

**ECEN 543  
Analog CMOS Circuits  
Winter 2006**

**Instructor: Donald T. Comer (Office 459A CB)**

**Class Meeting Time: MWF 10-10:50AM**

**Credit Hours: 3**

**Room: MARB 363**

**Textbook: "Analog Integrated Circuit Design," Johns and Martin, Wiley, 1997.**

**Prerequisites: ECEN313 and ECEN443 or 445 or equivalent background.**

**Overview:**

The first 5 weeks of the course will cover CMOS device physics, operating regions, CMOS processing, Design Rules and Layout. The coverage will follow closely the first 3-chapters of the class textbook. Additional handouts will be provided to integrate more PSPICE simulation into text approach. Also Signal Flow Graphs will be introduced as a supplemental analysis tool. The second 5-weeks of the course will cover classic op amp circuits and design approaches with an emphasis on compensation. This material will include chapters 4 and 5 of the text as well as handout notes on compensation.

The remaining weeks of the course will be devoted to practical op amp design and simulation, culminating in a final project in which the student will design and simulate an op amp to a set of specifications.

**Exams:**

The first scheduled midterm will be given the end of the 5<sup>th</sup> week of class and will be held in class. Subsequent midterms and the class final may be given as take-home exams.

**Grading:**

Homework & Projects	33%
Midterms	33%
Final Exam	34%

**Projects:**

Student projects may be carried out as an extension of homework assignments and will use either SPICE or analytical techniques or both. Informal class presentations may occasionally be required.