EE 332 Final Project Rubric

1. Extract the parameters from gpdk045 library. (5')
2. Design W/L's and Vod's by calculation to meet the gain (10'), output swing (5') and bandwidth requirement (5'). Make sure all the devices are in saturation. Also, taking into account the fact that your amplifier is not perfect and design the resistors R1 & R2. (5')
3. Discuss about the trade-off between power dissipation and bandwidth, and how you designed the circuit to meet the requirement. Needs to show ac & trans sim result for DM, make sure the output voltage is not distorted. (20')
4. Do optimization in ADE XL. (This is optional, that's why there's no point for it.)
5. Show all the transistors are in saturation region at DC bias by DC sim. The amplifier design meets the requirements of gain, output swing. (20')
6. Show an undistorted output swing of 1V and 100MHz signal in trans sim when the output is loaded with a 2pF capacitor. (10')
7. The calculation result (Table 1) and final result (Table 2) of your design should be summarized in a table: all the (W/L)'s, Vod's, DC bias, (R1&R2). The final performance of the optimized feedback design (Table 3) including: DC gain, bandwidth, output swing and power dissipation. (20')

Note: We recommend you use 5-OTA structure. You are also free to use other topologies for your final design.