



Microsoft Data Analysis and Visualization with Microsoft Excel

Course Duration: 2 Days

Exam Reference: N/A - Practical Skills Course (Non-certification)

Course Overview

This hands-on course introduces participants to data analysis and visualization techniques using Microsoft Excel. Learners will explore a variety of tools such as tables, PivotTables, PivotCharts, conditional formatting, formulas, functions, and Excel's powerful visualization features to derive meaningful insights from data. This course is ideal for professionals who want to make data-driven decisions and present data in an effective, compelling way.

Prerequisites

- Basic familiarity with Microsoft Excel
- Experience working with spreadsheets and simple formulas
- No prior experience with data analysis or advanced Excel features required

Course Objectives

- Clean and prepare datasets for analysis
- Apply Excel's built-in tools to analyze large datasets
- Use formulas and functions to summarize data
- Build and customize PivotTables and PivotCharts
- Apply conditional formatting and data bars for visual emphasis
- Create dashboards and data summaries
- Utilize charts to visually represent trends and comparisons
- Share reports with others using print, PDF, and Excel online



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Course Outline

Module 1: Introduction to Data Analysis in Excel

- Overview of data analysis process
 - Importance of structured data
 - Introduction to Excel's data analysis capabilities
 - Keyboard shortcuts and productivity tips
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Module 2: Preparing and Cleaning Data

- Removing duplicates and blank values
 - Text to columns and Flash Fill
 - Using filters and sorting
 - Data validation and removing errors
 - Converting data to Excel Tables
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Module 3: Formulas and Functions for Analysis

- SUM, AVERAGE, COUNT, MIN, MAX
 - Logical functions: IF, AND, OR
 - Lookup functions: VLOOKUP, HLOOKUP, XLOOKUP
 - Text functions: CONCAT, LEFT, RIGHT, MID, LEN
 - Date and time functions
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Module 4: PivotTables and PivotCharts

- Creating PivotTables from raw data
 - Grouping, filtering, and sorting in PivotTables
 - Using slicers and timelines
 - Building PivotCharts to visualize summarized data
 - Designing interactive dashboards with slicers and filters
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Module 5: Data Visualization Techniques

- Choosing the right chart type
 - Creating and customizing:
 - Column, bar, and line charts
 - Pie and donut charts
 - Combo charts
 - Waterfall and sparkline charts
 - Using data bars, icon sets, and color scales
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Module 6: Using Excel's Data Analysis Tools

- Quick Analysis Tool
 - Goal Seek and What-If Analysis
 - Introduction to Power Query (optional)
 - Introduction to Power Pivot (optional)
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Module 7: Creating Dashboards and Reports

- Combining charts, tables, and slicers
- Using named ranges and form controls
- Formatting for clarity and presentation
- Exporting to PDF and printing reports
- Sharing files with Excel Online and OneDrive