Tasks for this week:

Quote of the Week: Barrie Gilbert--"Analog IC Design starts with the data sheet"

Introduction to Course Structure, Text, Study Guides, Homework, Projects.

Intro to Analog IC Processes: Bipolar, CMOS, BiCMOS, SiGe BiCMOS, GaN, SiC, GaAs, Thin Film, Thick Film, Exotics... We can’t study them all in one class--we will study a few in depth and learn about when to use others.

Intro to PSU FR4IC project.

Design Steps: Sketch, Analyze, Simulate, Design Review, Layout, Fab, Test :||

Read Through Textbook Chapter 1, then Chapter 8

A first look at 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.

Class structure: 4 one-hour lectures per week. Roughly 2 hours per week of textbook work, one hour of interactive design work, and one hour exploring a current analog design using specific examples from an extensive portfolio.

Homework for this week: Sketch a data sheet with block diagram of an Analog IC that performs a simple function and has specified input(s), output, external power supply etc. Turn in one page data sheet sketch at beginning of class Monday October 7.

Next graded work: HW1 due Monday October 7

In-Class Midterm exam Wednesday November 13