

Programming III: Advanced Techniques

Duration: 2 units

CEUs: 1.2

AUDIENCE

This course is designed to show SAS® programmers how to use the Data Step to read and manipulate complex forms of data and how to use SAS utilities to manage SAS libraries.

BENEFITS

You will learn to:

- ♦ Read any type of raw data into SAS
- ♦ Create information with ODS
- ♦ Create multiple versions of data
- ♦ Perform complex merging and joining of data
- ♦ Work with data audit trails
- ♦ Work with complex, multidimensional arrays
- ♦ Set up data constraints
- ♦ Join summary and detail data

PREREQUISITES

You should have completed the course Programming II Data Manipulation Using The Data Step and understand:

- ♦ Creating summary information
- ♦ DROP, KEEP and RENAME processing
- ♦ Match merging and interleaving data
- ♦ Data step compile and execution
- ♦ Basic operating system commands
- ♦ Libname statements

COURSE TOPICS

Reading Data into SAS

- ♦ Reading all types of flat files
- ♦ Reading hierarchical data
- ♦ Reading mixed records formats
- ♦ Reading packed and zoned decimal data
- ♦ Advanced INFILE statement options
- ♦ Working with EBCDIC and ASCII data
- ♦ Setting up indexes in SAS
- ♦ Joining summary information with detail data

Data Utilities in SAS

- ♦ Views of information with Data Step Views
- ♦ Outputting SAS data sets with ODS
- ♦ Using Generation Data Sets to create historical information

Understanding Data

- ♦ Working with Data Storage in SAS Libraries
- ♦ Comparing data sets with Proc Compare

Manipulating Data with Utility Procedures

- ♦ Using Proc Transpose to restructure data
- ♦ Using Proc Copy to copy data sets and upgrade them to Version 8
- ♦ Using Proc Datasets to modify data set structure and attributes
- ♦ Using a single libref to reference all SAS libraries

SAS Utilities to Manage Data

- ♦ Using the MODIFY statement to update data in place
- ♦ Data transformation
- ♦ Using Audit trails to track changes
- ♦ Using Arrays for repetitive calculations
- ♦ Setting up Integrity Constraints to maintain clean data

Formatting Data for Better Presentations

- ♦ How to set up user defined formats
- ♦ How to use permanent formats
- ♦ How to set up dynamic formats with SAS data sets

Software Used: Base SAS Software.