



**Arrow ECS Finland Oy - Education Services**

## **TRAINING OFFERING**

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| CODE:    | LENGTH:           | PRICE:    |
|----------|-------------------|-----------|
| CBL_OS60 | 16 Hours (2 days) | €1,750.00 |

## Description

## Objectives

This course examines the IBM Language Environment and its language compilers, COBOL/370 and Enterprise COBOL for z/OS. Topics covered include the ANSI 85 standard and amendments and all changes added by COBOL II. It covers the newer compile options, intrinsic functions, callable services, and other features of the superset, COBOL/370. It also addresses object-oriented extensions and other features of the Enterprise COBOL for z/OS compiler.

## Audience

This course is designed for any IS personnel responsible for upgrading, developing, or supporting applications compiled under Enterprise COBOL for z/OS and running under Language Environment.

## Prerequisites

This course assumes prior experience with COBOL.

## Programme

**Compiler Options** Compiler options useful during conversion efforts. Using the PROCESS and CONTROL statements.

New or changed compiler options in VS COBOL II. New or changed compiler options in COBOL/370.

New or changed compiler options in COBOL for z/OS. Compiler options useful for debugging purposes. **Language Features**

Scope Terminators - rules governing use of scope terminators. EVALUATE statements:

- Rules, variations and related clauses and keywords.
- Advantages and disadvantages. In-Line PERFORM statements:

- Rules and variations.
- Effects on structured technique. INITIALIZE statements - rules and related clauses.

WITH TEST BEFORE/AFTER clauses. Using the LENGTH special register. CONTINUE verbs.

CALL BY CONTENT/REFERENCE statements - rules, variations and uses. Reference Modification.

New Read/Write FILE STATUS checking mechanisms. New changes in Array (Table) Processing:

- Rules, uses and limits.

- Relative subscripting. SET TO TRUE statements. INSPECT verbs and clauses.

Nested programs - sharing data (COMMON, GLOBAL and EXTERNAL Data).

Obsolete verbs, clauses and keywords - EXAMINE, OTHERWISE, AFTER ADVANCING etc... ACCEPT and DISPLAY changes.

**ANSI Standard Changes** ID DIVISION changes - review of obsolete statements and reserved words.

ENVIRONMENT DIVISION changes:

- Obsolete access methods.
- Obsolete storage devices.

- New reserved words in SPECIAL NAMES paragraph.
- Report Writer: off again, on again.
- SELECT statements changes.

DATA DIVISION changes:

- Obsolete sections: REPORT and COMMUNICATIONS.
- New reserved words in USAGE IS clauses.

- Using Un-named data fields.
- Nested COPY statements.
- The REPLACE verb.
- DBCS (Double-Byte Character Set) support.

Overview of ANSI 97 Standard. **LE Intrinsic Functions and Callable Services**

Character-based Intrinsic functions - CHAR/ORD, MIN/MAX, UPPER/LOWER CASE etc... Arithmetic Intrinsic Functions:

- INTEGER, SUM, RANDOM, MEAN, RANGE, SQRT etc...
- Using the ALL keywords with arrays. Date/Time Intrinsic Functions:

- CURRENT DATE, INTEGER-OF-DATE, INTEGER-OF-DAY etc...
- Compatibility issues: LE dates vs. COBOL/370 dates.

Year 2000 Callable Service Programs - calling CEEDATE, CEEDAYS and CEEOCT. Using LE Callable Service Programs:

- Survey of useful Callable Services.
- Error-handling with Callable Service programs.
- The Inter-language Call feature.

**Object-oriented Features in COBOL for Z/OS** Advantages and disadvantages of object-oriented design.

The Object/Class, Data/Method paradigm. Class definition in the COBOL program. Object definition in the COBOL program.

Method definition in the COBOL program. The INVOKE verb - rules, variants and clauses.

Pre-defined classes - BASE, NULL and SYSTEM-OBJECT classes. Interaction between 'regular' and 'OO' parts of program:

- Defining Message Tables.
- Understanding Message Types and Flows. **The CICS Environment**

New LE versions of INSPECT, (UN) STRING and CALL verbs.

Calling programs under LE and CICS - implications of new CALL and GOBACK availability.

Performance issues - how to exploit 'above-the-line' storage under CICS.

The ADDRESS OF clause - using the LINKAGE SECTION under CICS. Conversion issues for old COBOL CICS programs:

- Using the right compiler options.
- Structured program code and error-handling.

**The Debugging Features**

Review of debugging-related compile options.

Finding replacements for obsoleted debugging verbs - READY/RESET TRACE, EXHIBIT, USE for DEBUGGING etc...

Reading the new formatted dumps:• Controlling the dump destination in batch or CICS.

- Locating TGT, new BL cells, FCBs, TEMP.STORAGE cells etc...Using COBOL II's COBTEST facility.

Using LE's DEBUG TOOL facility - review of useful commands and techniques. **XML** Introduction.XML Layout.

Programming Languages.GENERATE.Error Handling.Cobol Data Attributes.

## Session Dates

Aikataulutamme kiinnostuksen mukaan. [Ota yhteyttä](#)

## Additional Information

[This training is also available as onsite training. Please contact us to find out more.](#)