ECE 417/517, Pulse and Digital Circuits
Fall 2007 Syllabus

Instructor
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Meets
Monday, Wednesday, and Friday; 1:30 – 2:20; EP203

Text
CMOS Circuit Design, Simulation, and Layout,
R. Jacob Baker, 2nd Edition

Web Site
Homework assignments, student grades, instructor announcements, and discussion groups will be available on WebCT

Prerequisites
ECE 310, *Fundamentals of Electronics*.
Knowledge of basic transistor operation and circuits

Course Objectives
1. Learn basic device theory of switching devices
2. Learn to analyze and design basic digital logic circuits
3. Learn to analyze and design regenerative logic circuits
4. Learn to analyze and design digital phase and delay locked loops
5. Learn advantages and disadvantages of a wide variety of A/D and D/A converter topologies

Topics
1. Introduction
2. Review of MOSFETs
3. The Inverter
4. Static Logic Gates
5. Special Purpose Logic Gates
6. Digital PLLs
7. Data Converter Fundamentals
8. Data Converter Architectures

Computer Usage
Circuit simulations are required nearly weekly

Grading
Homework: 20%
3 Exams: 55%
Final Exam: 25%

Homework is graded on a three point scale. Full credit is given if you complete the assignment, even if some corrections are made. Incomplete homework will earn one or two points. Homework assignments must be turned in at the beginning of the class period when they are due. No credit is given for late homework. Additional homework and exam problems required for graduate credit will be marked `ECE 517 only`.

Exams are closed-book, closed-notes.

No individual "extra credit" opportunities will be available.