Physics 116A Fall 2005
Introduction to Analog Electronics
Preliminary Outline 9/29/06

Class meets MWF at 12:10 PM in 140 Physics/Geology

Week	Monday	Topics/Notes	Laboratory
	First class is Friday, September 29		
0	(Sept 25)	Overview: Scope of course (Fri. 9/29)	*(Lab starts Mon., Oct. 2)*
1	Oct 2	DC Circuits; dependent sources	1: Intro. to Lab Equipment
2	Oct 9	Ideal Op Amps; LRC and AC Circuit Analysis	2: Op-Amp Applications
3	Oct 16	Freq. response, feedback **25 Min. Quiz 1** Friday, Oct. 20	3: Passive Components
4	Oct 23	Complex frequency, H(s) Semiconductor fundamentals	4: Op-Amp Resonant Bandpass Filter
5	Oct 30	Diode circuits (omit pp. 377-381) **Exam** Fri., Nov. 3 on material covered in Ch. 1-5	5: SPICE analysis
6	Nov 6	Fundamentals of Bipolar Junction Transistor (BJT) (7.1-7.3 only) and Field-Effect Transistor (FET) (8.1-8.2 only) *[Fri., Nov 10: Veterans' Day holiday]*	6: Diode Characteristics
7	Nov 13	Transistor amplifiers	7: BJT and CE Amplifier
8	Nov 20	Frequency response Large signal characteristics **25 Min. Quiz 2** Wed., Nov. 22 *[Nov 23-24: Thanksgiving Holiday]*	8: FET Curr. Source, Amp.
9	Nov 27	Differential Amplifier and op amp	9: BJT Differential Amp.
10	Dec 4	Op amps, feedback and oscillation *[Last class Friday, Dec. 8]*	10: Feedback & Oscillation

Labs: Sec. 1 M 3:10-6:00 PM, Sec. 2 W 3:10-6:00 PM in 152 Roessler
Final Exam: Wednesday, Dec. 13, 10:30 AM

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Office hours: *to be arranged* **or by appointment**

Lab TA: Evan Friis
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Readers: *to be arranged*

Text:

Bobrow, **Fundamentals of Electrical Engineering, 2nd ed.**
Scope: Material on analog electronics in Ch. 1-10 and Ch. 16

Grading: 9% Quiz 1, 18% MT, 9% Quiz 2, 25% Lab(*required, on time*), 10% HW, 29% Final.

Web Page: http://www.physics.ucdavis.edu/classes/Physics116/physics116.html
(available on or before Monday 10/2/06)

First Assignment:

Read Bobrow, Ch. 1, 2
The first problem set will be assigned Monday, 10/2 and due Monday, 10/10

About the lab:

The lab instruction sheet for the first lab is attached. In the future, you should download these from the class web site (available by next Monday) and print them for yourself.

You will need to keep a clear record of your work in the lab along with the data which you collect. Traditionally, this is done in a bound logbook, although there is a trend toward on-line electronic logbooks for some experiments. ***For this lab, you will use an 8.5" x 11" loose-leaf notebook of your choice (be sure to bring it to the first lab).*** This way you can turn in your notes from a given experiment as part of the lab report without losing access to the rest of the logbook. We encourage you to use quadrille-ruled paper (such as the Engineer's Composition Pad available in the bookstore). This simplifies making tables, quick graphs and diagrams. Note that it is best to use only one side of the page with this paper. Each student must keep his/her own logbook, although data sheets can be shared between lab partners via photocopies.

The TA will provide more information on the lab report format, etc. at the first lab.