

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Outline: ADVANCED APPLICATION PROGRAMMING

Code No.: EDP 229

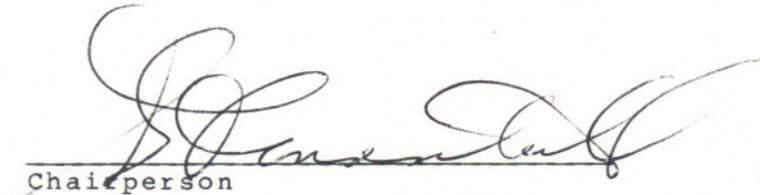
Program: BUSINESS PROGRAMMER

Semester: THREE

Date: SEPTEMBER, 1986

Author: W. DEBRUYNE

New: X Revision: _____

APPROVED:  Chairperson

Date 86-09-05

Course Name

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COURSE SYNOPSIS:

The course will start with a review of material covered in the introductory COBOL course which is a prerequisite for this course. The students will be introduced to a full range of file types available on the VAX 11/780. The students will also examine various data structures and manipulate and compare each. The course will also cover sort/merge utilities and the report writer. The applications will be geared to on-line projects and assignments.

Textbook: "Advanced COBOL" by Leonard J. Kazmier

MODULE 1 - will examine in detail the elements of the COBOL language.

At the end of this module, the student will be able to understand and identify:

- 1) the basic set of characters in COBOL programming
- 2) COBOL reserved words
- 3) user-defined words
- 4) system-name
- 5) data-name
- 6) level numbers
- 7) variables and constants
- 8) statements and sentences
- 9) COBOL format specifications
- 10) the divisions of a COBOL program
- 11) the copy verb
- 12) the operating system and execution of COBOL programs
- 13) the SELECT statement
- 14) picture clause

MODULE 1: (cont'd)

- 15) value clause
- 16) condition-names
- 17) the OPEN verb
- 18) the READ verb
- 19) the WRITE verb
- 20) the CLOSE verb
- 21) the ADD verb
- 22) the PERFORM verb
- 23) the IF statement

MODULE 2:

Will examine in detail the function of the DATA DIVISION:

At the of this module, the student will be able to understand and apply th following:

- 1) the picture clause for data description
- 2) the picture clause for data editing
- 3) the blank when zero clause
- 4) the redefines clause
- 5) multiple data records
- 6) the renames clause
- 7) the currency and decimal-point clauses

MODULE 3:

Will examine the executable statements in the procedure division, and how they are subdivided into imperative and conditional statements.

At the end of this module, the student will be able to describe and apply the following:

- 1) input - output
- 2) arithmetic operations
- 3) data transfer
- 4) program control statements

MODULE 4:

Will examine in detail the CONDITIONAL statements.

At the end of this module, the student will be able to understand and apply the following:

- 1) relational conditions
- 2) nested conditions
- 3) class conditions
- 4) using conditionals to check input data
- 5) sign conditions
- 6) complex conditions

MODULE 5:

Will examine numeric and character data.

At the end of this module, the student will be able to understand and apply the following:

- 1) data representation
- 2) the usage clause
- 3) the synchronized clause
- 4) the inspect verb
- 5) the justified right clause

MODULE 6:

Will examine subprograms.

At the end of this module, the student will be able to understand and apply the following:

- 1) calling programs
- 2) transfer of control
- 3) sample main and subprogram structure

MODULE 7:

Will examine program testing.

At the end of this module, the student will be able to understand and apply the following:

- 1) top-down program development and testing
- 2) bottom-up program development and testing
- 3) top-down vs bottom-up approaches to testing
- 4) testing procedures
- 5) VAX interactive debugger
- 6) common errors

MODULE 8:

Will examine the REPORT GENERATOR.

At the end of this module, the student will be able to understand and apply the following:

- 1) control breaks in report writing
- 2) logic of report programs
- 3) report writer with control breaks
- 4) report writer using declaratives
- 5) language specifications for the COBOL report writer

MODULE 9:

Will examine table handling.

At the end of this module, the student will be able to understand and apply the following:

- 1) table definitions in COBOL
- 2) the OCCURS clause
- 3) the PERFORM verb and table handling
- 4) table searching
- 5) indexing and searching

MODULE 10:

Will examine sorting and merging.

At the end of this module, the student will be able to understand and apply the following:

- 1) various sorting algorithms
- 2) COBOL file-sort feature
- 3) SORT statement formats
- 4) file merging

MODULE 11:

Will examine file organization.

At the end of this module, students will be able to understand and apply the following:

- 1) difference between sequential and indexed sequential file organization.
- 2) adding records to an indexed sequential file
- 3) VSAM
- 4) COBOL language instructions for indexed file
- 5) relative file organization

MODULE 11: (cont'd)

- 6) the division remainder method
- 7) COBOL statements for relative files

STUDENT EVALUATION:

The student's final grade will be determined from the following components

Tests (3 @ 17%)	-	51%
Assignments (5 @ 6%)	-	30%
Project (1 @ 15%)	-	15%
Participation	-	4%
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		100%

NOTE: Students are expected to attend class regularly and to participate in class discussion. They are also expected to treat their peers and instructors in a professional business-like manner during class time. Lat assignments are subject to a zero grade unless the student has **PRIOR** permission from the instructor to hand the assignment in at a later date.