SEP 6 2004

GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF SCIENCE AND TECHNOLOGY
Course Outline - Computing Science 2850

COMPUTER ORGANIZATION AND ARCHITECTURE II

Instructor: TBA Room: TBA
Office Phone Number:

Purpose: To equip the students with the basic of number systems and arithmetic, memory and various types of processors and their organization and classification. Exposure to assembly language programming is given to the students as emphasis moves towards operations, subroutine and parameters. Concepts taught will be illustrated by way of a discussion of specific architecture examples.

Description: The second of two courses dealing with the fundamentals of computer architecture. A methodical discussion of number systems and arithmetic and basic computer organization including: assembly language programming, addressing, operations, subroutines, and parameter input/output, and an analysis of specific architectures.

Course Outline:

1. Introduction
   Computer Hardware Organization, Memory, Input/Output, and Number Systems and Representation
2. Intel 80x86
   Programmers Model, Instruction Formats, Addressing Modes, and Instruction Types
3. Instruction Set
   Moves, Tests, Comparisons, Branches, Arithmetic Operations, Shifts and Rotates, Bit Manipulation, and Logical Operations
4. Advanced Programming Techniques
   Stack, Subroutines, Recursive Subroutines, Macros, Multi-module Programs Assembler, Linker, and Loader
5. Exception Processing
   Exceptions, Traps, Interrupts, Exception Handling, and Interrupt Management Logic
6. Timer and I/O Programming
   Timers, Timer Programming I/O Interface, and I/O Programming
7. Floating-point Coprocessor
   Floating-point Numbers, Instructions and Programming

Prerequisite: CS 2800

Corequisite: None

Mark Distribution:

Programming/homework assignments:	30%
Quizzes:	15%
Midterm	20%
Final	35%

Text Books: TBA