

# Data analysis with SPSS

Lecturer: Maria Chiara Debernardi

## Language

English

## Course description and objectives

SPSS (Statistical Package for Social Science), now IBM SPSS Statistics, allows performing a wide variety of statistical procedures in a quick and uncomplicated way, without the need to know any programming language (even its own). It covers all the steps for a statistical pipeline, from reading and cleaning/pre-processing a dataset, to modelling data and shaping outputs.

Main objective of the course is to provide participants a good understanding of SPSS, by acquiring enough operational skills to use it in a socio-economic context and in the exploration of corporate data.

Upon successful completion of this course, the student will be able to:

- Understand the key features of SPSS and use the SPSS GUI effectively
- Produce descriptive analyses by means of simple statistical tables, measures, and graphs
- Perform and comment parametric tests and simple regressions
- Carry out some of the most common multivariate analyses
- Know where to find help for advanced usage

**Important notice:** the course's aim is to present the software SPSS with its features, it does not want to be a "substitute" of a formal course in Statistics, thus details of statistical methodologies used will not be explained.

## Audience

The course is open to all Bocconi students, especially final year Bachelor's students and Master of Science's students who want to learn statistical data analysis without programming. The skills taught will be valuable for both thesis works and future careers.

## Prerequisites

No prior coding experience or knowledge of SPSS is assumed.

It is advisable to have a good familiarity with PC operations and a working knowledge of some basic application software (e.g., Excel).  
At least basic knowledge and understanding of statistics is highly recommended.

## Guidelines

### Registration:

You can sign up for the course only through the yoU@B student Diary, in the "**sign-up for various activities**" box (please note that the box appears only when registrations open. Before then it will not be visible).

You can only cancel your registration by Diary **no later** than the registration deadline for the course itself. No other means of cancellation are allowed.

Registration will be confirmed a few days before the start of the course through a message posted in the yoU@B student Diary.

### Attendance:

- Attendance of **75% or more** of class hours: obtainment of the **Open Badge**
- Attendance of **less than 25%** of class hours: **blacklisting**

## Duration

16 hours

## Teaching mode

This course will be only taught in person. Online mode will not be provided.

## Calendar

Lecture	Date	Time	Room
1	Wed 05/02/2025	18.15 - 19.45	InfoAS04
2	Thu 06/02/2025	18.15 - 19.45	InfoAS04
3	Wed 12/02/2025	18.15 - 19.45	InfoAS04
4	Thu 13/02/2025	18.15 - 19.45	InfoAS04
5	Wed 19/02/2025	18.15 - 19.45	InfoAS04
6	Thu 20/02/2025	18.15 - 19.45	InfoAS04
7	Wed 26/02/2025	18.15 - 19.45	InfoAS04
8	Thu 27/02/2025	18.15 - 19.45	InfoAS04

## Syllabus of the course

Lecture	Topics
1	<p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>- SPSS overview</li> <li>- Data analysis: workflow and critical issues</li> <li>- SPSS GUI: windows, menus, commands</li> <li>- File management: SPSS native formats</li> </ul> <p><i>Exercises</i></p>
2	<p><b>Preliminary data analysis</b></p> <ul style="list-style-type: none"> <li>- Frequencies</li> <li>- Descriptives</li> <li>- Explore</li> <li>- Crosstabs</li> </ul> <p><i>Exercises</i></p>
3	<p><b>Graphical data analysis</b></p> <ul style="list-style-type: none"> <li>- Creating charts with SPSS</li> <li>- Histograms</li> <li>- Bars</li> <li>- Boxplots</li> <li>- Scatter plots</li> </ul> <p><i>Exercises</i></p>
4	<p><b>Data pre-processing</b></p> <ul style="list-style-type: none"> <li>- Creating new variables</li> <li>- Labelling variables and their values</li> <li>- Missing values</li> <li>- Outliers</li> </ul> <p><i>Exercises</i></p>
5	<p><b>Regression and ANOVA</b></p> <ul style="list-style-type: none"> <li>- Linear correlation</li> <li>- Simple and multiple linear regression</li> <li>- Means</li> <li>- One-way ANOVA</li> </ul> <p><i>Exercises</i></p>
6	<p><b>Feature reduction</b></p> <ul style="list-style-type: none"> <li>- Principal component analysis</li> <li>- Factor analysis</li> </ul> <p><i>Exercises</i></p>
7	<p><b>Classification</b></p> <ul style="list-style-type: none"> <li>- Logistic regression</li> <li>- Discriminant analysis</li> </ul> <p><i>Exercises</i></p>

Lecture	Topics
8	<b>Clustering</b> <ul style="list-style-type: none"><li>- Hierarchical clustering</li><li>- K-means clustering</li></ul> <i>Exercises</i>

## Software used

IBM SPSS Statistics 29

## Suggested bibliography

Field A., *Discovering Statistics Using IBM SPSS Statistics, Sixth Edition*, SAGE, Feb 2024

## Available seats

This activity has a maximum capacity of 110 participants. Registration will close when this limit is reached or when the registration period ends.

Note: you can only cancel your ITEC course registration before the registration deadline.