

## [SAS-PG1M6]: SAS Programming 1: Essentials

Length : 3 Days  
Audience(s) : Anyone starting to write SAS programs  
Delivery Method : Instructor-led (Classroom)

### Course Overview

This course is for users who want to learn how to write SAS programs to access, explore, prepare, and analyze data. It is the entry point to learning SAS programming for data science, machine learning, and artificial intelligence. It is a prerequisite to many other SAS courses. If you do not plan to write SAS programs and you prefer a point-and-click interface, you should attend the SAS Enterprise Guide 1: Querying and Reporting course.

### Audience Profile

Anyone starting to write SAS programs

### At Course Completion

Learn how to

- Use SAS Studio and SAS Enterprise Guide to write and submit SAS programs.
- Access SAS, Microsoft Excel, and text data.
- Explore and validate data.
- Prepare data by subsetting rows and computing new columns.
- Analyze and report on data.
- Export data and results to Excel, PDF, and other formats.
- Use SQL in SAS to query and join tables.

### Pre-Requisites

Before attending this course, you should have experience using computer software. Specifically, you should be able to

- Understand file structures and system commands on your operating systems
- Access data files on your operating systems

No prior SAS experience is needed.

This course addresses Base SAS software.

This course also addresses SAS/ACCESS Interface to PC Files.

### Course Outline

#### Module 1: Essentials

##### Lessons

- The SAS programming process

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- Using SAS programming tools
- Understanding SAS syntax

**Module 2: Accessing Data****Lessons**

- Understanding SAS data
- Accessing data through libraries
- Importing data into SAS

**Module 3: Exploring and Validating Data****Lessons**

- Exploring data
- Filtering rows
- Formatting columns
- Sorting data and removing duplicates

**Module 4: Preparing Data****Lessons**

- Reading and filtering data
- Computing new columns
- Conditional processing

**Module 5: Analyzing and Reporting on Data****Lessons**

- Enhancing reports with titles, footnotes, and labels
- Creating frequency reports
- Creating summary statistics reports

**Module 6: Exporting Results****Lessons**

- Exporting data
- Exporting reports

**Module 7: Using SQL in SAS****Lessons**

- Using Structured Query Language in SAS
- Joining tables using SQL in SAS

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