

Length: 3 Days / 6 Half Days

Overview: 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.

The course is mostly lecture with at least one workshop in every chapter. The exercises 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. Comprehensive textbooks for students are included in the course fee.

Objectives: Students will learn a lot about the SAS System and its internal workings. This understanding will help the student to write more efficient programs. Specifically, students will learn how to manipulate the SAS System to read non SAS files, manipulate data, summarize data, and generate a number of different kinds of reports.

Getting Started

- Features and Basic concepts
- The SAS environment(s)
 - Running SAS
 - Interactively
 - Program flow
 - Syntax rules
 - SAS Files - structure of a SASdataset.

- Generating list reports - the options and the statements available
- Sorting the dataset - options and statements available
- An in-depth look is given to PROC PRINT and PROC SORT
- Quick look at storing SAS data sets permanently.
- Exercises / Workshop

Writing and Submitting SAS Programs

- An in depth look at the DATA Step
 - basic statements, compiling, executing
 - SAS date values
 - How to read and write them
 - Step by step approach to submitting the program
 - Handling errors at compile and execution time
 - How the SAS System accesses non-SAS data
 - Reading spreadsheet data into SAS
 - Exercises / Workshop.

Simple Data Manipulation

- Creating new variables
- SAS Functions
- Conditional processing by Using If-Then logic
- Using DO groups
- Reading SAS datasets; controlling the content of the SAS dataset
- Exercises / Workshop.

Listing and Sorting Data

- An introduction to the PROC step – processing the dataset

Generating Statistical Reports (Summary Reports)

- 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
- An in-depth look at the MEANS/SUMMARY procedures

continued

- A quick overview of the UNIVARIATE procedure.
- Exercises / Workshop.
- Other methods for moving data
- Exercises / Workshop

Introduction to Report Writing

- What is a report
- Types of Reports generated with SAS
- Report Writing options
- An in depth look at the PRINT procedure
- Utility procedures for enhancing reports
- Exercises / Workshop

Moving Data Into and Out of SAS

- An in depth view of PROC IMPORT and PROC EXPORT

More on Summary Reports

- An introduction to summarizing data; summary procedures
- Using the FREQ procedure
- Generating summary reports with the REPORT procedure
- A quick look at ODS and how it can be used to create HTML or Word document reports
- Exercises / Workshop .

Prerequisites

- None

Materials

- All students will receive slides with lecture material and data.
- Related data and lab files will be provided

Other SAS courses available: SAS II, SAS III