ENEE244: Digital Logic Design – Fall 2012 Course Syllabus
Lecture: M,W 3:00-4:45pm, EGR 0108
Sections 0101-0103

Instructor: Joseph JaJa, 3433 A.V. Williams Bldg; 301-405-1925, josephj@umd.edu

Course Objectives: Students are supposed to learn the basic techniques and methodologies for designing and analyzing digital systems and how to apply these techniques to build specific circuits. Core topics covered include number systems, Boolean Algebra, combinational circuits, programmable logic devices and read-only memories, flip-flops and memory devices, sequential circuits, and various related optimization techniques.


Core Topics:

1. Binary Numbers, Binary Arithmetic, and codes (Sections 2.1 - 2.11)
2. Boolean Algebra, Logic Gates, and Combinational Networks (Sections 3.1 – 3.8)
3. Simplification of Boolean Expressions and Karnaugh Maps (Setions 4.1 – 4.7)
4. Combinational Networks with NAND and NOR Gates (Sections 3.9 - 3.10)
5. Quine-McCluskey Method and Related Tabular Minimization Techniques (Sections 4.8 - 4.13)
6. MSI Components: Adders, Subtracters, Comparators, Encoders, and Multiplexers (Sections 5.1 - 5.6)
7. Latches and Flip-flops (Sections 6.1 - 6.6)
8. Registers and Counters (Sections 6.7 - 6.9)
9. Synchronous Sequential Circuit Design and Analysis (Sections 7.1 - 7.3)
10. Programmable Logic, ROMs, PLDs, PLAs, and PALs (Sections 5.7 - 5.10 and 7.6)
11. State Reduction and State Assignment (Sections 7.4 - 7.5)
12. Optional topics from Chapters 8 and 9 as time permits

Midterm I: Wednesday, October 3; Midterm II: Wednesday, November 14: Final: Saturday, December 15 (1:30-3:30pm) – all in EGR 0108.

No exam make-up will be given except for serious documented illness.

Homework and Quizzes: Weekly (no late homework will be accepted but the homework with the lowest score will be dropped).

Course Grade: Homework and Quizzes (10%), Midterms (55%), Final (35%).

Office Hours: Monday 2-3 and Thursday 3:30-5, or by appointment

The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit http://www.studenthonorcouncil.umd.edu/whatis.html.