

**THE UNIVERSITY OF SOUTH CAROLINA LANCASTER**  
**Introduction to Computer Architecture**  
**CSCE 212, Fall 2012**

**Contact Information:**

Professor: Dr. Noni Bohonak, HH 110

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Office Hours: 9:00-10:00AM on M & W; 9:30-10:45AM on T & Th in HH110  
with other times by appointment in the afternoon and evening or  
Fridays.

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Class Time: Jan 9 – Apr 23, 2012  
10:00-10:50am, Monday and Wednesday; Thursday 11:00-12:50  
Final Exam is Wednesday, May 2<sup>nd</sup>, 10am – 12:30pm

Location: HH222 on MW, and HH110 on Th.

**Course Information:**

Description: USC Online Bulletin (8/4/2011)  
Computer architecture, components, and organization; memory  
addressing; Input/Output; instruction sets; interrupts; assembly-  
language programming.

**Credits:** 3-Credits

**Prerequisites:** CSCE 211 and either CSCE 145 or CSCE 206.

**Texts:** Stanley Warford. (2009) Computer Systems (4<sup>th</sup> Ed.). Sudbury, MA: Jones  
and Bartlett Computer Science.

**Learning Outcomes:**

Upon completion of this course, the student should be able to:

1. Describe the major components of a computer system and state their functions and purpose.
2. Describe the microstructure of a processor.
3. Describe how conventional machine instructions operate in conjunction with the components of a computer.
4. Demonstrate the ability to program a microprocessor in assembly language.
5. Classify and describe the operation of parallel computer architectures.

## General Education Coals:

The General Education goals for the University of South Carolina Lancaster (USCL) include a set of fundamental skills (reading, writing, reasoning, and oral communication), and the use of knowledge and thinking as a means to prepare students to assume a role in our present and future society. CSCE 212 meets these goals by:

1. Introducing students to the lower level of computer abstraction,
2. Introducing students to assembly-language. Machine-language, and C++, and
3. Encouraging students to read, think about, discuss, and practice problem solving.

## Topics Covered:

Among the topics to be covered are:

1. Computer system organization and architecture: processors, memory hierarchies, I/O
2. Instruction set machine architecture
3. Floating Point Arithmetic
4. CPU Design, Fetch Decode Execute, Pipeline
5. Associative, Cache, and Virtual Memories
6. Input/Output Organization
7. Multiprocessor and parallel computer architecture

## Grading:

A grade for the course will be determined by a calculation based on the following:

Homework and other assignments	40%
Test 1	20%
Test 2	20%
Final Exam	20%

with the final grade based on the following scale:

90 – 100	A	70 – 75	C
86 – 89	B+	66 – 69	D+
80 – 85	B	60 – 65	D
76 – 79	C+	below 60	F

## Important Course Format Information

It is important that you check your USC email accounts several times during the week as all communications will be done through these accounts. Assignments will have due dates. You should submit during class. The text book will be provided for the class.

## Assignments

All Assignments will be given during class.