http://www.ece.umd.edu/~pabshire/enee312h.htm due Thursday, May 16, 2002

For this extra credit assignment you may choose between three types of projects: simulation, implementation, or research.

Simulation: Perform a circuit simulation in PSPICE, obtaining input-output relations at DC and as a function of frequency. Options for the circuit include:

- Filters: first order active RC, second order biquad, Chebyshev, switch capacitor
- Translinear circuit
- Bump circuit
- 741 Op-Amp (Chap 10 Sedra & Smith)
- A/D Converter (Chap 10 Sedra & Smith)
- D/A Converter (Chap 10 Sedra & Smith)

Implementation: Build a circuit from discrete components. Circuit should involve more than one transistor and relate in some way to the class material. The working circuit must be demonstrated either in person or by measured experimental data. Options for the circuit include:

- Filters: first order active RC, second order biquad
- Translinear circuit
- Bump circuit

Research: Research a current topic such as:

- Second order effects in submicron CMOS
- Integrated optoelectronic elements
- Integrating MEMS with VLSI
- Floating gate analog circuits
- Matching issues in analog circuits

You are welcome to suggest your own circuit or topic for any of these projects, but in that case please discuss it first with the instructor.

Describe the results of your work in a 5-8 page report, double-spaced and written in IEEE style, including figures and experimental results as appropriate and listing your references at the end.