Dr. Bassem Al-Halabi, S&E362 May 12, 2003

Section 12433, MW 6:30-8:50 pm, ES121 (Davie)

Catalog Description

CDA3201C Introduction to Logic Design
4 Credits
Prerequisite: COP2210 or COP2200 or COP2212 (strictly enforced)
Fundamentals of logic design, Boolean algebra, simplification of Boolean expressions, design of combination circuits, design with SSI and MSI logic ICs including PLDs. Flip flops, analysis and synthesis of sequential circuits, design with MSI and LSI logic ICs. Appropriate CAD tools/simulation and training kits will be used in the lab to build logic circuits. You will be charged $12 for lab fees.

Course Objectives

1. To learn the fundamental structures and behavior of logic components, combinational and sequential.
2. To develop the ability to analyze and synthesize digital circuits and systems.
3. To develop the basic understanding of computing hardware.
4. To develop the ability to design basic digital systems for real life applications.

Text

Alan B. Marcovitz, Introduction to Logic Design, 2002, McGraw-Hill. A CD is provided with software simulation, WinBreadboard. You are also required to purchase a breadboard to be used in the lab.

Lab

The course includes lab experiments, some using the simulating software, WinBreadboard, and some using actual logic chips and the training kit in the lab. You need to buy your own portable breadboard on which you will assemble your circuits. In the lab, you connect your circuit to the trainer for testing and grading. You must read the instructions and regulation on my web site. Late labs up to a whole week are graded with 50% off, and after a week no grades.

Grading Policy

Grades will be determined primarily from the following:

Five quizzes/homework assignments:	5 x 10 =	50 points
Five lab experiments:	5 x 5 =	25 points
Final examination:		25 points
Total		**100 points**

It is for your advantage to read ahead and promptly solve all assigned homework problems. On the due date, you will be asked to either submit parts of your homework assignment or take a quiz. No make-up quizzes are allowed unless official excuses are provided. Missed assignments and quizzes will receive a zero grade. Depending on the overall performance of the class, a quiz#6 may be given and then the lowest quiz of the six will be dropped.

Office Hours and Web Assistance

Office hours are posted on my office door and on my web site. Other times are available by appointment. Changes in class policies may be necessary during the semester and if so, the changes will be announced in class and posted on my web. It is the student's responsibility to be aware of any changes and announcement though out the semester by viewing this course page on my web site twice a week.

Course Outlines

1. Number Systems and the Basics of Combinational Systems
2. Switching Algebra and Logic Circuits
3. More Algorithmic Simplification Techniques (primarily Karnaugh Map)
4. Solving Larger Problems
5. Sequential Systems
6. Solving Larger Sequential Problems
7. Simplification of Sequential Systems (time permitting)