

# Advanced COBOL Programming

**Course No.**

2252

**Description**

This course builds on the basics of the COBOL language. Special attention is given to the difference between static and dynamic CALL, table handling, sort/merge, indexed files and intrinsic functions. With a thorough knowledge of the workings of COBOL programs, along with effective use of COBOL's implementation of logic structures, programmers can develop systems that are correct, easy to understand, and easy to modify.

**Audience**

This course is suggested for programmers who have a basic knowledge of the COBOL language and need to learn or review advanced topics.

**Prerequisites**

Participants must have experience programming in COBOL or PL/I, and in using TSO and ISPF.

**Objectives**

- Write and CALL both static and dynamic subroutines
- Create, load and search tables
- Sort and merge files within a COBOL program
- Create, load, search and update indexed (VSAM KSDS) files
- Use intrinsic functions within a COBOL program
- Test and debug edit, report and update programs

**Major Topics**

- Called Modules
- Table Processing
- Sorting and Merging
- VSAM File Processing
- Intrinsic Functions
- Batch Tracing Facility

**Duration**

5 days



## Course Contents

### 1. Overview

- Programming Life Cycle
- What is COBOL?
- COBOL Evolution
- COBOL Advantages
- COBOL Limitations
- Research Support
- COBOL Preparation
- COBOL Structure
- COBOL Columns
- COBOL Lines
- COBOL Syntax
- Summary

### 2. Called Modules

- COPY Statement
- REPLACE Statement
- COBOL Modules
- CALL Statement
- CALL Extensions
- Call Examples

### 3. Table Handling

- Table Terminology
- Table Coding with REDEFINES
- Building a Table
- Table Look-Up
- PERFORM VARYING
- INDEXES
- SET Statement
- SEARCH Statements
- SEARCH ALL Statements

### 4. Sorting and Merging

- The SORT and MERGE Process
- SORT/MERGE Parameters
- SORT/MERGE Collating Sequence
- Describing The File
- Procedure Division – SORT
- Procedure Division – INPUT
- Procedure Division – OUTPUT
- RELEASE & RETURN
- SORT EXAMPLE
- SORT Special Registers

- JCL Considerations
- Merge Considerations
- Review

### 5. VSAM File Handling

- QSAM
- VSAM Catalogs
- KSDS
- ESDS
- RRDS
- Access Methods Services (IDCAMS)
- Sample Delete/Define for Tax Table
- Sample Load from Sequential File to KSDS
- COBOL/VSAMs Considerations
- Indexed File KSDS
- Sequential File (ESDS)
- Relative File (RRDS)
- File Status Code
- Selected File Status Code
- Sample Environment/Data Division
- File I/O
- Reading a Record
- Writing a Record
- Removing a Record
- Exercise

### Appendix

- A. Advanced VSAM
- B. Intrinsic Function
- C. Batch Tracing Facility

