EE 42 Syllabus -- Spring 2004

Week	Date	Topic	Required (Grob) Text and *Reader*	Chua Text	Nilsson Text	EE 43 Lab
1	January 20	Course Logistics				No Lab
	January 22	Voltage, Current, I/V Relationship	1-1 to 1-11	1-3, 2-1	1.3 to 1.6	
2	January 27	Kirchhoff's Laws, Series/Parallel, Voltage/Current Divider	3-1 to 3-10, 4-1 to 4-7, 5-1 to 5-6, 6-1 to 6-5, 7-1 to 7-5, 9-1 to 9-2	1-4, 2-2	2.1 to 2.4, 3.1 to 3.4	Introduction
	January 29	Practical Sources, Measurements	2-7, 3-12, 8-2 to 8-10, 12-11 to 12-14		3.5	
3	February 3	Nodal Analysis	9-4	5-1	4.2, 4.4	Oscilloscopes
	February 5	Problem/Application Day				
4	February 10	Superposition & Thevenin Equivalents	10-1 to 10-3, 10-5 to 10-7	5-4	4.9, 4.10, 4.13	Circuit Simulators
	February 12	Dependent Sources			2.5, 4.3, 4.11	
5	February 17	Operational Amplifiers	32-1 to 32-2	4-1, 4-2	5.1 to 5.6	Equivalent Circuits
	February 19	Differential Amplifiers/Comparator	32-2	4-3	5.7	
6	February 24	Problem/Application Day				No Lab
	February 26	**Midterm #1**				
7	March 2	Capacitance, Simple RC Circuit	17-1 to 17-11, 23-1, 23-4 to 23-11	6-1 to 6-3	6.2, 7.2 to 7.7	Op-Amps
	March 4	RC Charging, Multiple R and C	23-4 to 23-11	6-3	6.3, 7.2 to 7.7	
8	March 9	Digital Logic	31-1 to 31-2, 31-6 to 31-11			RC Circuits
	March 11	Problem/Application Day				
9	March 16	Semiconductors, P/N Junction	28-1 to 28-3, *3.3*			Digital Logic
	March 18	Diode I-V, Nonlinear Circuits	29-7, *3.1 to 3.2, 3.4 to 3.5*	2-1, 2-3		
	March 23	Spring Break				No Lab
	March 25	Spring Break				
10	March 30	NMOS and PMOS Transistors, I-V	28-5, *5.1 to 5.3*	3-1 to 3-5		Diodes
	April 1	NMOS and PMOS Circuits	*5.4*	3-5		
11	April 6	Problem/Application Day				MOSFETs
	April 8	Inverter, Transfer Curve	*5.8, 13.2*	3-5		
12	**April 13**	**Midterm #2**				CalBot
	April 15	CMOS NAND/NOR, Gate Delay	*13.3, 5.10*			
13	April 20	Problem/Application Day				CalBot
	April 22	Latch, Flip-Flops, Multivibrator	31-12, *13.7 to 13.8*			
14	April 27	More Digital Circuits	*13.9 to 13.12, 10.9 to 10.11*			CalBot
	April 29	Problem/Application Day				
15	May 4	Fabrication and Technology				CalBot
	May 6	Mathematical Aspects of Networks		1.5, 1.6		

Note: Lectures entitled "Problem/Application Day" will introduce problem-solving techniques and additional applications of recent material.

EE 42 Course Policies -- Spring 2004

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Textbook: *Basic Electronics*, by Grob and Schultz, 9th Edition, Glencoe. A very basic, practical, readable text that covers most of the essentials.

Alternate Textbooks: You may prefer learning from one of these texts, depending on your style. All are on reserve in the engineering library.
- *Linear and Nonlinear Circuits*, by Chua, Desoer, and Kuh, McGraw Hill. For those who prefer a more theoretical, mathematical standpoint.
- *Electric Circuits*, by Nilsson and Riedel, 6th Edition, Prentice Hall. More concise than Grob, with many practice problems. Weeks 1-7.
- *Microelectronic Circuits* by Sedra and Smith, 4th Edition, Oxford. More detail on electronic circuits (the course reader comes from this text).

Course Reader: To be used starting in Week 9. It will be available for purchase later in the semester, at Copy Central on Bancroft Avenue.

Class Notes: Notes will be handed out in lecture. The notes are designed to provide you with the main points and diagrams so that you can listen and think in lecture, and concentrate less on note-taking. Space will be provided for you to embellish the notes. The class notes will form the core material of the course, and homework/exam expectations will be based on what is covered in class.

Class Website: http://inst.eecs.berkeley.edu/~ee42 . Class notes, homework, solutions, etc.

Class Newsgroup: ucb.class.ee42 . Check the newsgroup often for announcements.

Homework: Homework will be posted to the website when assigned, due at the beginning of class on the specified due date (at least one week later, usually Thursday). You may discuss the homework with other students, but each student must write up the solutions independently. Turn in the EE 42 drop box in the student lounge on the 2nd floor of Cory Hall. Late homework is not accepted, and the lowest HW score will be dropped.

Grading: There will be 3 exams, each worth 30% of the final score. The homework average is 10% of the final score.

Grading Scale: The grading scale is fixed, so your grade is determined by your performance, and is unaffected by the performance of other students. This is intended to eliminate competition between students—I encourage you to work together and help each other learn.

A+ 97-100	A 89-96	A- 85-88	B+ 81-84	B 74-80	B- 70-73	C+ 66-69	C 59-65	C- 55-58	F below 55

Makeup Exams: Makeup exams will be given only when there is a class conflict with the scheduled exam, a death of a close family member, or an illness with a doctor's excuse. The makeup exam may be oral or written, and might not have the same content or difficulty as the original exam.

Regrading Exams: Exams may be regraded in "Regrade Court". A time period will be set aside after Exam 1 and Exam 2 to discuss regrades with Prof. Ross. When you receive your exam in lab, if you have a problem with the grading, do not take it home—make a note and give it to the GSI. Be aware that your exam score could go up or down if regraded. Due to the deadline the University places on final grade submission, there may not be an opportunity to regrade Exam 3.

Anonymous Feedback: ee42-feedback@imail.eecs.berkeley.edu . Constructive criticism and suggestions are welcome—keep it professional!