Read Sections 8.1 – 8.5, Table 8.1 in the text.

The following problems should be done, but need not be turned in.

1. Problem 8.1
2. Problem 8.6(a). Remember, open loop gain for this circuit is $V_o/i_i$.
3. Problem 8.8. All three stages are similar, but not identical. There are different load and source resistances for some of the stages.
4. Problem 8.13. In addition to the parameters given, assume $r_b = 0$. First do the DC then the small signal analysis. This circuit is a series-shunt configuration in which the feedback part is the 1 kΩ and the 10 kΩ resistors. Q1 and Q2 should be considered as stage 1 where Q2 loads the emitter of Q1. It may be useful to refer to the formula sheets given out previously in class.

For the SPICE part, assume that $I_s = 10^{-15}$ Amps. and the β’s are as given. Otherwise, use default values for the transistors. The distortion analysis requires doing a transient analysis with a given transient function. Here, of course you need to use the ”sin” function. Use a fundamental frequency of 10 kHz and calculate the second and third harmonic using the Fourier function. This can be done either by using the .FOUR function or changing the x axis in the Probe output to ”Fourier”.

Project will be due Friday, Dec. 4, 2009.

The final exam is scheduled for Monday Dec. 7, 8:00 AM - 10:30 AM.

Internet students will be expected to take the final exam at UTA or start the exam between 8:00 AM and 10:30 AM.