

**EE 486 Digital and Analog Integrated Circuits**  
Spring 2005

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631-4473

Time: MWF 3 – 3:50 pm

Location: DBRT 224

Prerequisite: EE342 or CSE462 or permission of the instructor

Textbooks: Design of Analog CMOS Integrated Circuits, B. Razavi, McGraw Hill 2001.  
SPICE, 2<sup>nd</sup> edition, G. W. Roberts and A. S. Sedra, Oxford University Press 1997

Course Description:

Silicon complementary metal-oxide-semiconductor (CMOS) technology is the basis for most circuit design today. You find this technology in microprocessors, programmable gate-arrays, audio and video electronics, cell phones, watches, clocks, calculators, hearing aids, and pacemakers, and the list goes on. The goal of this course is to develop your proficiency in the design of silicon MOS integrated circuits, beginning at the transistor level and proceeding to amplifiers, phase-lock loops, and logic gates. The program SPICE (program with integrated circuit emphasis) will be used as a design aid. On completion of this course, students will understand the analysis and design of circuits using CMOS technology and will be prepared for jobs in semiconductor integrated circuit design.

Grading:

20 % Homework  
20 % Exam 1  
20 % Exam 2  
20 % SPICE design project  
20 % Final Exam