

EE3204  
DC ERRORS

OFFSET VOLTAGE

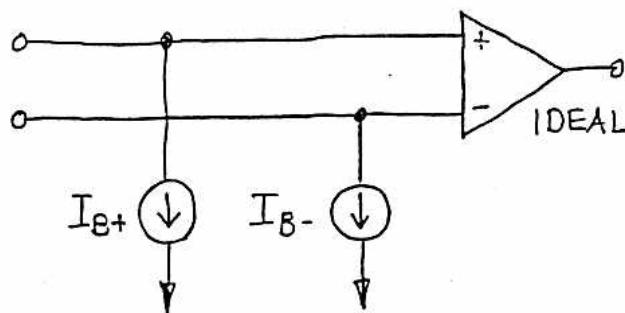
Model as a source in series with either input of an ideal op-amp:



$V_{os}$  can be of either + or - sign

BIAS CURRENT

Model as a current source in parallel with each input of an ideal op-amp:



Polarity of  $I_B$  is usually known (depends on type of transistors in op-amp input stage)

ANALYSIS

Use superposition and ideal op-amp assumptions to simplify analysis.