

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Outline: PROGRAMMING LANGUAGES

Code No.: EDP318-5

Program: PROGRAMMER AND PROGRAMMER/ANALYST

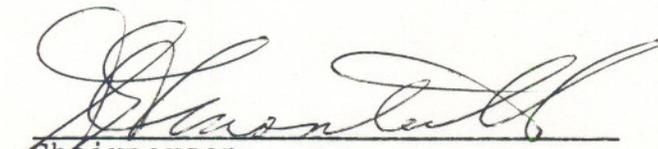
Semester: FOUR

Date: JANUARY, 1988

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New: X Revision:

APPROVED:


Chairperson

88-01-19
Date

PROGRAMMING LANGUAGES

EDP318-5

Course Name

Course Number

LENGTH OF COURSE: Five Periods per week for one semester

TEXTS: VAX Fortran - Charlotte Middlebrooks
Introduction to Business Programming Using
Pascal - Charles Mellard

OTHER REFERENCES: Guide to Programming on VAX/VMS
Programming in VAX FORTRAN
Turbo Pascal

PURPOSE: This is a two-part course designed to familiarize the student with the features of two other programming languages, including the writing, debugging, and execution of progress.

Based upon current demands and the programming language that will be discussed are FORTRAN and PASCAL. FORTRAN will be taught on the VAX 11/780 while PASCAL (Turbo Pascal) will be taught on the microcomputers.

PART A:

The following modules pertain specifically to the VAX FORTRAN programming language.

Module 1:

Characteristics of the FORTRAN programming language (chapters 2,4)

Objectives: When this module is completed the student should be able to:

1. discuss Fortran coding conventions.
2. illustrate the use of the INTEGER and REAL data types and present uses for such numeric operations as truncation, rounding, and taking the remainder.
3. use simple arithmetic expressions and functions.
4. emphasize ideas of top-down design and good problem decomposition.

Module 2:

Developing a basic Fortran program (chapters 3,6)

Objectives: When this module is completed the student should be able to:

1. use the READ and WRITE statements in their list - directed (format-free) form.
2. understand the use of the STOP and END statements.
3. introduce CHARACTER variables where appropriate.
4. describe the precise layout of input and output records using the FORMAT statement.
5. understand and use the carriage control for line printers.

PART A: - CONT'D

Module 3:

Program looping and conditional statements
(chapters 5,7,8)

Objectives: When this module is completed the student should be able to:

1. apply the use of loops while being restricted to a few simple kinds of loops.
2. use the various forms of the DO-loop for counting loops.
3. implement conditional statements such as the IF and IF-THEN-ELSE statements.
4. use logical operators (.AND., .OR., .NOT.) and relational operators (.LE., .GT., etc.)

Module 4:

Arrays (chapters 9, 10, 11)

Objectives: When this module is completed the student should be able to:

1. explain how to declare and reference arrays.
2. explain array I/O, including implied - do list.
3. use multidimensional arrays.
4. use DO loops in conjunction with arrays.
5. READ an undertermined amount of data into an array.

Module 5:

Subprograms and subroutines (chapters 12, 13)

Objectives: When this module is completed the student should be able to:

1. apply the use of FUNCTIONS and SUBROUTINES.
2. use arrays with a subprogram or subroutine.

PART B:

All of the concepts discussed using the FOXTRAN programming will also be discussed using PASCAL. The module set-up and objectives will be the same except for the terminology and syntax particular to PASCAL. The following is a reference list for those modules.

Module 1: Characteristics of PASCAL (Chapters 1,2,3)

Module 2: Developing a basic PASCAL program
(Chapters 4,5)

Module 3: Program looping and conditional statements
(Chapters 6,7,8)

Module 4: Arrays (chapter 10,12)

Module 5: Procedures (chapter 15)

STUDENT EVALUATION:

The student's final grade will consist of the following components:

Tests	- Fortran (2 x 15)	30%	<u>Grading:</u>	A+--90 to 100%
	- Pascal (2 x 15)	30%		A --80 to 89%
				B --70 to 79%
				C --60 to 69%
Assignments	- Fortran (2 X 10)	20%		R -- 0 to 59%
	- Pascal (2 x 10)	20%		
		<u>100%</u>		

Assignment Deadlines:

Assignments must be handed in ON TIME, otherwise they are subject to a 10% deduction per day late.

All assignments must be submitted, otherwise the student has not fully completed the course and is subject to receiving an "R" grade.

NOTE: There will be no re-write/supplemental test in this course.