Data Analysis and Visualisation with Microsoft® Excel®

Course Specifications

Course Number:
091157

Course Length:
2 days

Course Description

Overview:

Technology and the data that it both collects and makes accessible is now interwoven with businesses and lives. The era of "big data" has exploded due to the rise of cloud computing, which provides an abundance of computational power and storage, allowing organizations of all sorts to capture and store data. Leveraging that data effectively can provide timely insights and competitive advantage.

Analysing data to find issues, insights, and opportunities is now a critical part of many job roles. Beyond the analysis, data analysts in all job roles must be able to effectively present and communicate their findings in visually compelling ways.

Microsoft® Excel® is designed for this purpose. Excel can connect to a wide range of data sources, perform robust data analysis, and create diverse and robust data-backed visualizations to show insights and trends, and create reports. These capabilities enable people who use Excel for data analysis to turn data into thoughtful action.

Course Objectives:

In this course, you will analyse and visualize data using Microsoft Excel and associated tools. You will:
- Perform data analysis fundamentals.
- Visualize data with Excel.
- Analyse data with formulas and functions.
- Analyse data with PivotTables.
- Present visual insights with dashboards in Excel.
- Create geospatial visualization with Excel.
- Perform statistical analysis.
- Get and transform data.
- Model and analyse data with Power Pivot.
- Present insights with reports.

Target Student:

This course is designed for students who already have foundational knowledge and skills in Excel and who wish to perform robust and advanced data and statistical analysis with Microsoft Excel using PivotTables, use tools such as Power Pivot and the Data Analysis ToolPak to analyze data, and visualize data and insights using advanced visualizations in charts and dashboards in Excel.

Prerequisites:

To ensure success, you should have baseline skill using Microsoft Excel worksheets, particularly in creating workbooks with formulas and functions. You can obtain this level of knowledge and skill by taking the following or any similar equivalent Logical Operations course:
* *Microsoft® Excel® for Office 365™ (Desktop or Online): Part 1*

Additional workplace experience with Excel is highly recommended.

Course-specific Technical Requirements

Hardware:

For this course, you will need one computer for each student and one for the instructor. Each computer will need the following minimum hardware configurations:
* 1 gigahertz (GHz) 64-bit (x64) processor.
* 4 gigabytes (GB) of Random Access Memory (RAM).
* 32 GB available storage space.
* Monitor capable of a screen resolution of at least $1,024 \times 768$ pixels, at least a 256-color display, and a video adapter with at least 4 MB of memory.
* Bootable DVD-ROM or USB drive.
* Keyboard and mouse or a compatible pointing device.
* Fast Ethernet (100 Mb/s) adapter or faster and cabling to connect to the classroom network.
* IP addresses that do not conflict with other portions of your network.
* Internet access (contact your local network administrator).
* (Instructor computer only) A display system to project the instructor's computer screen.

Software:
* Microsoft® Office Professional Plus 2019 or Office 365™
* Microsoft® Windows® 10 Professional or Enterprise
* If necessary, software for viewing the course slides. (Instructor machine only.)

Course Content

Lesson 1: Data Analysis Fundamentals
Topic A: Introduction to Data Science
Topic B: Create and Modify Tables
Topic C: Sort and Filter Data

Lesson 2: Visualizing Data with Excel
Topic A: Visualize Data with Charts
Topic B: Modify and Format Charts
Topic C: Apply Best Practices in Chart Design

Lesson 3: Analysing Data with Formulas and Functions

Topic A: Analyse Data with Formulas and Named Ranges

Topic B: Analyse Data with Functions

Topic C: Implement Data Validation, Forms, and Controls

Topic D: Create Conditional Visualizations with Lookup Functions

Lesson 4: Analysing Data with PivotTables

Topic A: Create a PivotTable

Topic B: Analyse PivotTable Data

Lesson 5: Presenting Visual Insights with Dashboards in Excel

Topic A: Visualize Data with PivotCharts

Topic B: Filter Data Using Slicers and Timelines

Topic C: Create a Dashboard in Excel

Lesson 6: Creating Geospatial Visualizations with Excel

Topic A: Create Map Charts in Excel

Topic B: Customize Map Charts in Excel

Lesson 7: Performing Statistical Analysis

Topic A: Visualize Trendlines and Sparklines with Excel

Topic B: Analyse Data with the Data Analysis ToolPak

Lesson 8: Getting and Transforming Data

Topic A: Connect to Data with Queries

Topic B: Clean and Combine Data

Topic C: Shape and Transform Data

Lesson 9: Modeling and Analyzing Data with Power Pivot

Topic A: Install Power Pivot in Excel

Topic B: Create Data Models with Power Pivot

Topic C: Create Power Pivots

Topic D: Perform Advanced Data Analysis and Visualization

Lesson 10: Presenting Insights with Reports

Topic A: Plan a Report

Topic B: Create a Report