ECE 421/521 Analog Design I Study Guide 5 28 October 2013

Quote of the Week: Hayward-DeMaw “PC Boards are the enemy of Experiments”

Tasks for this week:

The frequency response of devices, single and multiple stage amplifiers, and packages

More PSU FR4IC project

Continue Study Chapter 3

Continue Study Chapter 8 pages 349-356

Continue reading through Chapter 4

Outline topics for Midterm Exam November 13

Check Concept Inventory--Course Outcomes:

- Fluency with diode, BJT and MOS structures and models. Design using real devices.
- If you can’t fix it, feature it: design using device non-linearity.
- Fluency with the basic analog building blocks: bias, feedback, v to i, output.
- Single-ended to differential circuits and techniques
- Familiarity with the use of a circuit simulator to support analog IC design
- Introduction to Analog Integrated Electronics Projects
- Ownership of a basic project in personal analog design portfolio.

Homework exercise

Simulated technical interview: sketch current mirror, active load, common source, common gate, diff pair circuits on a blank sheet of paper and explain how each works, expected gain, etc. in a few sentences. Use primitive models (just voltage controlled current sources and resistors) and discuss bias circuits. Turn in 2 page summary on Monday October 28. For Monday November 4, add one page on frequency response.

In-Class Midterm exam Wednesday November 13