

# **Bemidji State University**

## **CS 2810: Computer Organization and Assembly Language Programming**

### **A. COURSE DESCRIPTION**

Credits: 3

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

An introduction to the register level architecture of a modern computer and programming with an assembly language for that processor. Includes a two-hour lab. Prerequisite or Corequisite: CS 2322.

### **B. COURSE EFFECTIVE DATES: 08/20/1997 - Present**

### **C. OUTLINE OF MAJOR CONTENT AREAS**

1. Alternative Architectures
2. Assembly Language Programming
3. Data Representation
4. Digital Logic
5. Input/Output and Storage Systems
6. Instruction Set Architectures
7. Memory Hierarchy

### **D. LEARNING OUTCOMES (General)**

1. write simple assembly language programs that include function call and return.
2. demonstrate understanding of representation systems for numerical and character information, including error detecting and error correcting systems.
3. demonstrate understanding of digital logic including combinational and sequential circuits.
4. demonstrate understanding of instruction set architectures.
5. demonstrate understanding of basic computer organization, including aspects of the CPU cycle, data paths, buses, and register transfer notation.
6. demonstrate understanding of microprogramming.

### **E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

None

### **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

### **G. SPECIAL INFORMATION**

None noted