

Digital Design I (ELEG 2903 or CENG 2113)

Fall 2007

Class Hours: T R 8:00 – 9:20 am

Room: 282 Bell

Instructor: Dr. Scott C. Smith

Office: 3185 Bell

Office Hours: T R 9:30 – 11:30, or by appointment

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Text: R. J. Tocci, N. S. Widmer, and G. L. Moss, 10th edition of Digital Systems: Principles and Applications, Pearson Prentice Hall, 2007.

Learning

Objectives: To introduce students to modern logic concepts, problem solving and design principles, and vocabulary and philosophy of the digital world.

Course

Outcomes: Upon successful completion of this course, students will understand logic gates, Boolean algebra, combinational logic circuits, and related devices, and will be able to analyze and design arbitrary combinational digital systems and simple sequential circuits. Specifically, students will be able to demonstrate understanding of the following concepts:

- Number Systems and Digital Arithmetic
- Logic Gates and Boolean Algebra
- Combinational Logic Design
- VHDL
- CMOS Logic Design
- Flip-Flops
- Counters and Registers

Schedule:	Introduction	Chapter 1
	Number Systems and Computer Arithmetic	Chapters 2 and 6
	Boolean Algebra	Chapter 3
	Exam 1[†]	
	Combinational Logic Design	Chapter 4
	Digital Hardware	Chapters 9 and 13
	Introduction to VHDL	Chapters 3 and 4
	Exam 2[†]	
	CMOS Logic Design	Chapter 8
	Memory Elements	Chapter 5
	Registers and Counters	Chapter 7
	Exam 3[†]	
	Miscellaneous Topics (time permitting)	Chapters 11 and 12
	Optional Comprehensive Final Exam[†] (Friday, December 7, 7:30 – 9:30 am, 282 Bell)	

[†] Prior notification is required if unable to attend an examination period

Homework: Homework assignments are due AT THE BEGINNING OF CLASS on the specified date. No late homework will be accepted. Homework will consist of problems from the text and/or handouts, which in total will account for 1/6 of your final grade.

Grading:	Exam 1	100 points
	Exam 2	100 points
	Exam 3	100 points
	Homework	100 points
	Lab	100 points
	Final	100 points
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	Total	600 points
	A	[100% - 90%]
	B	(90% - 80%)
	C	(80% - 70%)
	D	(70% - 60%)
	F	(60% - 0%)

- Final grades may be curved depending on class average