

**William Paterson University of New Jersey
Department of Computer Science
College of Science and Health
Course Outline**

1. TITLE OF COURSE AND COURSE NUMBER: CS253 COBOL I Credits: Three

2. DESCRIPTION OF THE COURSE:

Introduction to the COBOL language with applications to commercial problems. Topics in business information processing such as payroll and inventory management, are examined.

3. COURSE PREREQUISITES: None

4. COURSE OBJECTIVES:

To provide fundamental programming concepts and introduce structured COBOL processing for applying the concepts. \

To introduce issues and problems related to business information processing.

5. STUDENT LEARNING OUTCOMES:

Upon completion of the course, students will be able to:

- a) Understand the basic concepts of programming.
- b) Utilize COBOL to program business applications.
- c) Utilize tables in a business application.
- d) Utilize Sort.
- e) Utilize sequential and index files.
- d) Identify the main events and people in the history of COBOL.
- e) Describe each Division of a COBOL program and its purpose.

Through classroom participation and discussions and various homework, papers and projects, the course also reinforces the following students learning outcomes of the university:

- a) Demonstrate ability to think critically. Measure: exams, surveys, and projects.
- b) Locate and use information. Projects will require information from the library or Internet.
- d) Demonstrate ability to integrate knowledge and ideas in a coherent and meaningful manner. Measure: exams, surveys, and projects.

6. TOPICAL OUTLINE OF THE COURSE CONTENT:

- Topic 1: Introduction
 - a) what is programming?
 - b) business application area
 - c) why COBOL?
 - d) history of COBOL
- Topic 2: Methodology for Program Development
- Topic 3: Sections of a COBOL program
 - a) Identification, Environment, and Data Divisions
 - b) Procedure Division
 - c) Declarations
 - d) Arithmetics
 - e) Data Conversions
 - f) Loops
- Topic 4: Debugging
- Topic 5: Editing and Coding Standards
- Topic 6: Data Validation
- Topic 7: Screen I-O
- Topic 8: Tables
 - a) Declaration
 - b) Lookups
 - c) Multilevel
- Topic 9: Sorting
- Topic 10: Control Breaks
- Topic 11: Subprograms
- Topic 12: Sequential Files
- Topic 13: Indexed Files
- Topic 14: Object-Oriented COBOL Programming.

7. GUIDELINES/SUGGESTIONS FOR TEACHING METHODS AND STUDENT LEARNING ACTIVITIES:

- a) Classroom lectures and discussions.
- b) Active learning exercises involving reading and understanding COBOL programs.
- c) Pre-examination reviews

8. GUIDELINES/SUGGESTIONS FOR METHODS OF STUDENT ASSESSMENT (STUDENT LEARNING OUTCOMES):

- a) Periodic exams and a comprehensive final exam.
- b) Programming assignments implemented in COBOL.

9. SUGGESTED READINGS, TEXTS, OBJECTS OF STUDY:

COBOL: From Micro to Mainframe, 3 ed., edition, Robert T. Grauer, Carol Vazquez Villar, Arthur R. Buss, Prentice Hall, ISBN 0-13-790817-2, paper, 1999.

10. BIBLIOGRAPHY OF SUPPORTIVE TEXTS AND OTHER MATERIALS:

Introduction to COBOL: A Guide to Modular Structured Programming, David M. Collopy, Ohio University, ISBN 0-13-909060-6, paper, 2000.

Advanced COBOL for Structured and Object-Oriented Programming, 3rd Edition, Gary DeWard Brown, 0-471-31481-1, paper, 1998.

Standard Object-Oriented Cobol, Ned Chapin, McGraw-Hill, 0-471-12974-7, paper, 1996.

An Introduction to Object COBOL, E. Reed Doke / Bill C. Hardgrave, McGraw-Hill, 0-471-18346-6, paper, 1997.

COBOL Programmer's Notebook, Jim Keogh, Prentice Hall, ISBN: 0139774149, paper, 1998.

11. PREPARER'S NAME AND DATE:

12. ORIGINAL DEPARTMENTAL APPROVAL DATE: Spring, 1996

13. REVISORS' NAME AND DATE: E. Hu, Fall 2000. Fall 2004.

14. DEPARTMENTAL REVISION APPROVAL DATE: Fall 2004.