EE105 – Fall 2015
Microelectronic Devices and Circuits

Prof. Ming C. Wu
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511 Sutardja Dai Hall (SDH)

Course Information

• Instructor:
  – Professor Ming C. Wu
  – 511 Sutardja Dai Hall (SDH), mingwu@berkeley.edu
  – OH: Monday 2-3 pm; Thursday 5-6 pm
  – Best way to communicate: Email

• GSIs:
  – Krishna Settaluri, ktset@berkeley.edu
  – Sajjad Moazeni, smoazeni@berkeley.edu
  – OH to be announced after survey
**Textbook**

  - Excellent book to learn basic electronics
- Minimum reading
  - Assigned sections in syllabus
- Best to read the relevant sections before lecture
  - Enables meaningful in class discussions

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**Course Web Sites**

- **Class website**
  - General course info, lecture notes, Labs, HW problems
    - [http://inst.eecs.berkeley.edu/~ee105/fa17/](http://inst.eecs.berkeley.edu/~ee105/fa17/)
- **bCourses**
  - [https://bcourses.berkeley.edu/](https://bcourses.berkeley.edu/)
  - Grades (check frequently, and inform GSI of any discrepancy)
  - HW, Exam solutions
- **Piazza**
  - Mostly student run
  - GSI resources are very limited this semester so don’t expect someone to be online 24/7
Course Components

• Lectures
  – 3:40 to 5:00 pm Tue/Thu @ 150 GSPP (Ming Wu)

• Discussion Sessions
  – Sec 201: Mon: 9–10 @ 120 Wheeler (Krishna Settaluri)
  – Sec 202: Wed: 1–2 @ 20 Wheeler (Sajjad Moazeni)

• Labs (all @125 Cory)
  – Sec 101: Mon: 11:00 am - 2:00 pm
  – Sec 102: Tue: 11:00 am - 2:00 pm
  – Sec 103: Wed: 8:00 - 11:00 am
  – Sec 104: Wed: 5:00 - 8:00 pm

Homeworks

• Weekly HW will be posted on Friday

• Due the following Friday 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

• 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 on the spot.
  – Allow 5 to 10 hours for your Prelab. You may need to read ahead
• Prelab is due at the beginning of your lab session
  – GSI will check off your Prelab
• 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: 25%
  – Lowest score will be dropped from grade calculation
  – (You can miss one HW without impacting your grade)
• Lab: 25%
  – You must complete all labs to pass the course!
• Midterms: 25%
• Final Exam: 25%

• Cheating will result in automatic Fail
Midterm & Final Dates

• Midterm 1:
  – 9/28/2017 (Thu) in class (80 minutes)

• Midterm 2:
  – 10/26/2017 (Thu) in class (80 minutes)

• Final Exam:
  – Official final exam date/time in Final week

• General rule: no early or late exams
  – Rare exceptions, e.g., presenting a paper in a conference
  – Need to inform instructor 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)
  – Interesting read: https://en.wikipedia.org/wiki/SPICE

• Many other versions of SPICE
  – We will use Cadence
  – Other popular versions of SPICE
    • LTSPICE free download from Linear Technology
      http://www.linear.com/designtools/software/#LTspice