

Spring 2011

CEG 260-01: Digital Circuits

Jack Jean

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CEG/EE 260-01 Digital Circuits

Spring 2011, 4:10 – 5:25 Tue., Thur., at 302 Oelman

Instructor: Jack Jean

Office Hours: 3-4 PM & 5:35-6 PM, T, Thr, 334 RC, 775-5106, jack.jean@wright.edu

Textbook: Mano and Kime, Logic and Computer Design Fundamentals, 4th Edition, Prentice-Hall, 2008

Weekly Schedule:

Week	Contents	Read	Preparation
1	Intro to digital design, number systems, gates	1.1-1.7, 2.1	Lab 1
2	Boolean algebra and combinational circuit design	2.2-2.3	Lab 2
3	Boolean algebra, Karnaugh maps	2.4	
4	TEST #1 ; Karnaugh maps	2.5	
5	Karnaugh maps, circuit design and analysis	2.7-2.10, 3.1-3.6	Lab 3
6	Decoders, encoders, and multiplexers	3.7-3.9	
7	Latches and flip-flops; TEST #2	5.1-5.3	Lab 4
8	Flip-flips, Registers	5.6, 7.1	
9	IC Counters	7.6	
10	Binary arithmetic, adders, and subtractors	4.1-4.4	

Grading: Final letter grade: 90+ (A), 80+ (B), 70+ (C), 60+ (D), otherwise (F).

- Lab. - 30%. **You must attain at least 60% in Laboratory to pass this course.**
- HW - 10%
- Quiz - 10%. Quizzes, given at the beginning of classes, will be unannounced, closed book, no calculator allowed.
- Test 1 - 15%; April 19, Tuesday, closed book. You may bring in one sheet of note and a calculator.
- Test 2 - 15%; May 12, Thursday, not comprehensive, closed book. You may bring in one sheet of note and a calculator.
- Final - 20%; June 7, Tuesday, 5:45-6:15 PM, not comprehensive, closed book. You may bring in one sheet of note and a calculator.

Schedule of Laboratory Experiments:

Week	Lab No.	Experiment
1	1	Laboratory Familiarization (20%)
2		(Lab 1 continued)
3	2	Digital Logic Gates (30%)
4		(Lab 2 continued)
5		(Lab 2 continued)
6	3	Combinational Circuit Design (25%)
7		(Lab 3 continued)
8	4	Sequential Circuit Design (25%)
9		(Lab 4 continued)
10		(Lab 4 continued, if needed)

Everyone is required to attend weekly 2-hour Labs in Room 355, Russ Center (RC). If you need more time, you will have 24-hour ID-card access to 357 RC to work on your own. Both Theory and practical Laboratory experience are important. You must attain a passing grade in Laboratory to pass this course.

For the Laboratory, you are required to have a bound Notebook. Quadrille ruling – for graphs – works best. Each week by 5PM two days before the lab you need to turn in the prelab for the current lab and the lab for the previous lab by depositing your notebook into a dropbox in the lab.

Section	Lab Time	Notebook due
5	10:25AM-12:05PM Tuesday	5PM Sunday
6	6:05PM-7:45PM Tuesday	5PM Sunday
7	10:25AM-12:05PM Thursday	5PM Tuesday

The lab instructor, his office, office hours, and email address are as follows.

- Mr. Shiva Bhupathiraju Naga
- Office: RC 339A (inside RC339)
- Office Hours: to be arranged
- Email: bhupathiraju.2@wright.edu