

Data visualization with Python

Lecturer: **Andrea Giussani**

Language

English

Course description and objectives

Visualization of analytical results is probably one of the most important aspects that people want to highlight, either in a presentation or in a report. It is the result of complex data pipelines, which might require merging, transforming and wrestling data. The course covers the most famous libraries for data visualization in Python. We will cover the basics using matplotlib, and then move to more advanced libraries to create more sophisticated plots.

Upon successful completion of this course, students should be able to:

- Perform basic data transformations suitable for data visualization.
- Translate analytical results into charts and plots.
- Be familiar with matplotlib and related python libraries.

Audience

The course is targeted at:

- students who aim at improving their skills on data visualization using Python
- those who are curious on Data Visualization

However, note that the course is open to a restricted audience of Bocconi students.

More specifically, only students enrolled in:

- their third year bachelor programs, or
- any of the Bocconi Master programs, or
- any PhD or SDA programs

Prerequisites

Having passed the curricular exam in Computer Science or having a significant strong exposure to coding (especially with Python) is really recommended.

Duration

12 hours

Teaching mode

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

Calendar

Lecture	Date	Time	Room
1	Tue 27/09/2022	18.15 – 19.45	InfoU01
2	Thu 29/09/2022	18.15 – 19.45	InfoU01
3	Tue 04/10/2022	18.15 – 19.45	InfoU01
4	Thu 06/10/2022	18.15 – 19.45	Info6
5	Tue 11/10/2022	18.15 – 19.45	InfoU01
6	Thu 13/10/2022	18.15 – 19.45	InfoU01

Syllabus of the course

Lecture	Topics
1	Getting Data in Python <ul style="list-style-type: none"> - What is a DataFrame? - Merging Operations with Pandas - Introduction to Matplotlib <p><i>Exercise</i></p>
2	Plotting with Matplotlib <ul style="list-style-type: none"> - Axes and Subplots - Customization of a Plot - Main Type of Charts <p><i>Exercise</i></p>
3	Advanced Plotting with Matplotlib <ul style="list-style-type: none"> - Annotations - Visualization of Categorical variables <p><i>Exercise</i></p>

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- 4 Advanced Visualization Tools (2)**
- Statistical Analysis
 - Visualization of multivariate Distributions

Exercise

- 5 Advanced Visualization Tools (2)**
- Dynamic Plotting
 - Gestures and Inspectors

Exercise

Software used

Python 3.7 (or greater)

Suggested bibliography

Lecture notes provided by the Instructor.

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.