

Course (BI 520) Syllabus

Course outline

Introduction to SAS (3 classes)

Class 1:

- a) (Big Data Analytics with SAS, Ch. 1. Setting Up the SAS® Software Environment, required)
- b) (Big Data Analytics with SAS, Ch. 2. Working with Data Using SAS® Software, required)

Class 2:

- a) (The Little SAS Book, Ch. 1 Getting started using SAS software, required)
- b) (The Little SAS Book, Ch. 2 Getting your data into SAS, required)
- c) (Big Data Analytics with SAS, Ch. 3. Data Preparation Using SAS Data Step and SAS Procedures, required)

Class 3:

- a) (The Little SAS Book, Ch. 3 Working with your data, required)
- b) (Hands-On SAS for Data Analysis, Ch.1 Introduction to SAS Programming, recommended as revision)
- c) (Hands-On SAS for Data Analysis, Ch.2 Data Manipulation and Transformation, recommended as revision)

Data mining (2 class)

Class 4:

- a) (The Little SAS Book, Ch. 4 Sorting, Printing, and Summarizing your data, required)
- b) (Big Data Analytics with SAS, Ch. 4. Analysis with SAS® Software, required)

Class 5:

- a) (The Little SAS Book, Ch. 9 Using Basic statistical procedures, required)
- b) (Hands-On SAS for Data Analysis, Ch.4 Power of Statistics, Reporting, Transforming Procedures, and Functions, recommended as revision)

Visualization (1 class)

Class 6:

- a) (The Little SAS Book, Ch. 8, Visualizing your data, required)
- b) (Hands-On SAS for Data Analysis, Ch.9 Data Visualization, recommended)

Forecasting (2 classes)

Class 7:

- a) (SAS for Finance, Ch.2, Forecasting Stock Prices and Portfolio Decisions using Time Series, required)
- b) (SAS for Finance, Ch.1, Time Series Modeling in the Financial Industry, recommended)
- c) (Forecasting: Principles and Practice, Ch.8, ARIMA models)

Class 8: Revision on visualization and forecasting and the entire course

Recommended or required reading

Required reading:

[Big Data Analytics with SAS, David Pope, November 2017, Packt](#) (ch. 1,2,3,4, required)

Exclude:

- Ch.1 → Acquire a free version of SAS → Let's get started with your free version of SAS
- Ch.1 → SAS Studio web-based GUI → The Scalable Performance Data Server
- Ch.1 → SAS Studio web-based GUI → SAS HDAT
- Ch.2 → Preparing data for analytics → Specialty PROCs for working with external data
- Ch.2 → Preparing data for analytics → Specialty PROCs for working with computer languages

Required reading:

[The Little SAS Book: A Primer, Lora D. Delwiche, Susan J. Slaughter, Sixth Edition](#) (ch 1,2,3,4,8,9, required)

Exclude:

- Ch.4 → Sorting, Printing, and Summarizing Your Data → Ch. 4.14-4.24 (pg. 120-140)

Required reading:

[SAS for Finance, Harish Gulati, May 2018, Packt](#), (ch. 1, recommended), (ch. 2, required)

Recommended reading:

[Hands-On SAS for Data Analysis, By Harish Gulati, September 2019, Packt](#) (ch. 1,2,4, 9, recommended)

Exclude:

- Ch.1 → Introduction to SAS Programming → Dictionary tables
- Ch.2 → String identification → Index, Indexc, and Indexw
- Ch.2 → Missing and multiple values → COALESCE and COALESCEC
- Ch.2 → Interval calculations → INTNX and INTCK
- Ch.2 → Logic and control → IFC and IFN

- Ch.2 → Logic and control → WHICHC or WHICHN
- Ch.2 → Logic and control → CHOOSEC or CHOOSEN

Recommended reading:

[Forecasting: Principles and Practice \(2nd ed\), Rob J Hyndman and George Athanasopoulos,](#)
(Ch. 8, recommended)

Other references

- [A Complete Guide to Mastering SAS](#)
- [Tutorialspoint](#)
- [UCLA Statistical consulting – SAS](#)
- [UCLA Statistical consulting – SAS programming basics](#)