



SAS BASE & ADVANCED COURSE

Course Curriculum

SAS Base Course Curriculum

Module 1: Introduction to SAS

Introduction to SAS

- Overview of SAS software and its applications.
- Understanding the SAS programming environment and interface.

Module 2: SAS Fundamentals

Data Step Programming

- Data step concepts: Reading and writing data.
- Understanding variables, data types, and arrays.

Data Manipulation

- Data manipulation techniques: combining datasets, conditional processing.
- Using functions and informats to clean and transform data.

Module 3: Procedures in SAS

Working with Procedures

- Utilizing PROC PRINT, PROC SORT, PROC FREQ for basic data analysis.
- Summary statistics and frequency distributions with PROC MEANS and PROC FREQ.

Module 4: SAS Programming Techniques

Reading and Writing External Files

- Importing and exporting data in different formats (CSV, Excel, etc.).
- Utilizing SAS data steps for file processing.

SAS Functions

- Working with SAS functions for data manipulation and transformation.
- Understanding common functions and their applications.

Module 5: Advanced SAS Concepts

SAS Formats and Informats

- Utilizing SAS formats and informats for data conversion and reporting.
- Custom formats and informats creation.

Introduction to Macros

- Basics of SAS macros, creating and using macros for automation.
- Understanding macro variables and macro programming.

Course Curriculum

SAS Advanced Course Curriculum

Module 1: Advanced SAS Programming Concepts

Review of Base SAS Concepts

- Brief recap of fundamental SAS programming techniques covered in the Base SAS certification course.

Advanced Data Manipulation Techniques

- Complex data merging and manipulation using advanced DATA step programming.
- Using SQL in SAS for advanced data querying and manipulation.

Module 2: Advanced Data Step Processing

Advanced Data Step Programming

- Use of advanced array processing techniques for data manipulation.
- Leveraging hash objects and techniques for efficient data handling.

Module 3: Advanced PROC SQL

- Complex SQL querying, subqueries, joins, and optimization techniques.
- Utilizing advanced PROC SQL features for data aggregation and transformation.

Module 4: SAS Macro Language

Advanced Macro Programming

- In-depth understanding of macro language features and applications.
- Macro debugging, stored compiled macros, and advanced macro programming.

Module 5: Efficiency and Optimization

Performance Tuning and Optimization

- Techniques for optimizing SAS code and improving performance.
- Efficient programming methods and resource management.

Module 6: Integration and Automation

Integration with External Applications

- Integrating SAS with other applications and languages.
- Automation and scheduling using SAS in batch processes.