# SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

## COURSE OUTLINE

Course Title: **INTRODUCTION TO COBOL PROGRAMMING**

Code No.: **CSD208**

Program: **COMPUTER PROGRAMMER/ PROGRAMMER ANALYST**

Date: **August 1997**

Semester: **Third (3)**

Author: **Professor Gerry Davies**

Previous Outline Dated: **September 1996**

APPROVED:

Dean Date Aug 25/97

**Total Credits:** **5**

**PREREQUISITES:** **none**
**LENGTH OF COURSE:** **4 HOURS PER WEEK for 16 weeks**
**TOTAL CREDIT HOURS:** **64**

## I. Course Description:

This course is designed to continue the development of the student's programming skills, and to introduce the COBOL programming language. The course will focus on the program development process, and the solution to traditional business programs using COBOL. Those techniques will include data editing, sequential and indexed file handling, sorting, report-writing and screen handling.

## 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. Understand the structure of COBOL programs and be able to design and write programs demonstrating structured programming techniques.
2. Write programs that perform advanced screen input/output and use tables of data.
3. Write programs that demonstrate advanced cobol techniques including sorting, control breaks, subprograms and sequential and indexed file handling.
4. Use the mainframe and microcomputer environment for the development and testing of programs.

## B. Learning Outcomes with Elements of Performance:

1. Understand the structure of COBOL programs and be able to design and write programs demonstrating structured programming techniques.

**Elements of the performance**:

- Describe the structure of Cobol programs and the form of the Identification, Environment, Data and Procedure divisions.
- Use flowcharts, pseudocode, and hierarchy charts to describe solutions to problems.
- Describe and use standard techniques for describing data in cobol programs.
- Describe and use standard programming techniques for basic arithmetic, simple file input and output, decision-making and looping in Cobol.
- Describe and use standard editing and data validation techniques in Cobol.

Chapters 1 through 9 of the text

**2.** Write programs that perform advanced screen input/output and use tables of data.

**Elements of the performance**:

- Describe and use the screen section of the Cobol program to perform input and output to the screen.
- Write programs that use tables of data.

Chapters 10 through 13 of the text.

**5.** Write programs that demonstrate advanced cobol techniques including sorting, control breaks, subprograms and sequential and indexed file handling.

**Elements of the performance**:

- Write programs that use the sort procedure.
- Write programs demonstrating one, two and three-level control breaks.
- Write programs utilising external subprograms.
- Write programs that perform sequential file maintenance.
- Write programs using indexed files.
- Discuss the programming techniques studied in this section.

Chapters 14 through 18 of the text.

## III. TOPICS TO BE COVERED:

**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.

1. The structure of Cobol programs.
2. Structured programming techniques.
3. Data editing and validation.
4. Screen input and output.
5. Table handling.
6. Sorting.
7. Control breaks.
8. Sequential and indexed file management.
9. Subprograms.
10. Program development and debugging.

## V. METHOD OF EVALUATION:

| | |
|---|---|
| 3 THEORY TESTS (20% each) | 60% |
| ASSIGNMENTS | 25% |
| QUIZZES AND PRACTICAL TESTS | 15% |

TESTS

Written tests will be announced about one week in advance. Quizzes may be conducted without advance warning, but will normally be scheduled about one week in advance.

ASSIGNMENTS AND LAB ACTIVITIES:

Lab activities and assignments represent a very important component of this course in which practical 'hands-on' skills will be developed. Because of this, **lab attendance is expected** and the satisfactory completion of all assignments is required. It is the student's responsibility to discuss absences from regularly scheduled labs with the instructor so that alternate arrangements (where possible) can be made to complete the lab requirements.

It is acceptable that students consult with each other in relation to their assigned problems. However, it is unacceptable to copy programs written by someone else and submit them as your own work

ATTENDANCE:

Absenteeism will affect a student's ability to succeed in this course. Absences due to medical or other unavoidable circumstances must be discussed with the instructor, so that remedial activities can be scheduled. A Quiz or Test missed because of an unauthorized absence may result in a zero grade being assigned.

The following letter grades will be assigned in accordance with the School of Engineering policies:

## Course Grading Scheme

| | | |
|---|---|---|
| A+ | 90% - 100% | consistently outstanding achievement |
| A | 80% - 89% | outstanding achievement |
| B | 70% - 79% | consistently above average achievement |
| C | 55% - 69% | satisfactory or acceptable achievement in all areas subject to assessment |
| R | less than 55% | repeat - the student has not achieved the objectives of the course and the course must be repeated |
| CR | | Credit Exemption |
| S | | satisfactory given at midterm only |
| U | | unsatisfactory given at midterm only |
| W | | Withdrawal from a course before the "drop deadline" |
| 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 arranged before the deadline for grade submissions and is granted at the discretion of the Professor. The 'X' grade must also have the Dean's approval and has a maximum time limit of 120 days.

UPGRADING OF INCOMPLETES

When a student's course work is incomplete or final grade is below 55%, there is the possibility of upgrading to a pass when a student meets all of the following criteria:

1. The student's attendance has been satisfactory.
2. An overall average of at least 40% has been achieved.
3. The student has not had a failing grade in all of the theory tests taken.
4. The student has made reasonable efforts to participate in class and complete assignments.

Note: A student may be assigned an 'R' grade early in the course for unsatisfactory performance.

## VI. REQUIRED STUDENT RESOURCES:

1. TEXTBOOK: **COBOL From Micro to Mainframe**
**Grauer and Villar**
Prentice-Hall

## VI. SPECIAL NOTES

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. Plagiarism
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. Substitute course information is available at the Registrar's office.

## VII. PRIOR LEARNING ASSESSMENT:

This course is currently not PLA'ble . The student must take the course in its entirety.