CSCE 212 - Introduction to Computer Architecture

- **Credit Hours:** 3 hours
- **Contact Hours:** 3 lecture hours
- **Instructor:** Dr. Jason Bakos, Dr. Song Wang
- **Required Textbooks:** *Computer Organization and Design: The Hardware/Software Interface* (5th edition) by David Patterson and John Hennessy, Morgan Kaufmann Publishers, 2014.
- **Bulletin Description:** Computer architecture, components. and organization; memory addressing; Input/Output; instruction sets; interrupts; assembly-language programming.
- **Prerequisites:** CSCE 211 and either 145 or 206
- **Required Course** in CE and CS
- **Course Outcomes:** Students will be able to:
  1. Describe the microstructure of a processor.
  2. Describe how conventional machine instructions operate in conjunction with the components of a computer.
  3. Demonstrate the ability to program a microprocessor in assembly language.
  4. Evaluate the performance of computers.

- **Student Outcomes addressed by course**

Program	Student Outcomes Addressed
Computer Engineering	1, 2
Computer Information Systems	N/A
Computer Science	1, 2

Topics covered
  1. General Overview of Computer Architecture
  2. MIPS Instruction Set Architecture- Assembly Language Paradigm
  3. Floating Point Algorithms
  4. Performance
  5. Processor Design
  6. Memory Hierarchy