ECE320   Electronic Devices and Controls   Winter 2010

Catalog Description: Theory and Applications of electronic devices; study of control circuits, feedback, operational amplifiers, and instrumentation.

Textbook: *Principles and Applications of Electrical Engineering* by G. Rizzoni, 5th. ed., McGraw-Hill

Other Course Materials: MIT OCW Circuits & Electronics course website.

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Course Objectives:
1. Students learn basic elements of electronic circuits including transistor amplifiers, operational amplifier circuits and simple logic circuits.

Grading and Schedule

Exam I (25%)	4th week
Exam II (25%)	7th week
Final Exam (35%)	Tues., March 16 from 7:30 to 9:20am
Homeworks & Quizzes (15%)	Due dates assigned in class
	Quiz 1 ~ 3rd week, Quiz 2 ~ 9th week

Policies & Tips

1. Homeworks will be graded mostly on effort. Homeworks will only be accepted in class on the day they are due.   Homeworks and quizzes are to prepare for tests.

2. Quizzes are counted as an in class homework. Any disputes of quizzes or tests must be brought up within 2 weeks of the return of the graded item.

3. Make ups are difficult and have different testing. Other circumstances are to be discussed beforehand.

4. Circuits and Electronics Design is an art, and thus has many confusing approaches. It is best learned by looking at different explanations, and by actually building and testing circuits. Spice simulations are an alternative to building and testing, and can be useful for learning.

ECE320 Course Schedule for Winter 2010

Week	Subject	
1.	Course Overview, Book Overview, Web and CAD overview. Circuits Review - resonance.	
2.	Simplified view of diodes, MOS transistor, amplifiers and logic gates.	On-line notes
3.	Op amp circuits, **Quiz 1**	Chapter 8
4.	Op amp feedback and control, **Exam I**	
5.	Diode Details.	Chapter 9
6.	MOS transistor Details.	Chapter 11
7.	**Exam II**	
8.	Bipolar Transistor Details.	Chapter 10
9.	Digital Logic Circuits, **Quiz 2**	Chapter 13
10.	Analog I/O and Embedded Computing Systems, Course Review.	Chapter 15

Final - Tues., March 17,   7:30-9:20am

Calendar Weeks: 1 – 1/4   2 – 1/11   3 – 1/18   4 – 1/25   5 – 2/1   6 – 2/8
Monday starts

                        7 – 2/15   8 – 2/22   9 – 3/1   10 – 3/8

                        Finals – 3/16