SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE MARIE, ON

COURSE OUTLINE

Course Title: **Introduction to Cobol Programming**

Code No.: **CSD208** **Semester:** **Third**

Program: **Computer Programmer / Programmer Analyst**

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Date: **Sept 1999** **Previous Outline Date: Sept 1998**

Approved: _____ _____
                          Dean   **Date**

Total Credits: 4   **Total Credit Hours: 64**

Prerequisites: CSD101 or Equivalent

Length of Course: 64 Hours for 4 hours a week for 16 weeks comprised of:

2 - 1 hour unassigned lab class per week   1 - 2 hour theory / lab class with the professor per week

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COURSE OUTLINE

I.   Course Description:

This course is designed to continue improving the student's programming skills. We will do this by introducing and applying their programming and problem solving skills using the COBOL programming language. We will also do a comparison study of the similarities with COBOL and the other programming languages that students have been exposed to. The student will continue to follow and improve structured programming techniques. The course will take a relatively non-mathematical approach but will include an in depth study of programming techniques such as modularization, file handling, error handling, string handling, table processing, and formatted output.

II. LEARNING OUTCOMES AND ELEMENTS OF PERFORMANCE:

(Generic Skills Learning Outcomes placement on the course outline will be determined and communicated at a later date.)

A.   Learning Outcomes:

1.   Describe and apply the language fundamentals of the COBOL environment to solve programming problems.

2.   Demonstrate proficiency in using structured programming techniques in problem solving.

3.   Write and develop programs that perform File Input, File Output and ERROR handling.

4.   Write and develop programs that perform Array and String processing.

II.   **LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE (Continued):**

    B.   **Learning Outcomes and Elements of the Performance:**

Upon successful completion of this course the student will demonstrate the ability to:

1. Describe and apply the language fundamentals of the COBOL environment to solve programming problems.

   Potential elements of the performance:

   - compare the similarities and differences in both structure and commands of COBOL and other languages.
   - describe the various sections in a COBOL program such as:
         The Identification Division
         The Environment Division
         The Data Division
         The Procedure Division
   - illustrate the COBOL approach to:
         Program Identification
         Commenting
         Data Definition
         File Definition
         Assignment of Data
         Looping Control
         Decision Making
   - code programs into the proper columns
   - find and correct errors in compilation and execution
   - demonstrate and use the various methods available in COBOL to format data

   This learning outcome will constitute approximately 25% of the course grade (possible weighting strategy) and take approximately 4 weeks.

   RESOURCES:
       TEXTBOOK: Chapters 1,2,4,5,7,8,9,10
       Professor's handouts, guidance and material

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE (Continued):

B.   Learning Outcomes and Elements of the Performance(Continued):

2.   Demonstrate proficiency in using structured programming techniques in problem solving.

Potential elements of the performance:

- demonstrate good programming habits and problem solving techniques regardless of the programming language being used
- describe and use the various structured programming tools and techniques such as:
        Plan of Attack
        Pseudo Code
        Inspections and WalkThroughs

- produce modular and structured code using programming features such as:
        Subroutines
        Common Blocks of Code
        Parameter Passing
        Readable code with proper spacing and
            indentation
- produce thorough and useful program documentation

This learning outcome will constitute approximately 10% of the course grade (possible weighting strategy) and take approximately 2 weeks.

RESOURCES:

TEXTBOOK: Chapters 3,6,16
Professor's handouts, guidance and material

II.   LEARNING   OUTCOMES   AND   ELEMENTS   OF   THE   PERFORMANCE
(Continued):

> **B.   Learning Outcomes and Elements of the**
> **Performance(Continued):**

> > 3.   Write and develop programs that perform File Input,
> > File Output and ERROR handling.

> > *Potential elements of the performance:*

> > - format input and output using a variety of
> >   PICTURE clauses in COBOL
> > - describe the differences to the types of files
> >   such as:
> >   Terminal Format
> >   Sequential
> >   Relative
> >   Indexed
> > - apply the various methods of performing typical
> >   file maintenance activities when using the
> >   various types of files such as:
> >   Add data records
> >   Modify records
> >   Delete records
> > - produce thorough and useful program
> >   documentation
> > - write and debug programs that deal with file
> >   processing and error handling

> > *This learning outcome will constitute approximately 40%*
> > *of the course grade (possible weighting strategy) and*
> > *take approximately 6 weeks.*

> > **RESOURCES:**

> > > **TEXTBOOK: Chapters 14,15,16,17,18,19,20**
> > > **Professor's handouts, guidance and material**

II.   <u>LEARNING   OUTCOMES   AND   ELEMENTS   OF   THE   PERFORMANCE</u>
<u>**(Continued):**</u>

B.   Learning Outcomes and Elements of the
Performance(Continued):

4.   Write and develop programs that perform Array and
String processing.

Potential elements of the performance:

- discuss the concept of subscripted variables and
the use of one and two dimensional arrays
- describe the common requirements of programs
that process string data
- write programs in COBOL that utilize array
processing and string manipulation

This learning outcome will constitute approximately 25%
of the course   grade (possible weighting strategy) and
take approximately 4 weeks.

RESOURCES:

TEXTBOOK: Chapters 11,12,13
Professor's handouts, guidance and material

III. <u>TOPICS TO BE COVERED:</u>

*   NOTE: These topics sometimes overlap several areas
of skill development and are not necessarily
intended to be explored in isolated learning
units or in the order below.

TOPICS   APPROXIMATE TIME

1.   **LANGUAGE FUNDAMENTALS**   **4 WEEKS**
2.   **STRUCTURED PROGRAMMING TECHNIQUES**   **2 WEEKS**
3.   **FILE INPUT, OUTPUT, AND ERROR HANDLING**   **6 WEEKS**
4.   **ARRAY AND STRING HANDLING**   **4 WEEKS**

IV.   REQUIRED RESOURCES/TEXTS/MATERIALS:

TEXTBOOK:

1.   "COBOL – From Micro to Mainframe" Preparing for the New Millennium by R. Grauer, C. Vasquez Villar, A. Buss
     3rd Edition – Prentice Hall Publishing
     ISBN 0-13-790817-2 With FUJITSU COBOL CD Bundled

MATERIALS:

2.   At least 5 3.5" high density floppy disks
3.   Additional reference material will either be given to the students or placed in the library for the student's use.
4.   Professor's Handouts, Guidance, and Material as it relates to the individual topics.
5.   Individual and Group Assignments to be formally prepared as assigned.

V.   EVALUATION PROCESS/GRADING SYSTEM:

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

The tentative breakdown is as follows:

4	FORMAL THEORY TESTS	AT 15 % EACH
4	ASSIGNMENTS	AT 5 % EACH
2	ASSIGNMENTS	AT 10 % EACH

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.

As per school policy, the student must pass both the assignment portion and the testing portion of the evaluation scheme.

V.   EVALUATION PROCESS/GRADING SYSTEM(Continued):

* –   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.

* –   The professor reserves the right to adjust the number of tests, practical tests and quizzes based on unforeseen circumstances. The students will be given sufficient notice to any changes and the reason thereof.

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.

V.   EVALUATION PROCESS/GRADING SYSTEM(Continued):

3.   GRADING SCHEME

A+	90	–	100%	Outstanding achievement
A	80	–	89%	Excellent achievement
B	70	–	79%	Average Achievement
C	60	–	69%	Satisfactory Achievement
R	less than 60			Repeat
CR	Credit given			Credit Exemption
S	Satisfactory			used at midterm only
U	Unsatisfactory			unsatisfactory
X	A temporary grade			

An 'X' grade is limited to instances where
exceptional circumstances have prevented
the student from completing objectives by
the end of the semester. An X grade must
be authorised 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 60%, 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 60%.

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

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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.

VI.   <u>**SPECIAL NOTES:**</u>

1.   All students should be aware of the Special Needs Office in the college. If you have any special needs such as being visually impaired, hearing disabled, physically disabled, learning disabilities you are encouraged to discuss required accommodations confidentially with the Professor and/or contact the Special Needs Office, Room E1204, Ext 493, or 717, or 491 so that support services can be arranged for you.

2.   Your Professor reserves the right to modify the course as he/she deems necessary to meet the needs of students.

3.   It is the responsibility of the student to retain all course outlines for possible future use in gaining advanced standing at other post-secondary institutions.

4.   <u>Plagiarism</u>
            Students should refer to the definition of "academic dishonesty" in the "Statement of Student Rights and Responsibilities". Students who engage in "academic dishonesty" will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course, as may be decided by the professor.

5.   <u>Substitute course information</u> is available at the Registrar's office.

6.   Students must achieve a passing grade in **both** the assignment and the test portions of the course.

7.   The topics will not necessarily be covered in the
            order shown in this course outline.

VII. <u>PRIOR LEARNING ASSESSMENT</u>

Students who wish to apply for advanced credit in the course
should consult the professor.