

Data analysis and visualization with Power BI

Lecturer: Vittorio Locati

Language

English

Course description and objectives

This course provides an introduction to data analysis and visualization using Microsoft Power BI. The aim of the course is to understand how to gain insights from data using an interactive approach.

Power BI is a business analytics service which allows the user to gather data from multiple cloud sources and to create interactive, rich, and dynamic visualizations and dashboards with an intuitive interface. It expands the features available on Excel for creating reports without having to rely on advanced coding skills but preferring instead a more visual approach.

Students will learn how to set up a Business Intelligence system in order to extract insights from data, using graphs, tables, and maps.

The course will also introduce the relational model and DAX queries to create custom measures and KPIs.

At the end of the course participants will be able to:

- Understand the basics of the relational model
- Set up a BI model (using data from different sources) with Power BI
- Create custom interactive visualizations and share them with different users
- Apply complex filters and slicers on a visualization
- Choose the right visualization
- Create simple queries using DAX language (both in Excel and in Power BI)
- Understand how to integrate Python code in Power BI

Audience

The course is open to all Bocconi students. In particular, it is targeted at:

- those who want to learn how BI dashboards and reports work, focusing on a practical approach
- those who want to complement their data analysis expertise with the knowledge of a BI self-service tool

Prerequisites

A good knowledge of Microsoft Excel. Having passed the curricular exam in Computer Science is highly recommended.

Duration

16 hours

Teaching Mode

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

Calendar

Lecture	Date	Time	Room
1	Fri 28/10/2022	14.45 – 16.15	InfoAS04
2	Fri 28/10/2022	16.30 – 18.00	InfoAS04
3	Fri 04/11/2022	14.45 – 16.15	InfoU01
4	Fri 04/11/2022	16.30 – 18.00	InfoU01
5	Fri 18/11/2022	14.45 – 16.15	InfoAS05
6	Fri 18/11/2022	16.30 – 18.00	InfoAS05
7	Fri 25/11/2022	14.45 – 16.15	InfoAS04
8	Fri 25/11/2022	16.30 – 18.00	InfoAS04

Syllabus of the course

Lecture	Topics
1	Excel Review <ul style="list-style-type: none"> - Excel Review - Introduction to Power Pivot - Create a dashboard using Excel and Power Pivot

Lecture	Topics
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2	The relational model
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- What is the relational model?
 - Fact vs Dimension tables
 - Implementing the RM using Excel and Power Pivot
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3	Set up Power BI Desktop
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- Introduction to Power BI Desktop
 - How to install it
 - Import data to Power BI
 - How to create a simple report
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4	Exploring Visualizations
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- Data refresh
 - Charts, cards and KPIs
 - Slicers and filters 1
 - Import themes
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5	The relational model in Power BI
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- Relationships between tables
 - Combine data from different tables
 - Slicers and filters 2
 - Publish and share a report
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6	DAX language
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- Data Analysis expressions language
 - Create a Calculated Column
 - Create a Custom Measure
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7	Mapping with Power BI
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- Map Visuals
 - ArcGIS maps
 - Templates
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8	Advanced features
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- AppSource Visuals
 - Python Visuals
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Software used

Microsoft Excel, Microsoft Power BI Desktop

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.