

Unique # 57050 T 2-3:30 ETC 2.102, TH 2-5 RLM 8.206

**Instructor:**

- Greg O. Sitz
- Office: RLM 10.313
- Office Hours: W 10:30-11:30, Tu 5-6 or by appointment
- Phone: 471-0701
- email: `gositz@physics.utexas.edu`

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

**Teaching Assistant:** John Robertson, Office: TBA , Office Hours: TBA,  
email: `jwr@physics.utexas.edu`

**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 25. It will count for 12.5 grade points.

**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:** Monday, December 12, 9:00-12:00 noon.

**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 November 1, 2011. After this date students with substantiated nonacademic reasons (as determined by the Dean's Office) may be allowed to drop a course. Also, beginning this year, you have the option once in your undergraduate degree to drop a class or drop out of all classes in a semester right up till the last class day.

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 Division of Diversity and Community Engagement, Services for Students with Disabilities, 471-6259, <http://www.utexas.edu/diversity/ddce/ssd/>.

By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

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

## Syllabus

Week of	Lecture Topic (Tuesday)	Chapter(s)	Lab Topic (Thursday)
August 22	no Lab, class on Thursday		
August 29	Review of simple circuits, AC circuits	1.01-1.15	Oscilloscope, VOM
September 5	AC circuits, filters	1.16-1.24	AC circuits
September 12	Resonant circuits, Semiconductors		Filters
September 19	Semiconductors, diodes	1.25-1.31	Diodes
September 26	Transistors, Amplifiers	2	Bipolar transistors
October 3	Field Effect Transistors	3	Transistor circuits
October 10	Operational Amplifiers	4	Op Amps
October 17	Oscillators	5.12-5.19	Op Amp circuits
October 24	Mid term exam (on 10/25)		Digital Circuits I
October 31	Digital Logic	8.01-8.07	Digital Circuits II
November 7	Digital Logic	8.08-8.11	Project 1
November 14	Digital Flip Flops	8.16-8.18	Project 2
November 21	Digital Electronics	9	no lab, Thanksgiving
December 28	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