ECEN 325: Electronics

Spring 2014
TR 8:00-9:15, ETB 1037 (Lecture)
W 3:00-4:00, ZACH 203 (Recitation – **Attendance Required**)
http://www.ece.tamu.edu/~spalermo/ecen325.html

Instructor: Sam Palermo
Office: 315-E WERC
Office Hours: MW 1:00-2:30
Phone: 458-4114
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Prerequisite: ECEN 314 (co-registration)

Textbook: *Microelectronic Circuits, 6th Edition*, A. Sedra and K. Smith, Oxford University Press, 2009. **(Optional)**

Reference: *Class Notes*, Jose Silva-Martinez. This is the primary class reader.
Class Notes, Aydin Karsilayan. Excellent Condensed Notes Set.
Both notes sets are posted on class website.

Topics: Introduction to electronic systems; linear circuits; operational amplifiers and applications; diodes, field effect transistors, bipolar transistors; amplifiers and nonlinear circuits.

The learning outcomes include the following five ABET Criteria (A, B, D, E, and K): an ability to apply knowledge of mathematics, science, and engineering, an ability to design and conduct experiments, as well as to analyze and interpret data, an ability to function on multidisciplinary teams, an ability to identify, formulate, and solve engineering problems, an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Grading:

- **Exams 60%**
  - Three Midterm Exams (20% each)
  - Closed book & wireless devices. **Use of a wireless device results in a zero exam grade.**
  - One double sided 8.5x11 note sheet allowed
  - No make-up exams except for university excused absences. **Immediate notification is required for an exam absence.**
- **Homework/Quizzes 10%**
  - You are encouraged to work together with your colleagues on the homework. However, each student must turn in an independent write-up.
  - Due at 5PM on the due date in my mailbox near 315-E WERC
  - No late homework will be graded
  - Quizzes will be given in recitation and weighted equally with the homework
- **Laboratory 20%**
- **Laboratory Project 10% (+2%)**
  - Project groups of 1-3 people allowed
  - Report with measured results required
  - Opportunity for extra credit (+2pts on final grade)

Grading Policy*:

Letter Grade	x = Your Average
A	$x \geq 90.00$
B	$89.99 \geq x \geq 80.00$
C	$79.99 \geq x \geq 70.00$
D	$69.99 \geq x \geq 60.00$
F	$59.99 \geq x$

*This is the lowest grade that you are guaranteed for your raw average, x. Depending on the relative performance of the class, your grade **MAY** be adjusted higher.

Outline & Preliminary Schedule*

	Topic	Week
I.	Introduction to electronics	Week 1-4
II.	Circuit analysis and bode plots	
III.	Operational amplifiers and circuit analysis	
	Review session (30 min.)	**Feb. 18**
	1st MIDTERM	**Feb. 20**
IV.	Diode and bipolar device models	Week 5-8
V.	Concepts on input and output impedances and transmission gain	
VI.	Basic and multi-stage amplifiers	
	Review session (30 min.)	**Mar. 27**
	2nd MIDTERM	**Apr. 1**
VII.	Field-effect (MOS) transistors	Week 9-12
VIII.	Basic and multi-stage amplifiers	
IX.	Differential amplifiers	
	Review session (30 min.)	**Apr. 24**
	Project Report Due	**Apr. 28**
	3rd MIDTERM	**May 5 (1:00PM-3:00PM)**

*Exam dates are approximate and subject to change with reasonable notice.

Laboratory safety guidelines will be distributed at the beginning of the semester, they are to be reviewed, filled out, and turned back to the department.

Americans with Disabilities Act (ADA) Policy Statement:
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Room 126 of the Koldus Building or call 845-1637.

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Honor Council Rules and Procedures: http://www.tamu.edu/aggiehonor

Build the Hell Outta Electronic Circuits!