SU DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
SYLLABUS (Tentative)
COSC 250 Microcomputer Organization

Description: A course on the organization and internal behavior of a microcomputer. Three hours lecture and two hours lab per week.

Objectives: To study the inner workings of a digital computer system. To study the architecture of various microprocessors.

Prerequisite: COSC 117 or COSC 120.

Texts: Required: Computer Organization, Design & Architecture 5th edition.
ISBN: 9781466585546

"A Microcomputer Organization Class Notes and Lab Manual," by Dean DeFino and Asif Shakur; 2006. (Available only through SU's Bookstore) SU In-house Publication, may also be required. Please contact the SU bookstore or your Instructor.

	Weeks
Unit 1 Combination Logic	6.0

Introduction to computers. Binary, octal and hexadecimal systems. Negative number representation. Logic gates (minterm and maxterm combinations). NAND and NOR logic. Gate reduction. Adders, subtractors and multiplexers.

Unit 2 Sequential Logic and CPU Organization	4.0

Sequential circuits (flip flops). Resistors and counters. Memory organization and types of memory components. Organization of various microprocessors.

Unit 3 CPU Design, Machine-level Instructions and Assembly Language	3.0

CPU architecture, Machine instructions. Wait states and machine cycles.

Tests	<u>1.0</u>
	14.0

EVALUATION
Homework 15%
Tests 65%
Lab 20%

NOTE: ONCE A STUDENT HAS RECEIVED CREDIT, INCLUDING TRANSFER CREDIT, FOR A COURSE, CREDIT MAY NOT BE RECEIVED FOR ANY COURSE WITH MATERIAL THAT IS EQUIVALENT TO IT OR IS A PREREQUISITE FOR IT.