CPS 2390-01 Computer Organization and Architecture - Spring 2015

Instructor: Dr. Jing-Chiou Liou  
Phone: (908) 737-4253  
Room: W-406J  
Email: jliou@kean.edu  
http://www.kean.edu/~jliou/classes.htm

Class Room: W400

Class Hours: Wednesday 4:30 PM – 7:15PM

Office Hours: Monday – Thursday. Details provided on KeanWise and my Web site.

Instruction Method: Lecture & Lab.

Textbook:

PowerPoint slides will be used in class.

Grading: Homework (8+1) 20% Midterm 25%
Final 25% Lab. (6 reports) 30%

Course Description & Objectives:
This course is a study of fundamental concepts of Instruction Set Architecture and assembly language programming as a means of introducing computer architecture. Data representation, logic gates, CPU and memory organization, the instruction cycle, addressing modes, high and low level code equivalence from assignments and iteration to subroutine and parameter passing.

Upon completion of the course, students will be able to
A. Represent the basic data types internally.
B. Understand the assembly process.
C. Design elementary combinational circuits.
D. Explain the instruction cycle.
E. Translate high level code into assembly language.
F. Describe procedure implementation in assembly language.

Homework Assignments (HAs) and Lab. Report (LRs) submission policy:
- Students are expected to submit paper format HA and/or LR in the following week of the session, unless is mentioned otherwise.
- Late submission is allowed for up to a week delay, with a 10% deduction in grade.

Important University Dates:
The Kean Academic Calendar is online at http://www.kean.edu/KU/Academic-Calendar.

Academic Integrity Policy: http://www.kean.edu/forms/AcademicIntegrity.pdf

Tutoring and learning Support services: http://www.kean.edu/~castutor

Schedule:
1/21: Overview: Introduction to Computing Systems
1/28: Bits, Data Types, and Operations
2/11: Digital Logic Structures
2/11: Von Neumann Model
   Lab Introduction: Procedures/Safety
2/18: The LC-3
2/25: Lab 1: A Simple LC-3 Program
3/4: Programming
   Lab 2: Problem Solving with the LC-3
3/11: Course Review
3/25: Midterm Exam
4/1: Midterm Review
   Assembly Language - I
4/8: Assembly Language - II
   Lab 3: A Simple Assembly Language Program
4/15: I/O
   Lab 4: Encryption and Decryption - I
4/22: Trap Routines and Subroutines
   Lab 5: I/O Routines - I
4/29: Stack
5/6: Course Review
5/13: Final Exam