

## Basic Assembler Programming

**Duration: 5 days**

**Course Description:** This course introduces students to the basic skills required to write assembler programs using the IBM High Level Assembler (HLASM).

**Audience:** This course is for application and systems programmers who need to develop programs using the IBM's High Level Assembler.

**Prerequisites:** Each attendee should have at least 6 months of experience with TSO/ISPF and JCL. Previous experience in designing and coding application programs will be helpful, but is not needed.

### Topics:

#### MODULE 1:

- What is Assembler Language?
- Defining Storage Areas and Constants
- Packed Decimal Processing

#### MODULE 2:

- Data Movement Instructions
- Assembling and Executing Your Program
- Lab 1 – Convert F to C degrees – using IBM standard Procs
- Conditional Processing
- Lab 2 – Conditional Processing

#### MODULE 3:

- Formatting Output Data
- Lab 3 – Suppress leading zeros
- Binary Processing
- Lab 4 – Convert F to C degrees in binary Table Processing
- Lab 5 – Table look-up (DS's & DC's)

#### MODULE 4:

- Program Linkage
- Sequential File Processing
- Lab 6 / Lab 7 – Load a table (DS's only) from a sequential file

#### MODULE 5:

- Program Addressability and DSECTs
- Lab 8 – Program Addressability – Table layout and build DSECT
- What to Know Before You Go

**APPENDIX A** - Analyzing Abend-AID Dumps

**APPENDIX B** - Analyzing DumpMaster Dumps

**APPENDIX C** - Using the IBM Fault Analyzer

**APPENDIX D** - Analyzing IBM SYSUDUMPs

**APPENDIX E** - Binary and Hexadecimal Number Systems

**APPENDIX F** - Solutions to Written Exercises

**APPENDIX G** – Solutions to Lab Exercises