# ProTech Professional Technical Services, Inc.

## Assembler Language – Introduction

# Course Summary

### Description

This class is an introduction to Assembler Language programming.  Topics include an overview of computer architecture, review of instruction formats, and basic assembler language instructions

### Topics

- Introduction to computer systems architecture
- Basic Instructions
- LOAD/STORE instructions
- Assembler Language Program Structure
- Conditional Instructions
- Basic I/O Operations
- Introduction to macros
- Mathematical Operations
- Arithmetic operations using decimal instructions

### Audience

This class is intended for programmers or operators who have a good understanding of basic z/OS architecture.

### Prerequisites

Students should have experience with TSO/ISPF and JCL.

### Duration

Five days

**Course Outline** *(vertical text, left margin)*

## Course Outline

I.   *Introduction to Computer Systems Architecture*
   A. Review how data is represented in storage
   B. Introduce addressing concepts; absolute and relative
   C. Examine the use of registers and how they are used in instructions
   D. Introduce the Program Status Word (PSW).

II.   *Basic Instructions*

III.   *LOAD/STORE Instructions*
   A. MOVE instructions
   B. Data definitions

IV.   *Assembler Language Program Structure*
   A. Introduction to save/restore register conventions
   B. Overview of general register usage
   C. Establishing program addressability.

V.   *Conditional Instructions*
   A. COMPARE instructions.
   B. BRANCH instructions

VI.   *Basic I/O Operations*

VII.   *Introduction to Macros*
   A. OPEN/CLOSE processing of sequential files
   B. GET/PUT using QSAM

VIII.   *Mathematical Operations*

IX.   *Arithmetic Operations Using Decimal Instructions*
   A. Performing binary arithmetic operations