

EE 411, Summer 2007, Circuit Theory, Unique Number 77255
Lecture MWF 11:30am-1:00pm, RLM 5.122. Recitation MW 4:00pm-5:30pm, RLM 5.118
(lecture and recitation times may be swapped occasionally)

Professor: Dr. Mack Grady, ENS348, grady@mail.utexas.edu, 471-5231. Office hours: MW 2-4pm.

TA: Jong Taek Lee, jongtaeklee@mail.utexas.edu. Recitation hours shown above.

Course Home Page: www.ece.utexas.edu/~grady/EE411_Summer07.html (contains notes, and solutions to homework and tests)

Textbook: C.K. Alexander, M.N.O. Sadiku, *Fundamentals of Electric Circuits*, Third Edition, McGraw-Hill, 2006.

Course Description: Linear circuit elements; nodal and mesh analysis; operational amplifiers; capacitance and inductance; simple transient response; sinusoidal steady state analysis; Bode plots; three-phase circuits; transformers; two-port networks (Z-parameters and Y-parameters); 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.

Schedule:

Friday, June 1	Introduction and review. Chaps. 1, 2.
Week 1 (begins June 4).	Nodal and mesh analysis. Chap. 3.
Week 2 (begins June 11).	Superposition. Thevenin and Norton equivalents. Capacitors and Inductors. Chaps. 4, 6. Test 1 Wed 4pm.
Week 3 (begins June 18).	Op amps. First-order circuits. Chaps. 5, 7.
Week 4 (begins June 25).	Second-order circuits. Chap. 8. Test 2 Wed 4pm.
Week 5 (begins July 2).	Sinusoids. Complex numbers. Phasors. Chap. 9. (Wed. is a holiday. Fri. is an official no-class day due to final examinations in six-week summer courses).
Week 6 (begins July 9).	Sinusoidal steady-state analysis. Chap. 10.
Week 7 (begins July 16).	Sinusoidal circuits, cont. Single-phase power. Chap. 11. Test 3 Wed 4pm.
Week 8 (begins July 23).	Three-phase power and electric power grids. Chap. 12.
Week 9 (begins July 30).	Magnetic circuits. Transformers. Chap. 13. Test 4 Wed 4pm.
Week 10 (begins Aug. 6).	Frequency response. Two-port networks. Chap. 14. Test 5 Wed 4pm.

Five One-Hour Tests (50%): Cumulative. Wednesdays at 4pm. These tests cover class materials through the preceding Friday. One 8½ x 11" sheet of notes (both sides) is permitted.

Recitation Sessions, Experiments, and Quizzes (20%): Recitation sessions begin on Monday, June 4. They will focus on solving the homework problems and other problems related to classroom lectures. Some sessions will include laboratory experiments. Unless one of the five hourly tests is scheduled for a session, a fifteen-to-twenty minute quiz will be given at the end of most recitation sessions (except June 4) 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 makeups, 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 (20%): Cumulative. Given during the official UT-scheduled time period and location (tentatively Mon 13 Aug, 9a to 12n). One 8½ x 11" sheet of notes (both sides) is permitted.

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: If you miss one of the one-hour tests, your final exam grade will be substituted for the missing test grade. Additional missed tests will be handled on a case-by-case basis.