EE 411, Fall 2011, Circuit Theory, Unique Numbers 16505 and 16510
Lecture MWF 9-10, ACA 1.104
Recitation: 16505 on Wed. 1-3 in ENS 109, 16510 on Fri. 3-5 in ENS 115. Sometimes in the Power Lab, ENS 212

Professor. Dr. Mack Grady, ENS 348, grady@mail.utexas.edu, 471-5231. Office Hours. MW 10-12.
TA. Joon Kim, jkim1@mail.utexas.edu (recitation/lab sessions, plus some other hours to be determined)
Course Home Page. www.ece.utexas.edu/~grady/EE411_Fall11.html (notes, solutions to homework and tests, etc.)
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.

Schedule

Week 2 (Sept. 5) Mon. holiday. Thevenin and Norton equivalents. Chap. 4. Test 1 on Friday.
Week 3 (Sept. 12) Op amps. Chap. 5.

Steady-State AC Circuits and Power
Week 5 (Sept. 26) Sinusoidal steady-state analysis, cont. Chap. 10.
Week 6 (Oct. 3) Single-phase power. Chap. 11. Test 3 on Friday.
Week 7 (Oct. 10) Three-phase power. Chap. 12.

Capacitors, Inductors, and Transient Circuits
Week 10 (Oct. 31) First-order circuits, cont. Chap. 8. Test 5 on Friday.
Week 11 (Nov. 7) Second-order circuits.
Week 12 (Nov. 14) Second-order circuits, cont. Test 6 on Friday.

Magnetics and Other Components
No recitation sessions.

Grading
Six 30-minute Tests (60%). Every other Friday, beginning Sept. 11. One 8½ x 11” sheet of notes (both sides) is
permitted. If you miss one of the 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. If necessary, each test and the final exam is curved upward to
achieve class average = 75. Test solutions are discussed at the end of each test. Attendance is taken during most classes.
It is virtually impossible to perform well on tests if your class and recitation attendance are poor.

Homework (5%). Homework will be assigned every Friday, and due the next Friday. Working in teams is encouraged.
Teamwork is not the same thing as copying! Note – it is very difficult to obtain a good grade in this course unless you
master all the homework, and copying will prevent you from mastering the homework. Selected homework problems
will be graded.

Recitation Sessions and Lab Projects (15%) begin on Wed., Aug. 24. Stick with your assigned time unless you clear
it first with Dr. Grady or Mr. Kim. Sessions will focus on solving the homework problems and performing lab
experiments. Some pre-announced 15-minute quizzes will be given. You will build two PC boards – the first is a
Thevenin Equivalent demonstrator, and the second is an Op Amp Circuit Board for studying amplifiers, summers,
multipliers, pulse generators, demodulation, filters, frequency response, and Bode plots. Your new lab initiative is being
sponsored 100% by Schlumberger www.slb.com (located in Sugar Land, TX), and Mouser Electronics
www.mouser.com (located in Mansfield, TX).

Final Exam (20%). Cumulative. At the UT-scheduled time period and location. One 8½ x 11” sheet of notes (both
sides) is permitted.

Cell phones, text messaging, email, chit-chat, unnecessary racket, web surfing, continually arriving late. Not tolerated.
Formula for Success: 1. Show up for class and recitation sessions, and be on time. 2. Work all the homework problems
plus extra problems – work at least one problem every day to stay sharp. 3. Don’t get behind. 4. Come to office hours if you
need help. 5. Stay focused, fit, and ready. 6. Work more problems.