EE223 Analog Integrated Circuits
Fall 2018

Lecture 15: Midterm Review

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ENG-259

Midterm Exam

- ❑ Oct. 17, Wednesday 6 PM
- ❑ One-page Aid sheet on Front side only allowed
- ❑ Bring two hard copies of your Aid sheet
  - ✓ Keep one copy yourself during the exam
  - ✓ Write your name and submit another copy for extra 5 points
- ❑ Bring a Calculator

Midterm Exam Topics

1. MOS Region of operation (Saturation vs Triode)
2. Golden equation for I_D in Saturation
3. 3-gm expressions, ro expression
4. MOS small-signal model & calculation of Av and Rout using KCL&KVL
5. Circuit impedance by inspection
6. 3- Basic amplifier topologies and the CS amp with source degeneration
7. Design of optimum bias point for maximum swing
8. Differential amplifier analysis by half circuit method
9. Common-mode requirement at the input and output
10. Current mirror voltage compliance
11. High-swing Cascode biasing scheme
12. Current mirror matching
13. Beta Multiplier circuit operation