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Fall 2005

CEG 453/653: Design of Computing Systems

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CEG 453/653 DESIGN OF COMPUTING SYSTEMS

Fall 2005, 2:45-4 PM, Mon., Wed., at 153 RC

Instructor: Jack Jean

Office Hours: 1:40-2:40 PM, M, W & 5-6 PM, T, Thr.; 334 RC, 775-5106,
jjean@cs.wright.edu

Textbooks:

[H] **MC 68HC11: An Introduction** (2nd edition), Han-Way Huang, Delmar, 2001.

[B] **Advanced PC Architecture** (1st edition), William Buchanan and Austin Wilson,
Addison-Wesley, 2001

Weekly Schedule:

Week	Contents	Chapters to Read
1	Overview, Lab Preparation	[H] 1, 4
2	Operation Modes, Interrupts	[H] 5, 6
3	Parallel I/O, Timer	[H] 7, 8
4	Memory Expansion and Bus Cycles	[H] 5
5	MIDTERM ; SCI and SPI	[H] 9, 10
6	6811 ADC, PC Basics	[H] 11, [B] 1, 2, 3, 4
7	Cache and Bus Control	[B] 5, 6
8	Memory	[B] 7, 12
9	Pentium Instruction Execution	[B] 10, 13, 14
10	PC Buses and I/O Ports	[B] 17-20, 22, 24, 28

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%. Unannounced quizzes (closed book and notes) will be given at the beginning of classes.
- Midterm - 25%; Oct. 3, Mon.; open book and notes.
- Final - 25%; November 16, Wed., 3:15-5:15PM; Not comprehensive, open book and notes.

Schedule of Laboratory Experiments:

Week	Lab No.	Experiment
1		No Lab
2	1	Laboratory Familiarization (10%)
3	2	6811 Software Control (20%)
4	2	
5	3	Hardware Development (60%)
6	3	
7	3	
8	3	
9	3	
10	3	

Unannounced quizzes (10%) will be given in the lab to test your preparation and understanding of lab assignments.

Section	Lab Time
5	10:25-12:15 Tue
6	12:15-2:05 Wed
7	2:10-4 Thr

Everyone is required to attend weekly 2-hour Labs in Room 339, Russ Center (RC). You will have 24-hour ID-card access to 339 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 each lab (except Lab 1), you need to turn in your prelab answers two days (excluding weekends) before your scheduled lab section for grading. You may turn in the prelab answers either in person to the lab instructor or simply slide them under the door of RC339A. For Lab 1, bring your prelab answers to your scheduled lab section for grading.

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

- Mr. Zubin Shah
- Office: RC 339A (the room at the left hand side right after you enter the lab)
- Office Hours: to be arranged
- Email: shah.44@wright.edu