

Instructor: Prof. Stephen D. Gedney
Office: 687C F. Paul Anderson Tower *Phone:* 257-3926
email: gedney@engr.uky.edu
Lecture: 2:00 – 3:15 PM Tuesdays and Thursdays, 263 FPAT
Recitation: 2:00 - 3:50 PM Fridays, 263 FPAT
Office Hours: Tuesdays and Thursdays 9:30 – 11:30 a.m. or by appointment

Teaching Assistant: Rodger Zhao
TA Office: 669 FPAT *TA email:* rodgerwxh@gmail.com
TA Office Hours: MTWRF 1:00 – 3:00PM, others by arrangement

Required Text: Basic Engineering Circuit Analysis, 10th Edition, J. David Irwin and Robert M. Nelms, Wiley Press, 2010 (**ISBN-13:** 978-0470633229)
Course Web Page: www.engr.uky.edu/~gedney/courses/ee211

Expected Student Outcomes:

A student who has successfully completed this course should be able to:

1. Analyze simple resistive circuits including those containing operational amplifiers and controlled sources with loop and nodal analysis.
2. Analyze RLC circuits containing switches, independent sources, dependent sources, resistors, capacitors, inductors, and operational amplifiers for transient response using loop and nodal analysis.
3. Analyze RLC circuits with sinusoidal excitation sources for steady-state response using loop and nodal analysis.
4. Compute Thévenin and Norton equivalent circuits.
5. Use SPICE (computer simulation package) to compute voltages, currents, transient responses, and sinusoidal steady-state responses.

Grading Policies: Grades will be based on numerical scores according to the weighting system listed below.

14 HW Assignments	15%
12 Highest Weekly Exams	40%
Recitation Participation	5%
Final Exam	40%

Letter grades will be based on the following scale: 100 to 90% = A, 89 to 80% = B, 79 to 70% = C, 69 to 60% = D, 59 to 0% = E.

Homework will be assigned each week via the course web page and will be graded by the TA. **Homework is due at the start of class each Tuesday.** Problem solutions must show a clear systematic method for arriving at the correct solution in order to receive full credit. Points will be taken off for incorrect solutions or work that is difficult to follow.

Weekly Exams will be given in recitation on Fridays and graded by Dr. Gedney. Weekly exams will test for mastery of the subject matter covered in class, the assigned sections of the

text, and the homework assignments. The exams will be CLOSED BOOK and CLOSED NOTES. Each Exam will last approximately 15 minutes. Exams that require computer software will be take home exams. The two lowest weekly exam scores will be dropped. **No makeup exams will be given. Exceptional circumstances will be considered by Dr. Gedney.**

Recitation time will be used to review homework solutions, solve problems in small groups, present solutions to the class or instructor, and take weekly exams. Participation in small groups and presentation of solutions will count toward the recitation points. Attendance in recitation is required to earn the recitation points and take the weekly exams.

Cheating and plagiarism will NOT be tolerated. If you have any doubts or questions about what is acceptable, please consult the instructor before the assignment is due. Only individual work will be allowed on homework, weekly exams and the final exam. Requests for re-grading should be made in writing within 24 hours after an assignment or exam has been returned. Unethical tactics on a homework assignment or exam will result in an E grade in the course.

Other Information:

Lecture topics will follow the text as outlined below. Students are expected to read the text prior to lecture. Students are responsible for all material covered in the assigned readings.

Students are responsible for all class business conducted during any scheduled class period (lecture and recitation). Any revision of homework assignments or exam dates will be announced during class.

For this class, you will need to have or purchase a scientific calculator that can easily handle complex number arithmetic, and can solve matrix equations with real or complex valued matrices. Some potential calculators are TI 89 Titanium (\$100 - \$140), TI 84-Plus (\$100-\$120), HP 40gs (\$90 - \$100), HP48gII (\$50 - \$100), HP50g (\$100 - \$150). (Note, I do not have experience with all of these calculators. These brands/models are listed here since the manufacturer claims they can do complex arithmetic with matrices. You are advised to do a little research on your own prior to purchasing.)

Students are expected to be familiar with computers. The PC's on campus (engineering and Young Library computing labs) will be used to run SPICE circuit simulation software or you may download your own copy of SPICE. Free versions of B²SPICE or PSPICE are available to students:

B²SPICE Lite: http://www.beigebag.com/adv4_lite.htm

PSPICE: <http://www.electronics-lab.com/downloads/schematic/013/>

The key to doing well in the course is *consistent hard work*. Plan on at least 9-12 hours of work outside of class to solve homework problems and study the course material. The material builds from fundamental concepts to more advanced analysis techniques. It is critical that students master the fundamentals in order to do well throughout the semester.

EE 211 Tentative Course Schedule – Spring 2011

<i>Unit</i>	<i>Out-comes</i>	<i>Lecture Dates</i>	<i>Text Sections</i>	<i>Topics</i>	<i>HW Due Tuesdays</i>	<i>Weekly Exams</i>
1	1-5	Jan 13	Chapter 1	Units, Quantities, Circuit Elements	Jan. 18	Jan. 21
2	1	Jan 18, 20	2.1-2.4	Ohm's Law, Kirchhoff's Laws, Single Loop/Node-Pair Circuits	Jan. 25	Jan 28
3	1	Jan 25, 27	2.5-2.11	Series/Parallel Combination Circuits, Wye-Delta Transformations, Dep. Sources	Feb. 1	Feb 4
4	1	Feb. 1, 3	3.1-3.4	Nodal/Mesh Analysis	Feb 8	Feb 11
5	1	Feb 8, 10	3.1-3.4	Nodal/Mesh Analysis continued Modified Nodal Analysis (MNA)	Feb 15	Feb 18
6	5	Feb 15, 17		SPICE Take Home Exam: Feb 22-25	Feb 22	Take home exam due Feb 25
7	1	Feb 22, 24	4.1 – 4.6	Operational Amplifiers	Mar 1	Mar 4
8	1, 4	Mar 1, 3	5.1 – 5.6	Superposition, Source transformations, Thévenin and Norton's theorems, Max. power transfer.	Mar 8	Mar 11
9	2	Mar 8, 10	6.1-6.5	Capacitors and Inductors	Mar 22	Mar 25
10	2	Mar 14-19		SPRING BREAK		
11	--	Mar 22, 24	7.1 – 7.2	First-Order Transient Circuits	Mar 29	April 1
12	2, 5	Mar 29, 31	7.3-7.5	Second-Order Transient Circuit, SPICE Modeling Transient ckts	Apr 5	Apr 8
13	2	April 5, 7	8.1-8.6	AC-Steady State, Phasors, Sinusoidal Sources, Impedance, Admittance	April 12	April 15
14	3	Apr 12, 14	8.4-8.9	AC Steady State Analysis	Apr 19	Apr 22
15	3, 4	Apr 19, 21	8.10	Applications and SPICE	Apr 26	Apr 29
16	1-5	Apr 26, 28	Review	Cumulative		
17		Friday May 6	Final Exam	Comprehensive Final Exam 8:00 AM – 10:00 AM (263 FPAT)		

Other important dates

Jan 17, 2009
 Mar 14-19, 2009
 May 4 - May 8, 2009

MLK, Jr. Birthday
 Spring Break
 Final Exam Week

No Classes
 No Classes