

Data analysis & modeling with Power Query

Lecturer: Gianluigi Pertusi

Course language

English

Course description and objectives

This course aims to illustrate the capabilities of Power Query, a tool developed by Microsoft for extracting, transforming, and loading data from external sources. Specifically, the course will cover the main features for automating the data import process into Excel - including establishing connections, data cleaning, data processing within Power Query, and data importing into Excel - enabling participants to link Excel and external data sources.

By the end of the course, participants will be able to:

- Import and analyze data from various sources
- Work with queries from relational databases, CSV files, file folders, and the web
- Append and merge tables
- Transform data
- Manipulate text data
- Process numeric columns
- Process dates and times
- Understand the basics of M language
- Work with functions
- Create a data model

Audience

The course is open to all Bocconi students. In particular, it is aimed at anyone who, for study or work purposes, needs to import, manage, and process large datasets using Microsoft Excel.

Prerequisites

Proficiency in the Windows operating system, coding fundamentals, and Excel at an intermediate or advanced level are useful prerequisites for fully understanding the material covered in the course.

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

16 hours

Teaching mode

This course will be offered **in person only**. It will not be available online.

Calendar

Lecture	Date	Time	Room
1	Sat 19/09/2026	9:30 – 11:00	InfoAS05 (Roentgen)
2	Sat 19/09/2026	11:15 – 12:45	InfoAS05 (Roentgen)
3	Sat 26/09/2026	9:30 – 11:00	InfoAS05 (Roentgen)
4	Sat 26/09/2026	11:15 – 12:45	InfoAS05 (Roentgen)
5	Sat 03/10/2026	9:30 – 11:00	InfoAS05 (Roentgen)
6	Sat 03/10/2026	11:15 – 12:45	InfoAS05 (Roentgen)

7	Sat 10/10/2026	9:30 – 11:00	InfoAS05 (Roentgen)
8	Sat 10/10/2026	11:15 – 12:45	InfoAS05 (Roentgen)

Syllabus of the course

Lecture	Topics	Book reference
1	Introduction to Power Query - Tool capabilities - Data modeling Data import – Part 1 - From relational databases - From CSV - From Excel Exercises	Chapters 1, 2, 3, 4
2	Data import – Part 2 - From folders - From WEB - From PDF Exercises	Chapters 5, 7, 8
3	Appending and merging tables - Appending data - Merging queries Working with rows and columns - Grouping - Sorting and filtering - Transposing - Expanding or extracting values - Aggregating Exercises	Chapters 9, 10
4	General transformations - General - Columns - Text - Numbers - Dates and times Exercises	Chapters 11, 12, 13, 14, 15

Lecture	Topics	Book reference
5	Basics of M language – Part 1 - Values - Operators - Comments Exercises	Chapter 18
6	Basics of M language – Part 2 - Conditional expressions - Variables - Functions Exercises	Chapter 18
7	Functions - Custom functions - Importing functions from files - Parametric queries Exercises	Chapters 19, 20, 21
8	Power Pivot and Data Modeling - Introduction - Create a Data model Exercises	Chapters 22, 23

Software used

Microsoft Excel 2019 (Office365) – Windows OS version

Suggested bibliography

- Salvaggio A., *Power Query e Power Pivot: I nuovi strumenti di Excel per l'analisi dei dati*, Edizioni LSWR, 2020 (for italian students)
- Microsoft – Excel help & learning – Import and analyze data
<https://support.microsoft.com/en-us/Excel/import-and-analyze-data>

Available seats

Participation in this activity is limited to **110 participants**. Registrations will no longer be accepted once this limit has been reached or after the registration period has closed.