

Electronic Circuits and Systems
Spring 2010
COURSE INFORMATION

Room: Lecture - 1227 Hoover
Labs - 2014 Coover

Time: Lecture - MWF 8:00-8:50
Laboratory

- Sec B Tues 6:10-9 TA: Lei Ke
- Sec C Wed 9-11:50 TA: Lei Ke
- Sec D Wed 4:10-7 TA: Gunjan Pandey
- Sec E Mon 2:10-5 TA: Gunjan Pandey

Lecture Instructor:

Randy Geiger

2133 Coover

Voice: 294-7745

e-mail: rlgeiger@iastate.edu

Office Hours: Maintains an open-door policy, will reserve 9:00 to 10:00 MWF specifically

Laboratory Instructors and Teaching Assistants:

Yassin Labyed labyed@iastate.edu Rm 1045 Coover

Gunjan Pandey gpan@iastate.edu Rm 3261 Coover

Lei Ke kelei@iastate.edu Rm 3101 Coover

Course Description:

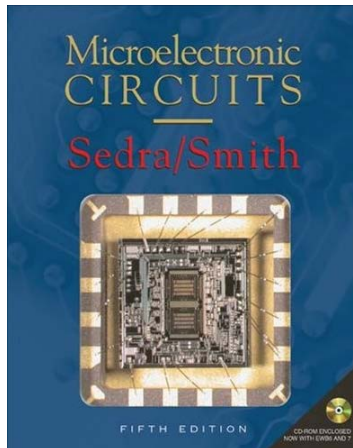
(3-3) Cr. 4. F.S. Prereq: 201, Math 267, Phys 222 Frequency domain characterization of electronic circuits and systems, transfer functions, sinusoidal steady state response. Time domain models of linear and nonlinear electronic circuits, linearization, small signal analysis. Stability and feedback circuits. Operational amplifiers, device models, linear and nonlinear applications, transfer function realizations. A/D and D/A converters, sources of distortions, converter linearity and spectral characterization, applications. Design and laboratory instrumentation and measurements.

Course Wiki <http://wikis.ece.iastate.edu/vlsi>

A Wiki has been set up for circuits and electronics courses in the department. Links to WEB pages for this course are on this Wiki. Students are encouraged to use the Wiki to share information that is relevant for this course and to access materials such as homework assignments, lecture notes, laboratory assignments, and other course support materials. In particular, there is a FAQ section where issues relating to the material in this course are addressed. Details about not only accessing a Wiki but using a Wiki to post or edit materials are also included on the Wiki itself. Students will be expected to periodically check the Wiki for information about the course.

Required Texts:

Microelectronic Circuits – Fifth Edition
by Sedra and Smith, Oxford, 2004



Reference Texts:

Microelectronic Circuit Design - 3rd Edition
by Richard C Jaeger, Travis Blalock, McGraw Hill, 2008.

Electronics - 2nd Edition
by [Allan R. Hambley](#), Prentice Hall, 2000.

Microelectronics Circuit Analysis and Design – 3rd Edition
By D. Neamen, McGraw Hill, 2007.

Fundamentals of Analog Circuits -2nd Edition
by [Thomas L. Floyd](#) and [David M. Buchla](#), Prentice Hall, 2001

Fundamentals of Electronic Circuit Design
by David Comer and Donald Comer, Wiley, 2002.

Electronic Devices – 7th Edition
by Thomas Floyd, Prentice Hall, 2004.

Analog Circuits
by Robert Pease, Newnes, 2008

Design with Operational Amplifiers and Analog Integrated Circuits – 3rd Edition
By Sergio Franco, McGraw Hill, 2003.

Op Amp Applications Handbook
By Walter Jung, Newness, 2004.

Operational Amplifiers and Linear Integrated Circuits – 6th Edition
by R. Coughlin and F. Driscoll, Prentice Hall, 2001.

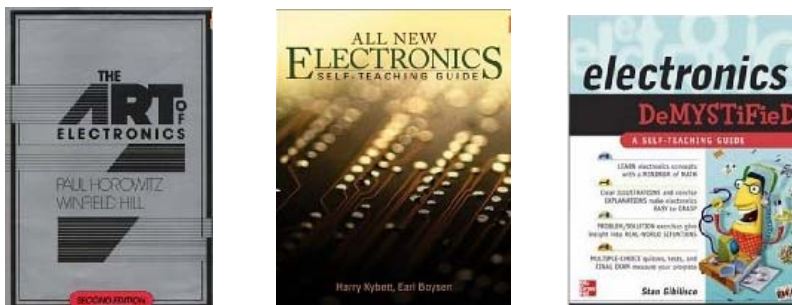


Additional References (more at technology program level but provides some insight)

The Art of Electronics
by [Paul Horowitz](#) and [Winfield Hill](#), Cambridge University Press, 1989

Electronics Self-Teachng Guide
by Harry Kybett and Earl Boysen, Wiley, 2008

Electronics DeMystified
by Stan Gibilisco, McGraw Hill, 2004



Grading: Points will be allocated for several different parts of the course. A letter grade will be assigned based upon the total points accumulated. The points allocated for different parts of the course are as listed below:

3 Exams	100 pts each
1 Final	100 pts.
Homework	100 pts.total
Lab and Lab Reports	100 pts.total
Quizzes	15 pts each
Design Project ?	50-100 pts.?

We may or may not do a special design project. If a design project is assigned, the points within the range indicated will be allocated to the project.

Quizzes will be given at the beginning of the period most days. Sometimes the instructor will solve the quiz problem(s) and sometimes the students will solve the quiz problems. If the students are asked to solve the quiz problems, there will be 15 pts. Allocated to that quiz. There will be no makeup for missed quizzes. If a quiz will be missed for an excusable reason, please inform the instructor in advance of the lecture.

Laboratory:

There will be weekly laboratory experiments. Students will be expected to bring parts kits from both the EE 201 Course and the EE 230 Course to the laboratory. To the maximum extent possible, students will be expected to work individually in the laboratory. If sufficient laboratory spaces are not available to work individually, students will work in groups of 2. The TAs will make assignments for lab partners when groups of 2 are needed and these assignments will typically be changed each week. Laboratory policy and report requirements are posted separately.

Homework:

Homework assignments are due at the beginning of the class period on the designated due dates. Late homework will be accepted, without penalty, up until 5:00 p.m. on the due date in Room 2133 Coover.

Additional Comments

I encourage you to take advantage of the e-mail system on campus to communicate about any issues that arise in the course. I typically check my e-mail several times a day. Please try to include "EE 230" in the subject field of any e-mail message that you send so that they stand out from what is often large volumes of routine e-mail messages.