EE105 – Fall 2014
Microelectronic Devices and Circuits

Prof. Ming C. Wu

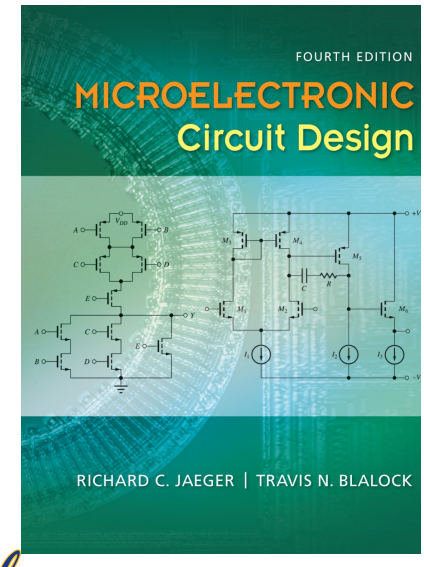
wu@eecs.berkeley.edu

511 Sutardja Dai Hall (SDH)

Course Information

- **Lecture**
  - Tuesday / Thursday
  - 3:30 to 5:00 pm
  - 3106 ETCHEVERRY
- **Instructor:**
  - Professor Ming C. Wu
  - 511 Sutardja Dai Hall (SDH), wu@eecs.berkeley.edu
  - Office hours: Monday 11-12 am; Thursday 5-6 pm
  - Best way to communicate: Email
- **GSIs:**
  - Jared Carter, jaredc@eecs.berkeley.edu
  - Yongjun Li, yongjunli@berkeley.edu
  - "Andy" Li Zhu, lizhu@berkeley.edu

Textbook



- R. C. Jaeger and T. N. Blalock, *Microelectronic circuit design*. New York: McGraw-Hill, 2011
- You need to read the assigned sections (minimum)
- The lecture does not repeat the book
- Best to read the relevant sections before lecture
- Enables meaningful in class discussions

Course Web Sites

- Open website
  - General course info, lecture notes, Labs, HW problems
  - http://www-inst.eecs.berkeley.edu/~ee105/fa14/
- bcourses
  - https://bcourses.berkeley.edu/
  - Grades (check frequently, and inform your GSI if you find any discrepancy)
  - HW solutions
  - Exam solutions
- Piazza
  - Discussions

Homeworks

- Posted Monday
- Due the following Monday at 5 pm in EE105 Drop Box in Cory (near TI Lab)
  - Late homework will not be accepted
  - Solution will be posted
- Be prepared to spend 6 - 10 hours to complete
  - Reading, Problem solving
- You can discuss homework problems with other students in the class, the GSIs, or the instructor.
- The work you submit for grading must be your own

Labs (@125 Cory)

- Lab is an integral part of this course
- You must complete all labs to pass the course!
- 3 hour lab sessions
  - Plenty of time if you do your Prelab in advance
  - Not enough time if you are trying to figure out what to do
  - Allow 5 to 10 hours for your Prelab. You may need to read ahead
- Prelab is due at the beginning of your lab session
- Lab reports are due at the beginning of the following Lab
  - Late report will be discounted by 50%.
- Work in groups of two (find your partner now)
- Each student must individually turn in his/her own Prelab and Lab reports

Grades

- Homework: 10%
  - Lowest score will be dropped from grade calculation
  - (You can miss one HW without impacting your grade)
- Lab: 30%
  - You must complete all labs to pass the course!
- Midterms: 15% x 2 = 30%
- Final Exam: 30%
- Cheating will result in automatic Fail

Midterm & Final Dates

- Midterm 1:
  - 10/7/2014 (Tuesday) in class
- Midterm 2:
  - 11/6/2014 (Thursday) in class
- Final Exam:
  - 12/19/2014 (Friday) 7-10 pm
  - Final Exam Group: 20
- General rule: no early or late exams
  - Rare exceptions, e.g., presenting a paper in a conference
  - Need to inform me well in advance

Circuit Simulation

- SPICE (Simulation Program with Integrated Circuit Emphasis)
  - Developed at UC Berkeley!
  - Outgrowth of CANCER (Computer Analysis of Nonlinear Circuits, Excluding Radiation)
- We will use HSPICE in class (Read the Tutorial online)
- Many other versions of SPICE
  - LTSPICE free download from Linear Technology http://www.linear.com/designtools/software/#LTspice
  - However, GSIs will only focus on HSPICE, and answer questions related to HSPICE