SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: COMPUTER SYSTEMS II

Code No.: CET 220

Program: COMPUTER ENGINEERING TECHNOLOGY

Semester: FOUR

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Author: F. TURCO

New: - Revision: X

Approved: L. P. Forsyth Chairperson **Date:** 89/01/02

CET220

COMPUTER SYSTEMS 2

GENERAL OBJECTIVES

The objectives of this course are to provide the student with a functional knowledge of the VAX System. The course will cover the hardware / software architecture and the organization of the VMS operating systems.

Programming skills shall be expanded and fine tuned through the use of the Fortran and C languages. Practical experience and a functional knowledge will be gained through solving challenging and common computer system problems.

TEXTBOOK:

1. "FUNDAMENTALS OF FORTRAN 77 PROGRAMMING - A STRUCTURED APPROACH - 3RD EDITION" by Robert C. Nickerson

2. "C PRIMER PLUS, REVISED EDITION" by Waite, Prata & Martin

ASSESSMENT:

Tests and Quizzes	60%
Assignments	40%

* A major portion of the Assignment mark will likely take the form of an ongoing term projects that will be completed and handed in in stages.

  Some minor modifications to the above percentages may be necessary. The instructor reserves the right to adjust the mark up or down 5% based on attendance, participation and whether there is an improving trend.

* All Assignments must be completed satisfactorily to complete the course. Late hand in penalties will be 5% per day. Assignments will not be accepted past one week late unless there are extenuating and legitimate circumstances.

SPECIFIC OBJECTIVES

BLOCK 1 VMS OPERATING SYSTEM

At the end of this block, the student shall be able to:

1. Describe the hardware organization of the VAX family computers.
2. Describe the concept of a process, and the way in which the VMS operating system manages process.
3. Describe the way in which VMS manages the memory resources of the computer.
4. Discuss the use of interrupts and exceptions on the VAX.
5. Describe the software components of VMS that provide an interface to the user.

BLOCK 2 PROGRAMMING IN FORTRAN

At the end of this block, the student shall be able to:

1. Have a working knowledge of the Fortran Language.
2. Write test and debug programs in Fortran.
3. Prepare structured and well documented programs.
4. Describe and demonstrate competence in several common computer algorithms such as:
   a) character string processing
   b) array and table processing
   c) searching routines
   d) sorting routines
   e) recursive structures
5. Describe and demonstrate competence in the different I/O and file handling options available.
6. Describe the use and form of the statements in Fortran such as:
   a) FORMAT
   b) COMMON
   c) DATA
   d) DIMENSION
   e) OPEN, READ, WRITE, CLOSE
   f) DOUBLE PRECISION
7. Use the Symbolic Debugger facility on the VAX to troubleshoot Fortran Programs.
8. Prepare proper and adequate documentation that will allow the student to continually change his programs as the course progresses.

BLOCK 3: PROGRAMMING IN C

At the end of this block, the student shall be able to:

1. Have a working knowledge of the C Language.
2. Write test and Debug C programs.
3. Prepare Structured and Well Documented Programs.
4. Understand the different functions available to handle Input/Output.
5. Have a working knowledge of most of the functions in C.
6. Have a working knowledge of the operators, expressions and Statements in "C".
7. Demonstrate windowing capabilities in C.

GRADING SCHEME

1. TESTS

Written tests will be conducted as deemed necessary; generally at the end of each block of work. They will be announced about one week in advance. Quizzes may be conducted without advance warning.

2. ASSIGNMENTS

Assignments not completed by the assigned due-date will be penalized by 5% per day late. All assignments must be completed satisfactorily to complete the course.

3. GRADING SCHEME

A+	90	-	100%	Outstanding achievement
A	80	-	89%	Excellent achievement
B	70	-	79%	Average Achievement
C	55	-	69%	Satisfactory Achievement

U	Incomplete: Course work not complete at Mid-term. Only used at mid-term.
R	Repeat
X	A temporary grade that is limited to instances where special circumstances have prevented the student from completing objectives by the end of the semester. An X grade must be authorized by the Chairman. It reverts to an R if not upgraded in an agreed-upon time, less than 120 days.

4. UPGRADING OF INCOMPLETE

When a student's course work is incomplete or final grade is below 55%, there is the possibility of upgrading to a pass when the student's performance warrants it. Attendance and assignment completion will have a bearing on whether upgrading will be allowed. A failing grade on all tests will remove the option of any upgrading and an R grade will result. The highest grade on re-written tests or assignments will be 56%.

Where a student's overall performance has been consistently unsatisfactory, an R grade may be assigned without the option of make-up work.

The method of upgrading is at the discretion of the teacher and may consist of one or more of the following options: assigned make-up work, re-doing assignments, re-writing of tests, or writing a comprehensive supplemental examination.