SAS® 9.4 Base Programming

A00-231

Course Syllabus

28 Hours

Course Description

The modules for SAS® Programming 1: Essentials are for users who want to learn how to write SAS programs to access, explore, prepare, and analyze data. They serve as the entry points to learning SAS programming for data science, machine learning, and artificial intelligence. The modules for SAS® Programming 2: Data Manipulation Techniques are for those who need to learn data manipulation techniques using the SAS DATA step and procedures to access, transform, and summarize data. They build on the concepts that are presented in the SAS® Programming 1: Essentials modules and are not recommended for beginner SAS software users.

This course covers the objectives for the certification exam:

- **SAS® 9.4 Base Programming Performance-Based Exam (A00-231)**

Learning Objectives

Upon completion of the course, students will understand 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
- Understand and control DATA step processing
- Create an accumulating column and process data in groups
- Manipulate data with functions
- Convert column type
- Create custom formats
- Concatenate and merge tables
- Process repetitive code
- Restructure tables

Course Format

SAS Programming 1 & 2 is a self-paced, online course delivered through the learning management system Skillsoft. The site to access the coursework is www.ivmfcore.org. Once you have logged into your CORE account, you can locate the coursework by selecting "Coursework" then clicking the Skillsoft logo.

Coursework is delivered through videos, tutorials, and tests. No textbooks are required for the course; however, students are encouraged to utilize additional resources to assist with certification preparation, if desired.

In order to complete the online exercises, you will need to download the free SAS University Edition software. You can find the free download here: https://www.sas.com/en_us/software/university-edition.html. SAS provides download and installation guides for Windows, OS X and Linux operation systems. If you encounter any issues with the download, please view the Help Center: https://support.sas.com/software/products/university-edition/faq/main.htm.

Course Completion Requirements

SAS Programming 1 & 2 coursework is due within 90 days from the assignment date. The course hours listed at the top of the syllabus reflect the time it would take to click through the slides and do not account for taking notes or the end of module tests. You must complete all modules in both Topic 1 and Topic 2. Successful completion of a module is marked after you review the lesson videos and score 80% or higher on the end of module quizzes. A non-credit certificate of completion will be awarded for successful completion of the coursework.

Industry Certification Requirements

In order for the program to fund your SAS® 9.4 Base Programming performance-based exam (A00-231), you will need to meet the associated practice exam requirements. Your advisor or O2O program coordinator will provide you with access to the practice exams as well as completion instructions once you have finished the coursework.

Support

- For technical support, program support or questions, please contact your advisor or O2O program coordinator

Course Outline

Topic 1: SAS Programming 1: Essentials

1.1 SAS Programming 1: Course Overview and Data Setup

1.2 SAS Programming 1: Essentials

1.3 SAS Programming 1: Accessing Data

1.4 SAS Programming 1: Exploring and Validating Data

1.5 SAS Programming 1: Preparing Data

1.6 SAS Programming 1: Analyzing and Reporting on Data

1.7 SAS Programming 1: Exporting Results

1.8 SAS Programming 1: Using SQL in SAS

Topic 2: SAS Programming 2: Data Manipulation Techniques

2.1 SAS Programming 2: Course Overview and Data Setup

2.2 SAS Programming 2: Controlling DATA Step Processing

2.3 SAS Programming 2: Summarizing Data

2.4 SAS Programming 2: Manipulating Data with Functions

2.5 SAS Programming 2: Creating and Using Custom Formats

2.6 SAS Programming 2: Combining Tables

2.7 SAS Programming 2: Processing Repetitive Code

2.8 SAS Programming 2: Restructuring Tables