Outline of Instruction

Division: Business
Area: Computer Information Systems
Course Number: CIS 268
Course Name: Assembly Language & Computer Architecture
Prerequisite: CIS 150
Corequisite: None
Hours Required: Class: 45 Lab: Credits: 4

Course Description/Purpose
This course covers computer programming in one of its most basic forms and introduces computer architecture. The understanding and appreciation of assembly language is the foundation for the understanding of the digital computer and its programming. Assembly language is just one step removed from machine language, the language directly understood by the CPU. This course will cover: computer architecture, data representation, instruction sets, addressing modes, assembly language programming techniques, interrupts and exceptions, assemblers, peripheral programming and the relationship between assembly language and high-level languages.

Major Units
- Data Representation
- Computer Architecture
- Introduction to the 68000
- Addressing Modes
- Instruction Set
- Assembly Language Programming
- Subroutines and Parameters

- Assemblers
- Peripheral Programming
- Interrupts and Exceptions
- Digital Logic Circuits
- Integrated Circuits and Digital Functions
- Register Transfer and Micro Instructions
- Computer Organization and Design

Educational/Course Outcomes
Student learning will be assessed by a variety of methods, including, but not limited to, quizzes and tests, journals, essays, papers, projects, laboratory/clinical exercises and examinations, presentations, simulations, portfolios, homework assignments, and instructor observations.

Cognitive
Each student will be expected to Identify/Recognize...
- How data is represented
- Floating point arithmetic
- Computer organization
- Assembler directives
- Instruction set
- Addressing modes
- Structured programming

Performance
Each student will be expected to Demonstrate/Practice...
- Executing an instruction
- Construction and execution of an assembly language program
- Proper register usage
- Understanding and usage of addressing modes
- Structured programming techniques
- Proper subroutine calls with parameter passing
- Conditional assembly and macro usage
- Peripheral programming
- Programming using interrupts and exceptions
- Register operations in assembly language

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