

SQL Processing with SAS® Software

Duration: 2 units CEUs: 1.2

AUDIENCE

This course is for those who need to write a small amount of SQL code to query their data. This is an alternative to the traditional Data Step, Sort, Summary, and Merge processing in SAS. Most of these processes can be achieved with this single procedure. Structured Query Language is the basis of querying relational databases such as DB2, Oracle, SQL Server and Sybase. This course does not teach how to read specific databases. Refer to the course titled, Accessing Relational Databases and Spreadsheets with SAS/ACCESS® Software, for these topics.

BENEFITS

This course will teach attendees how to use PROC SQL to retrieve information from their data. Students will be able to:

- ♦ *Query and join all types of data*
- ♦ *Create indexes, views, new tables and reports*
- ♦ *Change values in tables and SAS SQL Views*
- ♦ *Debug and optimize SQL queries*
- ♦ *Perform subqueries and set operations*
- ♦ *Calculate new columns using SAS functions and formats*

PREREQUISITES

Programming I: SAS Essentials or equivalent understanding.

You should already know how to

- ♦ *Write and submit SAS programs*
- ♦ *Calculate values and use logic operators*
- ♦ *Run simple SAS procedures*

No prior knowledge of SQL is required.

COURSE TOPICS

Introduction to SQL Concepts

- ♦ *The origin of SQL and why we use it.*
- ♦ *Basic terminology*

Simple Queries

- ♦ *Understanding the Select statement*
- ♦ *How to specify columns and subset rows*
- ♦ *Using functions to summarize and group data*
- ♦ *Ordering data and formatting output*
- ♦ *Performing group analysis, remerging and subqueries*

Joining Data

- ♦ *What are Cartesian Products; what is a Join*
- ♦ *Inner, Full, Outer, Left and Right Joins*
- ♦ *Set Operator use such as union and intersection*
- ♦ *Joining multiple tables*
- ♦ *Proc SQL as compared to the Data Step*

Working with Tables, Views and Indexes

- ♦ *Creating indexes and tables in SQL*
- ♦ *Why we use views in SQL*
- ♦ *Performance and space issues*

Advanced SQL Topics

- ♦ *How to use SAS macros in SQL*
- ♦ *How dictionary tables and views can simplify programming*
- ♦ *SQL options*

Software Used: Base SAS Software