PHY338K   **First Day Handout**   **August 31, 2006**

Unique # 61955 T 2:00-3:30 RLM 5.116, TH 2:00-5:00 RLM 8.206

Instructor: Greg O. Sitz, Office: RLM 10.313, Office Hours: M, Tu 10:30-11:30 or by appointment, Phone: 471-0701, email: `gositz@physics.utexas.edu`

Text: The Art of Electronics by *Horowitz and Hill* (2nd Ed.).

Teaching Assistant: John Robertson, Office: TBA , Office Hours: TBA,
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Brief Description: Physics 338K is designed to be a practical course covering basic laboratory electronics useful in a variety of science and engineering environments. The course will cover both analog and digital electronics, but more emphasis will be placed on analog circuits (eg., transistors and opamps) since they tend to be more difficult to learn independently. Emphasis will be placed firmly on laboratory applications of the material.

Grade Points: Grade points are assigned for **Homework, One Midterm Exam, Lab Reports** and the **Final Exam**. There will be a total of 100 grade points possible during the semester; your semester grade will be computed based on the following cutoffs:

> greater than 85 points = A
> greater than 70 but less than 85 = B
> greater than 60 but less than 70 = C
> greater than 50 but less than 60 = D
> less than 50 of the available points = F

Exams: There will be one midterm exam on Tuesday October 31. It will count for 12.5 grade points. If you are absent from the examination for the observance of a religious holy day you may complete the work missed within a reasonable time after the absence, if proper notice has been given. Notice must be given at least seven days prior to the exam.

Final Exam: The Final will be a comprehensive exam similar in format to the midterm and the homework and will count for 25 grade points. It is **required** to pass the course.

Final Exam: Wednesday, December 13, 2:00 - 5:00 PM.

Homework: will be distributed and due approximately weekly and will count for 12.5 grade points. You are encouraged to discuss homework with anyone you wish; however, all written homework must be prepared independently (by you). Homework is due at the end of class on the specified day. Homework that is between 1 minute and 1 week late will be accepted with a 50% penalty. Homework later than this will not be accepted.

Labs: The major component of this course is the laboratory projects and associated reports which will count for 50 grade points. Except for the first week, a description of each lab will be available at least one week prior to the scheduled time period for that lab. You will be expected to be familiar with the lab material before arriving in the lab.

Other: The last date to drop the course without possible academic penalty is September 27, 2006. The last day to drop the course for academic reasons is October 25, 2006.

Please notify me of any modification/adaptation you may require to accommodate a disability-related need. You will be requested to provide documentation to the Dean of Students' Office, in order that the most appropriate accommodations can be determined. Specialized services are available on campus through Services for Students with Disabilities.

Alternatives: This document as well as other course related material will be available through the UT Blackboard system

https://courses.utexas.edu/webapps/portal/frameset.jsp

Syllabus

Week of	Lecture Topic (Tuesday)	Chapter(s)	Lab Topic (Thursday)
August 31	no Lab, class on Thursday		
September 4	Review of simple circuits, AC circuits	1.01-1.15	Oscilloscope, VOM
September 11	AC circuits, filters	1.16-1.24	AC circuits
September 18	Resonant circuits, Semiconductors		Filters
September 25	Semiconductors, diodes	1.25-1.31	Diodes
October 2	Transistors, Amplifiers	2	Bipolar transistors
October 9	Field Effect Transistors	3	Transistor circuits
October 16	Operational Amplifiers	4	Op Amps
October 23	Operational Amplifiers	4	Op Amp circuits
October 30	Mid term exam	5.12-5.19	Digital Circuits I
November 6	Digital Logic		Digital Circuits II
November 13	Digital Logic	8.01-8.11	Project 1
November 20	Digital Flip Flops	8	no lab, Thanksgiving
November 27	Digital Electronics	9	Project 2
December 4	Digital Electronics	10	Project 3

Quotes:

"The domain of conventional thought can be much narrower than the capabilities of nature" -Steven J. Gould

"Reality is that which, when you stop believing in it, doesn't go away." - Phillip K. Dick

"How often have I said to you that when you have eliminated the impossible, whatever remains, however improbable, must be the truth?" - Sherlock Holmes to Dr. Watson (Sir Authur Conan Doyle)