

## SQL II: Intermediate SAS Programming with PROC SQL

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### Course Summary

#### Description

Students who take this course will acquire a deeper understanding of the SAS System and especially the SQL procedure. This understanding will help the student to write more efficient programs as well as utilize more features of the SQL procedure. In some cases, this translates to writing more concise programs. This course also includes a quick introduction to the SAS Macro facility.

#### Topics

- Advanced Data Selection Techniques
- Creating Indexes and Views
- Programming with PROC SQL
- Advanced Operations Using PROC SQL
- Accessing NON-SAS Data (DBMS)

#### 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 enhance their SQL programming skills.

#### Prerequisites

Before taking this course, students should take the *Introduction to SAS® Programming with PROC SQL* course.

#### Duration

One day

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### Course Outline

- I. Advanced Data Selection Techniques***
  - A. Overview of PROC SQL
  - B. Using Subqueries
  - C. Using Correlated Subqueries
- II. Creating Indexes and Views***
  - A. Introduction to Indexes
  - B. Creating and Deleting Indexes
  - C. Creating and Using SQL Views
- III. Programming with PROC SQL***
  - A. Using Options to Debug Queries
  - B. Improving Query Performance
  - C. Using the Macro Facility with PROC SQL
- IV. Advanced Operations Using PROC SQL***
  - A. Maintaining Tables
  - B. Using Dictionary Tables
  - C. Comparing Tables
  - D. Counting Duplicate Rows in a Table
  - E. Using ODS with PROC SQL
- V. Accessing NON-SAS Data (DBMS)***
  - A. The Environment
  - B. Six Steps to Building a Data Mart (Case Study)
  - C. Accessing Oracle Tables
  - D. Accessing DB2 Tables
  - E. Accessing Oracle Tables
  - F. SAS Enhancements to SAS/ACCESS