Syllabus
ELEC 401 – Electronics II, Fall 2014

Course	*ELEC 401 – Electronics II*	**Instructor**	Dr. Mark McKinney
Text	*Microelectronics* *Analysis and Design, 4th Ed.* by Donald A. Neamen	**Email**	mckinneym@citadel.edu
Meeting Place	01 – TTh 9:30 – 10:45, Rm. 322 81 – TTh 5:15 – 6:30, Rm. 322	**Office**	Grimsley Hall Rm. 325 953-4897
Web Page	*http://ece.citadel.edu/mckinney/elec401/*	**Office Hours**	TTh: 1:30 – 5:00

COURSE OBJECTIVES

- Determine the frequency response of amplifier circuits
- Analyze and design power amplifier circuits using power bipolar and field effect devices
- Use Op-amps in a variety of electronic circuits, including:
  - Amplifiers
  - Active Filters
  - Oscillators
  - Schmitt Triggers
  - Multivibrators
- Use a computer simulation package to analyze electronic circuits

HOMEWORK AND QUIZZES

Homework assignments and simulation projects will be assigned periodically throughout the semester. Both will be due one week from the date assigned. Homework is to be done on the front side only of engineering paper in a neat and easy to understand format. The submitted homework should stand on its own so that it is not necessary to consult the actual published problem to understand the solution. Homework will be graded on a "good-faith" attempt at the problem and a point value will be given to each problem roughly proportional to the amount of work the problem required.

TESTS

Throughout the semester, there will be two tests and one final exam. Make-up exams will be given only in the case of an emergency or if prior arrangements have been made. In the case of an emergency, a reasonable attempt must be made as soon as is possible to arrange a suitable time for a make-up exam. The final exam will be cumulative and will be designed as a two-hour test. According to Citadel policy, any exceptions to the time and place of the final exam must be cleared through the provost.

CALCULATOR POLICY

For all quizzes, tests, and examinations, only NCEES approved calculators may be used. These are the calculators that students are permitted to bring to the FE exam. The list of approved calculators can be found on the NCEES website (http://www.ncees.org/Exams/Exam-day_policies/Calculator_policy.php). This policy does not apply to homework.

GRADING

Relative weights of components	
Class Participation Grade	10%
Homework & Quizzes	20%
Highest Test Score	25%
Lowest Test Score	15%
Final Exam	30%

COMMUNICATION

Email is easily the best way to communicate with me. If I do not respond within a few hours during regular business hours, please email me a second time. There is a Remind distribution for each class so you can receive texts or emails related to the course. Please see me if you need the registration code for the course.

PRE-REQUISITES & CO-REQUISITES

Each student must have completed and passed ELEC 306 and ELEC 313, must be proficient in PSpice and have access to a computer with a working copy of PSpice.

COURSE POLICIES

Attendance - According to The Citadel's absence policy, any student missing more than 20% of the scheduled classes (even if excused) will receive a failing grade regardless of class performance.

Late assignments - Late assignments will not be accepted even for approved absences; if a conflict arises on a date an assignment is due, make arrangements to submit the assignment before the due date. There are buffers built into the grading scheme to provide for at least one missed assignment.

Special needs - If you need accommodations because of a disability, please see me privately after class or in my office within two weeks of the beginning of class or immediately after diagnosis. Requests for academic accommodations must be made through The Citadel Academic Support Center. To make an appointment, with The Center, please call (843) 953-5305, email wlcenter@citadel.edu or stop by Thompson Hall 117.

Cheating and Collaborative Work -

According to Webster's New International Dictionary, 3rd Edition: to plagiarize is defined as "to steal and pass off as one's own the ideas or words of another" or to "present as new and original an idea or product derived from an existing source."

In this course, all computer simulations must be your own work, but collaborative work on homework is permitted with no grade penalty. In the event of joint efforts, every student must submit the problem in their own handwriting and each person cited must have made a significant contribution to the problem.

Lecture	Evening	Day	Reading	Topic
1	8/26	8/28	1.1-6.12	Introduction/Electronics Review
2	8/28	9/2		Electronics Review
3	9/2	9/4		Electronics Review
4	9/4	9/9	7.1-7.2	Frequency Response of Amplifiers
5	9/9	9/11	7.3	Amplifiers with Coupling Capacitors
6	9/11	9/16		Amplifiers with Coupling Capacitors
7	9/16	6/18	7.4	BJT Frequency Response
8	6/18	9/23		BJT Frequency Response
9	9/23	9/25	7.5	FET Frequency Response
10	9/25	9/30		FET Frequency Response
11	9/30	10/2	8.1-8.2	Power Transistors
12	10/2	10/7		Power Transistors
13	10/7	10/9		Test 1 - Chapters 1-7
14	10/9	10/14	8.3	Amplifier Classes
15	10/14	10/16		Amplifier Classes
16	10/16	10/21	9.1-9.4	Op Amp Circuits
17	10/21	10/23	9.5	Op Amp Applications
18	10/23	10/28		Op Amp Applications
19	10/28	10/30	15.1	Active Filters
20	10/30	11/6		Active Filters
21	11/4	11/11	15.2	Oscillators
22	11/6	11/13		Oscillators
23	11/11	11/18		Test 2 - Chapters 8, 9 and 15.1
24	11/13	11/20	15.3	Schmitt Triggers
25	11/18	12/2		Schmitt Triggers
26	11/20	12/4	15.4	Multivibrators
27	12/2	12/9		Multivibrators
28	12/4	12/11		Review for Final Exam