Self-studied. Progression viewed/resumed OK.

Hi! Due Monday, late Tues/Thurs.

Labs a few Biology labs in the first 6 weeks:

- Week 1: 30
- Week 2: 25
- Midterm 20
- Midterm 25

Emailed.

Great.

David Bennett

W 2-3: CH 9: 60-10:30

M 11-11: LR 2-5
d. 12/5 easy

Lab M 8-8

015 10-11, 2-3
de 493

Learn Matlab
Some software used in industry

We'll use Code for system design.

Square simulation

Get the details right.

Process voltages, trans (PVT) variations, noise,

Gain, ZV, power

Hand analysis

Are they source or rail? How do you know?

Are these 'ideal'? No way!

A 4-bit process

Find 4-0d, will class B many of these configured

Power-on reset

Temp sensor

Voltage reference

Supply regulation

Work: battery management (charging, discharging)

Add all of the stuff that you need to make that...
Who works on analog circuits?

- ADI, TI, Freescale, NXP, Linear Tech, ST...
- $50B$ industry
- Every company using Intel, Apple, Samsung...

What did we learn in 2003?

- Large signal limit of BJTs, MOS devices

Large signal limit of BJTs, MOS devices

\[
I_b = \begin{cases} 
0 & V_c < \frac{V_t}{2} \\
\frac{V_c}{V_t} & \frac{V_t}{2} \leq V_c \leq \frac{3V_t}{2} \\
\frac{3V_c}{2} & V_c > \frac{3V_t}{2}
\end{cases}
\]

$$I = \frac{V_s}{r} \cdot (1 + \frac{V_s}{r}) \cdot \left(1 - \frac{V_s}{R} \right)$$

(1.65)