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: rlg@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**  

**Electronics - 2nd Edition**  

**Microelectronics Circuit Analysis and Design** – 3rd Edition  

**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  

**Analog Circuits**  
by Robert Pease, Newnes, 2008

**Design with Operational Amplifiers and Analog Integrated Circuits** – 3rd Edition  
Op Amp Applications Handbook


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-Teaching 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.