**CS 312 – Introduction to Computer Organization**

001 - Fall 10

TR 11:00 – 12:15p

EB 1010

**Instructor:**

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**Office Hours:**

MWF 9-10a, TR 9-11a

**Objective:**

This course will cover the organization of modern computer systems in order to understand the major hardware components and how they work. Analytical skills will be taught and used to measure or predict both component-level and system-level performance.

**Prerequisites:**

CS 150 – Introduction to Computing II

**Textbook:**

**"Computer Organization & Design, 4/e", by** Patterson and Hennessy.

**Grading:**

Program 3 20%

Quiz weekly 20%

Test 2 30%

Final 1 30%

Attendance daily -1% per absence

A (>= 90%), B (>= 80%), C (>= 70%), D (>= 60%), F (< 60%)

**Program:**

**The programming assignments will be in Assembly language, using the MIPS R3000 Processor. We shall use a MIPS R3000 simulator in lieu of the real thing.**

Programming assignments will be downloaded/uploaded using Moodle (classes.cs.siue.edu). Late assignments will not be accepted for any reason, without the instructor's prior approval, so please pay special attention to the due date, listed on the assignments and Moodle.

**Exception clause:**

No make-ups will be allowed for missed work unless you have a verifiable written notice, i.e. medical reason, traumatic family emergency or hardship. You must notify your instructor prior or as early as possible to arrange for a make-up (There will be no exceptions to this rule).

**Class Conduct:**

Students are expected to attend each class and participation is highly encouraged. Use of laptops is not allowed during lectures, and all electronic devices should be disabled.

wk 01 Aug 23

Ch 1 – Computer Abstractions and Technology

wk 02 Aug 30

Ch 1 – Computer Abstractions and Technology

wk 03 Sep 06

Ch 2 – Instructions: Language of the Computer

wk 04 Sep 13

Ch 2 – Instructions: Language of the Computer

wk 05 Sep 20

Ch 2 – Instructions: Language of the Computer

wk 06 Sep 27

Appx B – Assemblers, Linkers and the SPIM Simulator

**(r) HE1 (Ch 1,2)**

wk 07 Oct 04

Ch 3 – Arithmetic for Computers

(r) p01 – due 10/15

wk 08 Oct 11

Ch 3 – Arithmetic for Computers

(r) p02 – due 10/22

wk 09 Oct 18

Ch 4 – The Processor (r) p03 – due 10/29

wk 10 Oct 25

Ch 4 – The Processor

wk 11 Nov 01

Ch 5 – Large and Fast: Exploiting Memory Hierarchy

wk 12 Nov 08

Ch 5 – Large and Fast: Exploiting Memory Hierarchy

**(r) HE2 (Ch 3,4)**

wk 13 Nov 15

Ch 5 – Large and Fast: Exploiting Memory Hierarchy

wk 14 Nov 22

***Fall Break!***

wk 15 Nov 29

Ch 6 – Storage and Other I/O Topics

wk 16 Dec 06

Ch 6 – Storage and Other I/O Topics

wk 17 Dec 15 – Tuesday

**Final (AppxB, Ch 1-6) 10:00 – 11:40**