Complete & Practical SAS, Statistics & Data Analysis Course

About the Course

This course aims to provide a comprehensive introduction to the SAS analytic software for Windows. Through a mixture of lectures and in-class examples, quizzes, and take-home assignments, students will gain experience using the SAS system for data manipulation, management and analysis. You will also expect A LOT of extracurricular learning materials for self-pace learning, treat it as a BONUS! Emphasis will be placed on the skills and techniques necessary for efficient data manipulation, management and analysis. It is designed for students with little to no background with SAS, and an understanding of the basic statistical concepts. This will be an excellent choice for your first SAS introduction course for your data analysis career.

Target Participants

- Beginners or job seekers interested in learning SAS Programming, statistical and data analysis in industry fields.
- People who wish to enter data science/analytics field.

Course Duration

- 6 Days at 8 hours a day

Course Objectives

What you will learn

- Be equipped with a powerful tool for the most sexy data analytics career path!
- Read and write various types of raw data with different formats and options
- Create and modify various professional and statistical reports
- Be aware of statistical analysis and concepts such as non-parametric test, interaction, correlation.
- Master the most complete SAS graphics tool such GTL and statistical plots
- Learn comprehensive SAS Macro programming knowledge -- variables and user defined functions
- Perform many real world case studies -- retail banks, credit bureau, marketing firms and clinical trials
- Apply powerful data manipulation -- SQL, sub setting, slicing, filtering, transformation, ranking, sorting.
- Understand data management and data piping

- Use SAS ODS -- help deliver many useful objects such as charts, tables between different systems
- Hundreds of SAS sample codes to explain arrays, functions and business cases

Course Outline

1. **SAS Environment and Basic Concepts**
   1.1 Introduce SAS environment
   1.2 SAS library
   1.3 Try SAS codes
   1.4 Homework and data installation
2. **Get started SAS Programming**
   2.1. Create data sets from external files
   2.2. SAS program - create data sets
   2.3. Valid names and comments
   2.4. SAS program -- Valid names and comments
   2.5. Data type and format
   2.6. SAS program -- data type and format
   2.7. SAS program - date and format
   2.8. Mechanism of SAS data set
   2.9. Summarize SAS operations
3. **Input and output raw data**
   3.1. List input (1)
   3.2. List input (2)
   3.3. SAS program -- list input
   3.4. Read data with fixed layout
   3.5. Read data with modified list input
   3.6. Input data with other features
   3.7. Write data using data step
   3.8. SAS program --write data
   3.9. Import and export data
4. **Manipulate data by data step programming**
   4.1. Duplicate data sets
   4.2. SAS program -- duplicate data sets
   4.3. Modify variables
   4.4. SAS program -- modify variables
   4.5. Variables selection
   4.6. Rename variables
   4.7. SAS program -- rename variables
   4.8. Assign labels to variables
   4.9. SAS program -- assign labels to variables
   4.10. Subsetting data sets
   4.11. SAS program -- Subsetting data sets
5. **Control flow in SAS**

5.1.Structured programming (I)

5.2.SAS program -- Structured programming (I)

5.3.Structured programming (II)

5.4.SAS program -- Structured programming (II)

6. **SAS data step functions**

6.1.Data step character functions

6.2.SAS program --data step character functions

6.3.Data step numeric functions

6.4.SAS program -- numeric functions

6.5.Data step special functions

6.6.Data step special functions

6.7.User defined format

6.8.SAS program -- User defined format

7. **Use cases study**

7.1.Case study 001(read employee data)

7.2.SAS program -- read employee data

7.3.Case study 002(read chronic disease data)

7.4.SAS program -- Case study 002(read chronic disease data)

7.5.Case study 003 (read business account data)

7.6.SAS program -- Case study 003 (read business account data)

7.7.Case study 004 (process stock data)

7.8.SAS program -- Case study 004 (process stock data

8. **Other SAS features in data step programming**

8.1.Automatic Variables (_N_ and _ERROR_)

8.2.Output statement

8.3.Return statement

8.4.Pinpoint the first and last record

8.5.SAS program -- Pinpoint the first and last record

8.6.Retain statement

8.7.SAS program -- Retain statement

8.8.Data step array (1)

8.9.Data step array (2)

9. **Use cases study (2)**

9.1.Case study 005 (create new KPI features)

9.2.Case study 006 (students grades)

Prerequisites

It is designed for students with little to no background with SAS. Understanding of the basic statistical concepts, basic computer operational skills, basic math skills, and data intuition is ideal.

Training Approach

This Statistical Data Analysis with SAS course is delivered by our seasoned trainers who have vast experience as expert professionals in data analysis with Stata. The course features plenty of practice materials, quizzes, and a final assessment to cement your newly acquired SAS skills. Training manuals and additional reference materials are provided to the participants.

Certification
Upon successful completion of this course, participants will be issued with a certificate.

Tailor-Made Course
We can also do this as a tailor-made course to meet organization-wide needs. A training needs assessment will be done on the training participants to collect data on the existing skills, knowledge gaps, training expectations, and tailor-made needs.