

Python for Excel

Lecturer: Gianluigi Pertusi

Language

English

Course description and objectives

Nowadays, huge datasets are available to everybody and they are often too large to fit into a spreadsheet. Although Microsoft introduced a few tools to analyse big datasets and to automate repetitive procedures, these tools are very specific and can be used only in the Microsoft environment. Another way to solve these problems involves the use of Python, which is a modern and widespread programming language. In this course Python will be used to support Excel in data analysis, overcoming Excel's limitations and simplifying data cleaning and processing.

Upon successful completion of this course, students will be able to use Python to:

- Read data from Excel files
- Analyse data using Python's libraries
- Create data report and charts through Python's libraries
- Print the result of their analysis on Excel files

Audience

The course is aimed at:

- students willing to improve their skills in data analysis
- students who need additional tools to perform quantitative analyses on large datasets
- students who want to exploit Python's potential to simplify data analysis and overcome Excel's limitations

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

More specifically, only students enrolled in:

- their second or third year bachelor programs, or

- any of the Bocconi Master programs, or
- any PhD programs

Prerequisites

Having passed the Computer Science curricular exam or having a good experience in coding with Python 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: **Exclusion List**

Duration

14 hours

Teaching mode

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

Calendar

Lecture	Date	Time	Room
1	Fri 27/03/2026	14.45 – 16.15	N08 (L. Del Vecchio)
2	Fri 27/03/2026	16.30 – 18.00	N08 (L. Del Vecchio)
3	Mon 30/03/2026	18.15 – 19.45	N08 (L. Del Vecchio)

4	Mon 13/04/2026	18.15 – 19.45	N08 (L. Del Vecchio)
5	Fri 17/04/2026	14.45 – 16.15	N08 (L. Del Vecchio)
6	Fri 17/04/2026	16.30 – 18.00	N08 (L. Del Vecchio)
7	Mon 27/04/2026	18.15 – 19.45	N08 (L. Del Vecchio)

Syllabus of the course

Lecture	Topics	Book References
1	Introduction to custom modules The datetime class -	Ch. 3
2	Data analysis with pandas - DataFrames and Series - Data manipulation	Ch. 5
3	Data analysis with pandas - Combining DataFrames - Data aggregation - Filtering DataFrames <i>Exercises</i>	Ch. 5
4	Importing and exporting DataFrames with pandas Time series analysis with pandas - DatetimeIndex - Time zones - Time series manipulations	Ch. 5 Ch. 6
5	Time series analysis with pandas - More time series manipulations Plotting tools <i>Exercises</i>	Ch. 5 Ch. 6
6	Excel files manipulation - pandas - openpyxl Useful tools for Excel reporting - os module	Ch. 7 Ch. 8
7	Final exercise: Excel reporting	

Software used

Python 3.12 (or greater)

Microsoft Excel 2019 (Office365)

Suggested bibliography

Zumstein F., *Python for Excel – A modern Environment for Automation and Data Analysis*, O'Reilly Media, 2021

Available seats

50 – 2nd/3rd-year Undergraduate students

60 – all the other students

Registrations cannot be carried out once this number has been reached or after the registration period ends.

Please note that you can withdraw from ITEC courses only before the registration deadline.

Spreadsheet paths

This course can be intended as part of a wider path:

