A. Protocol

Course Name: COBOL  
Course Number: CSC 304  
Credits: 3  
Prerequisites: (CSC 124 OR CSC 306 OR CIS 220) with C- or better

Maximum Class Size (face-to-face): 32  
Maximum Class Size (online): N.A.

B. Objectives of the Course:
Upon completion of this course the student will be able to:

1) Discuss the purposes of the divisions and sections of a COBOL program.  
2) Analyze program input, processing, and output specifications.  
3) Use specifications to make flowcharts and structure charts for a COBOL report program.  
4) Use specifications and structure charts to write well structured COBOL report programs.  
5) Effectively debug and execute COBOL report programs.  
6) Use all of the editing picture codes and implement them in COBOL report programs.  
7) Use all of the arithmetic statements and decision statements and be able to write COBOL programs using them.  
8) Explain the sign and class condition statements and be able to set up named conditions and use these to write well structured COBOL data validation programs.  
9) Explain control break logic and be able to modify COBOL report programs to include control breaks.  
10) Set up tables using subscripts and indexes and be able to load tables.  
11) Explain the difference between the sequential and binary search and be able to write code to implement both in COBOL programs.  
12) Explain the logic of a sequential update program and be able to implement in COBOL.

C. Catalog Description:
This course introduces students to the essential elements of the COBOL language using well-structured programming techniques. Students will write and execute report programs, control break programs, data validation programs, programs that implement tables, and sequential update programs. Good analysis, design, and structure will be emphasized. Prerequisite: (CSC 124 OR CSC 306 OR CIS 220) with C- or better. Three credits.

D. Outline of the Course:
1) Origin, development, and standardization of COBOL

2) Components of COBOL  
a. Divisions and sections  
b. Paragraphs, sentences, and words  
c. Reserved words

3) Compiling, Executing, and Debugging a COBOL Program

4) Data Types, Data Movement, Signed Numbers, and Editing Pictures
5) Arithmetic Statements  
   a. Add, subtract, multiply, and divide  
   b. Compute  
   c. The rounded and on size options  
   d. Order of precedence  

6) Statements and Operators  
   a. Conditional statements  
   b. Relational and logical operators  
   c. The if..else and nested if..else statements  
   d. Complex expressions  

7) Validation  
   a. Data validation  
   b. Class and named condition  
   c. Reasonableness of data  
   d. Reasonableness of computed results  

8) Report Programs  
   a. Reports  
   b. Control breaks (single level and multi level)  
   c. Multiple page headings  
   d. Page numbers  
   e. Totals (page totals and grand totals)  

9) Tables  
   a. Occurs clause with subscripts and indexes  
   b. Redefines clause  
   c. Creating a table and its identifiers  
   d. Loading a table from a file  
   e. Setting up table values in working-storage  
   f. Perform..varying statement  
   g. Occurs..depending on clause  
   h. Two and three level tables  

10) Searching Tables  
    a. Sequential search using the perform..varying statement with subscripts  
    b. Search statement  
    c. Binary search using indexes  
    d. Search all statement  

11) Sequential File Updating  

E. Teaching Methodology:  

1) Traditional Classroom Methodology:  
   This course will be taught using the lecture/discussion method and cooperative group  
   method during appropriate sections of the course.  

2) Online Methodology:  
   This course will not be taught online.  

F. Text  
   Grauer/Villar/Buss.  COBOL, from Micro to Mainframe  
   ISBN 9780137908172
G. Assessment Activities:

1) Traditional Classroom Assessment
   The final grade will be determined as a percentage from the following evaluation methods
   with varying weights at the discretion of the instructor:

   a. Examinations
   b. Quizzes
   c. Assignments
   d. Programs
   e. Attendance
   f. Performance

2) Online Assessment
   No online assessments will be given.

H. Accommodations for Students with Disabilities:

   **Accommodations for Students with Disabilities**

   Students with disabilities:
   - Reserve the right to decide when to self-identify and when to request accommodations.
   - Will register with the Office for Students with Disabilities (OSD) each semester to receive
     accommodations.
   - Might be required to communicate with faculty for accommodations, which specifically involve the
     faculty.
   - Will present the OSD Accommodation Approval Notice to faculty when requesting
     accommodations that involve the faculty.

   Requests for approval for reasonable accommodations should be directed to the Office for Students with
   Disabilities (OSD). Approved accommodations will be recorded on the OSD Accommodation Approval
   notice and provided to the student. Students are expected to adhere to OSD procedures for self-identifying,
   providing documentation and requesting accommodations in a timely manner.

   Contact Information:
   - Location: Azorsky Hall – Room 105
   - Phone: (724) 938-5781
   - Fax: (724) 938-4599
   - Email: osdmail@calu.edu
   - Web Site: [http://www.calu.edu/current-students/studentservices/disability/index.htm](http://www.calu.edu/current-students/studentservices/disability/index.htm)