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 easy 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. In particular, it is meant for last year Undergraduate and Master of Science students interested in learning how to do statistical data analysis without writing code, both for their final work and for use in the future workplace.

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 ways 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	Mon 08/04/2024	18.15 – 19.45	N33
2	Fri 12/04/2024	14.45 – 16.15	N33
3	Fri 12/04/2024	16.30 – 18.00	N33
4	Mon 15/04/2024	18.15 – 19.45	N33
5	Fri 19/04/2024	14.45 – 16.15	N33

6	Fri 19/04/2024	16.30 – 18.00	N33
7	Fri 03/05/2024	14.45 – 16.15	N33
8	Fri 03/05/2024	16.30 – 18.00	N33

Note: lessons will be held in the traditional room and **all the students have to bring their own device**.

Syllabus of the course

Lecture	Topics
1	**Introduction**
	- SPSS overview
	- Data analysis: workflow and critical issues
	- SPSS GUI: windows, menus, commands
	- File management: SPSS native formats
	Exercises
2	**Preliminary data analysis**
	- Frequencies
	- Descriptives
	- Explore
	- Crosstabs
	Exercises
3	**Graphical data analysis**
	- Creating charts with SPSS
	- Histograms
	- Bars
	- Boxplots
	- Scatter plots
	Exercises
4	**Data pre-processing**
	- Creating new variables
	- Labelling variables and their values
	- Missing values
	- Outliers
	Exercises
5	**Regression and ANOVA**
	- Linear correlation
	- Simple and multiple linear regression
	- Means and one-way ANOVA
	Exercises

Lecture	Topics
6	**Feature reduction**
	- Principal component analysis
	- Factor analysis
	Exercises
7	**Classification**
	- Logistic regression
	- Discriminant analysis
	Exercises
8	**Clustering**
	- Hierarchical cluster
	- K-means cluster
	Exercises

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 is limited to **110** participants. Registrations cannot be carried out once this number has been reached or after closing of the registration period.
Please remember that you can unsubscribe from ITEC courses only before the registration deadline.