

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: STRUCTURED PROGRAM DEVELOPMENT

Code No.: CET 129

Program: COMPUTER ENGINEERING TECHNOLOGY

Semester: SECOND

Date: WINTER 1990

Author: F. TURCO

New: Revision: X

Approved:

L. Chagnon
Chairperson

Date:

90/04/08

CET129

STRUCTURED PROGRAM DEVELOPMENT

GENERAL OBJECTIVES

The objectives of this course is to provide the student with a firm base of VAX/VMS concepts and structured programming concepts. The student is taught the fundamentals of VAX Usage through the study of DCL programming techniques and the use of Vax Utilities. The student is also taught structured programming concepts by applying them to FORTRAN language problems. The student will also improve his skills in Fortran through solving more in depth programming problems.

TEXTBOOKS:

1. "Introduction to VAX/VMS" by T.C. Shannon
2. "Fortran 77 - A Structured, Disciplined Style" by G. Davis, T. Hoffman

ASSESSMENT:

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|---|-----|
| Theory Tests, Practical Tests and Quizzes | 60% |
| Assignments | 40% |

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 this 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.

BLOCK 1 FORTRAN PROGRAMMING

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

1. Use the capabilities of the FORMAT command.
2. Perform complex decision making using nested IF structures and the ELSEIF structure.
3. Utilize various forms of the DO statement to perform Looping.
4. Write programs utilizing one and two dimensional arrays.
5. Write programs using functions and subroutines.

BLOCK 2 MANAGING VMS COMMANDS AND FILES

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

1. Describe the use of subdirectories on the VAX.
2. Create, maintain and use directory structures.

BLOCK 3 USING VMS EDITORS

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

1. Use the EDT editor, including the following features:
 1. General Editing.
 2. Cut and Paste.
 3. Replace and Substitute.
 4. Find.
 5. Buffers.
 6. Include files.
2. Use the EVE editor, including:
 1. All the features learned with EDT.
 2. The window features of EVE.

BLOCK 4 COMMAND PROCEDURES

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

1. Discuss the concept of a command procedure, and relate it to the use of a LOGIN.COM file.
2. Understand the use of the logical names SYSS\$INPUT, SYSS\$OUTPUT, SYSS\$ERROR, and SYSS\$COMMAND.
3. Describe the form and use of the following DCL commands:
 1. INQUIRE 2. IF 3. EXIT
 4. GOTO 5. WRITE
4. Describe the means of defining symbols in DCL, and the method of displaying symbols and logical names.
5. Define keys using the DEFINE/KEY command.
6. Assign logical names with the ASSIGN or DEFINE commands.
7. Write a login command procedure that creates a personal working environment, including a menu driven procedure that allows them to select the working environment.

BLOCK 2 STRUCTURED APPROACH TO PROBLEM SOLVING

At the end of this block the students will be able to:

1. Describe and use the following structured programming tools and techniques:
 - a) Pseudocode
 - b) Modular Code

2. Use the VAX symbolic debugging program to debug FORTRAN programs.

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. Practical on-line tests will be conducted in which time to complete the assigned problems will be a factor in the evaluation. 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

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|----|----|---|------|--------------------------|
| 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 Chairperson. 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.