

## EE 105 Formal Report Grading (total 10 pts+2 pts)

Abstract including results and comments (0.5 pts).....

### Theory (2.5 pts)

- Schematics of amplifiers (0.5 pts).....
- Derivation of common source amplifier's gain (0.5 pts).....
- Derivation of common source amplifier's  $R_{out}$  (0.5 pts).....
- Derivation of common drain amplifier's gain (0.5 pts).....
- Derivation of common drain amplifier's  $R_{out}$  (0.5 pts).....

### Experimental Results (3 pts)

- Measurement of common source amplifier's gain (1 pt).....
- Measurement of common source amplifier's  $R_{out}$  (0.5 pts).....
- Measurement of common drain amplifier's gain (1 pt).....
- Measurement of common drain amplifier's  $R_{out}$  (0.5 pts).....

### Analysis and Conclusion (4 pts)

- Explanations of 2-port representation of amplifiers (0.5 pts).....
- Explanations of amplifier's  $R_{out}$  measurement (0.5 pts).....
- Analysis of CS amplifier's experimental results---  
 $R_{in}$ ,  $R_{out}$  and gain (1 pt).....
- Analysis of CD amplifier's experimental results---  
 $R_{in}$ ,  $R_{out}$  and gain (1 pt).....
- Common source amplifier SPICE results (0.5 pts).....
- Common drain amplifier SPICE results (0.5 pts).....

### Bonus (2 pts)

- Derivation of common source amplifier with degeneration  
gain and  $R_{out}$  (.5 pt).....
- Measurement of common source amplifier with degeneration  
gain and  $R_{out}$  (.5 pt).....
- Analysis of CS amplifier with degeneration's experimental results  
 $R_{in}$ ,  $R_{out}$  and gain (1 pt).....