Week 13 (Nov. 22) Thanks giving week Test 2 on Mon.

Two One-Hour Tests (30%): Cumulative. These tests cover class materials through the preceding Friday. One 8½ x 11” sheet of notes (both sides) is permitted.

Recitation Sessions and Quizzes (35%): Recitation sessions begin on Wed., Sept. 1 or Friday, Sept. 3. They will focus on solving the homework problems and other problems related to classroom lectures. Unless one of the two hourly tests is scheduled for a session, a fifteen-to-twenty minute quiz will be given at the end of many (no less than 6) recitation sessions that covers the most recent homework assignments. Your lowest grade will be dropped in determining your recitation quiz average. You must be present for the entire recitation session to take the quiz. There are no make-ups, but if you miss a quiz, keep a log book and staple an explanation sheet your final exam.
**Homework:** Homework will be assigned each lecture period. Working in teams is encouraged. Homework will not be turned in for grading. Instead, recitation quizzes will, for all practical purposes, be your homework grade.

**Final Exam (25%):** Cumulative. Given during the official UT-scheduled time period and location (http://registrar.utexas.edu/schedules/109/finals/), tentatively Friday, December 10, 7:00–10:00 pm. One 8½ x 11” sheet of notes (both sides) is permitted.

**Grading method:** Plus/minus grading will be used.

**On-Time Attendance (10%).** A sign-in sheet will be provided at the beginning of each lecture and recitation session. If you are late, please do not ask to sign in late. Instead, keep a log book of your absences or late arrivals, and staple an explanation sheet to your final exam.

**Makeup Tests:** Missed tests will be handled on a case-by-case basis. There is no makeup test for the final. Zero points will be given to missed finals.

**Disclaimers:**
Although unlikely, this syllabus and course topics may change according to my judgment as to what is best for the class. Any changes will be declared in class. For example, due to the particular nature of my research I may need to travel to disaster areas on short notice. Although I will communicate these trips in advance along with any potential changes that these trips may cause, it is not possible to know at this time when those trips may occur. General course schedule and administrative deadlines follow The UT Austin calendar, long session 2010-2011, which can be found at http://registrar.utexas.edu/calendars/10-11/.

Students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 471-6259. The link to this office is: http://www.utexas.edu/diversity/ddce/ssd/. An official letter should be provided outlining authorized accommodations.

University of Texas Honor Code: “The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.” Each student in this course is expected to abide by this University of Texas Honor Code. Any work submitted by a student in this course for academic credit will be the student's own work. Link to University Honor Code: http://registrar.utexas.edu/catalogs/gi09-10/ch01/index.html. A good explanation of what constitutes plagiarism can be found in the following IEEE’s web page: http://www.ieee.org/publications_standards/publications/rights/ID_Plagiarism.html. Notice that paraphrasing could be considered a case of plagiarism.

By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.