Introduction to the SAS System

Course Summary

Description

The course is mostly lecture with some time for exercises, demonstrations, and working on problems students bring to class. The exercises at the end of most chapters use data sets shipped with the SAS system. Students can also work through the exercises at their own pace after the conclusion of the course. This course can be taught as a public course or as an on-site course. Comprehensive textbooks for students are included in the course fee.

Topics

- Writing and Submitting SAS Programs
- Creating Simple Reports
- Simple Data Manipulation
- Generating Statistical Reports
- Combining SAS Datasets
- An Advanced Look at Reports
- Writing Detail Reports
- Summary Reports

Audience

This course is intended for two groups of students: those who are brand new to the SAS System, and those who have been using the SAS System for a few years, but want to fill in the ‘gaps’ in their SAS knowledge.

Prerequisites

There are no prerequisites for this course.

Duration

Three Days
Introduction to the SAS System

Course Outline

I. Getting Started
   A. Features and Basic concepts
   B. The SAS environment - running SAS interactively
   C. Program flow
   D. Syntax rules; SAS Files – structure of a SAS dataset

II. Writing and Submitting SAS Programs
    A. DATA Step – basic statements, compiling, and executing
    B. SAS date values – how to read and write them
    C. Step by step approach to submitting the program
    D. Handling errors at compile and execution time
    E. How the SAS System accesses non-SAS data
    F. Exercises

III. Creating Simple Reports
     A. An introduction to the PROC step – processing the dataset
     B. Generating list reports – the options and the statements available
     C. Sorting the dataset – PRINT and PROC SORT
     D. Storing SAS data sets permanently

IV. Simple Data Manipulation
    A. Creating new variables
    B. SAS Functions
    C. Using If-Then logic
    D. Using DO groups
    E. Reading SAS datasets
    F. Controlling the content of the SAS dataset
    G. Exercises

V. Generating Statistical Reports
    A. Descriptive statistics – min, max, mean, n, sum, kurtosis, standard deviation, t, corrected sum of the squares, uncorrected sum of the squares, covariance, frequency counts, median, quartiles, percentiles
    B. MEANS/SUMMARY procedures
    C. UNIVARIATE procedure.
    D. Exercises

VI. Combining SAS Datasets
    A. Managing concatenating, merging, and updating SAS datasets
    B. SET, MERGE, and UPDATE statements
    C. Exercises

VII. An Advanced Look at Reports
     A. What is a report
     B. Types of Reports generated with SAS, Report Writing options
     C. PRINT procedure
     D. Utility procedures for enhancing reports;
     E. Exercises

VIII. Writing Detail Reports
      A. Writing reports with the DATA step
      B. Exercises

IX. Summary Reports
     A. An introduction to summarizing data
     B. Summary procedures
     C. Using the FREQ procedure
     D. Generating summary reports with the REPORT procedure;
     E. ODS and how it can be used to create HTML or Word document reports;
     F. Exercises