

MICROSOFT EXCEL BASICS

WORKBOOK

Empower and invest in yourself

MODULE 01

INTRODUCTION TO MICROSOFT EXCEL

Exploring the Excel Interface

This course is an introduction to Microsoft® Office Excel ® based on the 2013 version layout, and is designed for learners who desire to gain the necessary skills to create, edit, format, and print basic Microsoft Office Excel worksheets.

However basic these skills might sound, keep in mind that in order to perform more complex tasks in Excel, you need to master the basic skills.

Most jobs require basic Excel skills. These basic Excel skills are:

- Familiarity with Excel ribbons and user interface
- The ability to enter and format data, calculate totals and summaries through formulas
- Highlight data that meets certain conditions
- Creating simple reports and charts
- Understanding the importance of keyboard shortcuts and productivity tricks.

MODULE 01

INTRODUCTION TO MICROSOFT EXCEL

The purpose of Microsoft Excel

Microsoft Excel is a spreadsheet program that allows you to store, organize, and analyse information.

Anyone can learn how to take advantage of the program's powerful features. The purpose of Excel can be summarised as follow:

- Lay out your data

Organize your numeric or text data in spreadsheets or workbooks. Viewing it in context helps you make more informed decisions.

- Reformat and rearrange

As you look at different configurations, Excel learns and recognizes your pattern and auto-completes the remaining data for you. No formulas or macros required.

- Data analysis

Excel will perform complex analyses for you. And it summarizes your data with previews of pivot-table options, so you can compare them and select the one that tells your story best.

- Flow into charts and graphs

Excel can recommend the charts and graphs that best illustrate your data patterns. Quickly preview your options and pick those that present your insights most clearly.

- Find your best storyline

Discover and compare different ways to represent your data-and your intents- visually. When you see the one that shows your data best, apply formatting, spark lines, charts, and tables with a single click.

- Highlight trends and patterns

Make it easy to spot trends and patterns in your data by using bars, colours and icons to visually highlight important values.

MODULE 01

EXERCISE 01

You were recently introduced to the basics of Microsoft Excel as a first time user, terms such as Ribbon and Backstage View is unknown to you.

You want to explore the application elements and familiarize with the unique terms.

Explore the application elements.

1. Open a Blank Excel Workbook.
2. On the Ribbon, select the File Tab to display the Backstage View.
3. Observe that the Backstage View consists of options to Save, Open, Print, and Close a workbook.
4. On the Ribbon, select the Page Layout Tab to view its commands.
5. Observe that the Themes, Page Setup, Scale to Fit, Sheet Options and Arrange groups are displayed along with relevant commands.
6. Select the other tabs on the Ribbon to view the commands and groups in them.

MODULE 01

EXERCISE 02

You have recently joined a new company as a sales manager.

In your job role, you are required to use the Excel application to analyze information.

You have not worked with the Excel application previously and you want to familiarize yourself with the interface elements of the Excel application.

Use this opportunity to practice the following instructions to familiarize yourself with the Excel interface.

Familiarize yourself with the interface elements of the Excel application

1. Open a blank Excel workbook.
2. Explore the Quick Access Toolbar, located just above the Ribbon.
3. Place the mouse point over each button to view its description.
4. Explore the Status Bar.
5. On the Status Bar, to the left of the Zoom Slider, place the mouse pointer over each of the buttons to view their descriptions.
6. Click the Page Break View Button
7. Click the Normal View Button to return to normal view.

MODULE 02

CREATING & MODIFYING WORKBOOKS

Microsoft Excel Workbooks

A Microsoft Office Excel workbook is a file that contains one or more worksheets that you can use to organize various kinds of related information.

To view or modify data in Excel, you need to know how to work with worksheets. In this topic you will discover the analogy - if you will - of a workbook.

Column headings in Excel begin with the letter A and continue through to letter Z.

After the 26th column (column Z), headings become double letters (AA, ZZ). Row headings begin with 1 and continue through 1,048,576.

In Excel, cells are referenced based on the intersection of the respective column and row.

The Analogy of Workbooks

Data

Data can be in the form of text, numbers and non-alphanumeric symbols in a tabular format.

Spreadsheets

A paper or an electronic document that is used to store and manipulate data. It consists of rows and columns that intersect to form cells, where data entered is stored.

Worksheets

An electronic spreadsheet that is used for entering and storing data in Excel. An Excel worksheet contains columns and rows, which intersects like a grid to form cells.

Workbooks

A workbook is an Excel file that acts as a container for related Excel worksheets. The name of the workbook is displayed on the title bar of the Excel application window. By default, a new blank workbook contains three worksheets (Sheet1, Sheet2, and Sheet3).

MODULE 02

CREATING & MODIFYING WORKBOOKS

Navigate through worksheets

- You can use a mouse pointer to navigate through worksheets. This includes navigating to a specific cell in a worksheet or to a different worksheet in a workbook.
- You can use a keyboard to navigate within and across worksheets in a workbook to enter, view or modify data.

Mouse Pointer Selection Options

- Worksheet display Up or Down
- Top or Bottom Vertical scroll arrow
- Worksheet display Left or Right
- Left or Right Horizontal scroll arrow
- Move to a specific cell in a worksheet
- Click in the Name Box and type the cell reference
- Display different worksheets
- Click the name of the desired worksheet on the sheet tab bar.

MODULE 02

EXERCISE 01

You want to familiarize yourself with the sales trend for your team to prepare a report on your team's performance for the past year. You need to view the relevant information for each sales person from the workbook.

1. View Specific Cells

- Open a Prepared Workbook / Blank Workbook
- Scroll down and select any cell between Row 15 and Row 30
- Hold down CTRL and press Home to navigate to the beginning of the worksheet
- Hold down CTRL and press Page Down to move to the next worksheet.
- Observe that Sheet2 is selected

2. Select a Continuous Range of Cells

- Scroll down and select Cell A20
- Hold down SHIFT and click M21 to select the range of cells from A20 to M21
- At the top left corner of the worksheet, below the Name Box, click the Select All button to select the entire worksheet
- Click on an empty cell to deselect the section

MODULE 02

EXERCISE 02

Your company recently introduced two new products. You have the sales data for these products on a printed paper. You want to create an invoice with this data in an Excel worksheet to send it to a customer.

1. Enter column headings

- On the Quick Access Toolbar, click New to open a Blank Workbook
- In cell A1, type Product and press Tab to move to cell B1
- In cell B1, type Quantity and press Tab
- In cell C1, type Price and press Tab
- In cell D1, type Date of Shipment and press Enter

2. Enter the name of the products

- Click cell A3, type Pen and press Enter
- In cell A4, type Chart

3. Enter the data for quantity

- Click cell B3, type Printer and press Enter
- In cell B4, type Scanner

4. Enter the price and date of shipment

- Click cell C3, type 2300 and press Enter
- In cell C4, type 1200
- Enter today's date in cells D3 and D4
- Save the workbook

MODULE 03

PERFORMING BASIC CALCULATIONS

Getting started with Excel Formulas

You have created a basic worksheet and entered data, and you explored the purpose of naming cells and ranges.

Now you are ready to work with data that contains trends and patterns to be analysed. To identify these trends and patterns, you need to perform some calculations based on the data.

Performing calculations manually can be tiresome, time consuming and prone to errors.

However, you can use Excel's formulas and built-in functions to perform data calculations quickly and free of errors.

The Definition of a Formula

A formula is a

Symbolic representation that defines the standard procedure for a calculation.

A formula comprises an expression to the right and a resultant to the left of an equal sign.

The expression in a formula usually consists of a combination of variables, constants, and operators.

An Excel formula is a type of formula that

can be used to perform calculations on the data that is entered in Excel worksheets.

All formulas in Excel begin with an EQUAL SIGN (=) and contain various components such as arguments and operators.

The result of an Excel formula is stored in the cell where the formula is entered.

MODULE 03

PERFORMING BASIC CALCULATIONS

The various Elements of an Excel Formula

References

Addresses of cells or ranges of cells on a worksheet that refer to the location of the values or data on which you need to apply a formula for calculation.

Operators

Symbols that specify the kind of calculation that needs to be performed on the components of a formula.

Constants

Numbers or text that do not change in a formula.

Functions

Predefined formulas in Excel that are used to simplify complex calculations.

Mathematical Operators

Mathematical operators are symbols or signs that are used to represent an arithmetic operation in Excel.

- Plus sign (+) Add
- Minus sign (-) Subtract
- Asterisk (*) Multiply
- Forward Slash (/) Divide
- Caret symbol (^) Exponent
- Open and closed parentheses
- Group computation instructions

MODULE 03

EXERCISE 01

The management of your company has planned to introduce four new products in the market. You need to determine the profitability of these products by analysing totals. Before you can start you need to become familiar with basic calculations in Excel

1. Calculate a total

- Open a blank workbook
- Click cell A1, insert 100
- Click cell A2, insert 150
- Click cell A3, insert 200
- In cell A4, type `=A1+A2+A3` and press Enter to display a total of 450
- In cell A5, multiply the total by 2
- Type `=A4*2` and press Enter to display a total of 900

MODULE 03

EXERCISE 02

You want to determine the data of the highest value, the lowest value and the average value.

1. Identify the labels

- Open the previous workbook
- In cell A7, type Average
- In cell A8, type Maximum
- In cell A9, type Minimum

2. Calculate the average

- In cell B7, type =av
- In the AutoComplete list, double click AVERAGE
- Select range A1:A4, and press Enter
- Observe the Average displayed

3. Calculate the maximum value

- In cell B8, type =ma
- In the AutoComplete list, double click MAX
- Select range A1:A4, and press Enter
- Observe the Maximum Value displayed

4. Calculate the minimum value

- In cell B9, type =min
- In the AutoComplete list, double click MIN
- Select range A1:A4, and press Enter
- Observe the Minimum Value displayed
- Save the Workbook

MODULE 04

WORKING WITH RANGES & CELLS

Range Names in Excel

To view or modify data in Excel, you need to know how to work with worksheets and understanding the concept behind cells and naming them, for more efficiency and clear identification within a worksheet.

A name is a meaningful shorthand that makes it easier to understand the purpose of a cell reference, constant, formula, or table, each of which may be difficult to comprehend at first glance.

Let's look at common examples of names and how they can improve clarity and understanding.

Name Examples

TYPE: Reference

NONAME: =SUM(C20:C30)

WITH NAME: =SUM(FirstQuarterSales)

Types of Names

There are several types of names that you can create and use.

a) Defined name

A name that represents a cell, range of cells, formula, or constant value. You can create your own defined name, and Microsoft Excel sometimes creates a defined name for you, such as when you set a print area.

b) Table name

A name for an Excel table, which is a collection of data about a particular subject that is stored in records (rows) and fields (columns). Excel creates a default Excel table name of Table1, Table2, and so on, each time that you insert an Excel table, but you can change a table's name to make it more meaningful.

MODULE 04

WORKING WITH RANGES & CELLS

The Scope of a Name

The scope of a name is the location within which the name is recognized without qualification.

All names have a scope.

Either to a specific worksheet (Local Worksheet level) or to the entire workbook (Global Workbook level).

To use a local worksheet name in another worksheet, you can qualify it by preceding it with the worksheet name, as the following example shows:

Sheet1!Budget_Total

For example:

If you have defined a name, such as Budget Total, and its scope is Sheet1, that name is recognized only in Sheet1, but cannot be recognized in other sheets without qualification.

If you have defined a name, such as Sales Dept Goals, and its scope is limited to the workbook, that name is recognized for all worksheets in that workbook, but not for any other workbook.

Excel prevents you from defining a name that is not unique within its scope. However, you can use the same name in different scopes:

For example:

You can define a name, such as YearlyProfit, that is scoped to Sheet1, Sheet2, and Sheet3 in the same workbook. Although each name is the same, each name is unique within its scope. You might do this to ensure that a formula that uses the name, YearlyProfit, is always referencing the same cells at the local worksheet level.

MODULE 04

EXERCISE 01

You are working in the sales department of your company. The company's board has asked you to submit the previous report on the new products. You entered the data in an Excel sheet and now want to apply range names for cell ranges so that it is easier to refer to them.

1. Name the range Price2016

- Open the previously saved workbook or a blank workbook
- Select the range C3:C4
- To the left of the Formula Bar, click inside the Name Box.
- In the Name Box, enter the name of the range as Price2016

2. Verify the range name is correctly applied

- Deselect the range C3:C4 by selecting any cell on the worksheet
- Observe the Name Box
- Select the range C3:C4 again
- Observe the Name Box
- Create relevant Named Ranges throughout the worksheet

MODULE 05

WORKING WITH EXCEL TABLES

Introduction to Excel Tables

An Excel table is a series of rows and columns with related data that is managed independently.

Converting a data range into a table extends functionality, which you can then use to work more efficiently and effectively. Tables allow you to analyse your data in Excel quickly and easily. So learn how to insert, sort and filter a table, and how to display a total row at the end of a table.

Ten Reasons to use Excel's Table Object

Excel tables offer several advantages over data ranges. Let's look at why you should consider using a table instead of an ordinary data range.

Easy Sorting and Filtering - Excel automatically adds filter controls to the header row when you convert a range into a table.

Quick formatting - Excel automatically applies a banded row format to new tables. If you don't like that format, you can choose a new one from 60 predefined formats in the Table Styles gallery on the contextual Design tab.

Effortless data entry - You can easily extend a table, making data entry much easier. To insert a new record, select any cell in the row below the table's last row and enter a value. Excel will automatically extend the table's formatting to the new row.

Automatic nomenclature - When entering formulas, you use cell references and range names. When working with a table, Excel works all that out for you.

Quick Totals - Add an automatic Totals row to the table

Always visible headers - In a data range, header cells disappear as you scroll, but table headers are always visible

No copy necessary - You can further automate by allowing the table to copy the formula when you enter it. These columns are called calculated columns.

Dynamic charts - If you base a chart on a table, Excel will update the chart automatically as you change and enter new data into the table.

MODULE 05

WORKING WITH EXCEL TABLES

Getting Started with Excel Tables

When your data table is defined as a Table, additional functionality in Excel is made available.

With Excel's intelligent Tables, the following additional functionality becomes available:

- AutoFilter drop-downs
- You can apply pre-designed formats, such as banded rows or borders.
- You can remove duplicates based on the values in one or more columns.
- You can toggle the total row on and off.
- Adding new rows or columns automatically extends the table.
- You can take advantage of automatically created range names.

MODULE 05

EXERCISE 01

You need to present data related to existing inventory to the board members for accounting purpose. You want to draw attention to certain portions of the data and decided to convert it into a table.

1. Convert data into a table

- Prepare a basic data range with column headings
- Verify that there are no blank columns within your data range
- Select any cell within the dataset
- On the Insert Tab in the Tables group, click Table
- In the Create Table dialog box, verify that the table range is listed correctly and that My Table has Headers option is checked
- Click OK
- Observe that the selected range is displayed as a table with column headers, filter drop down arrows and banded rows for easy readability

MODULE 06

WORKBOOK FORMAT & VISUALS

The purpose of Font Properties

You modified the data in a worksheet. You now want to emphasize important data in the worksheet so that it is easy to locate necessary information and enhance the appearance of the worksheet.

In this topic, you will apply font properties to data in an Excel worksheet. Altering the font properties of the data in a worksheet helps you highlight key points from the rest of the data.

By modifying the font properties, you can also change the appearance of the worksheet to make it look visually appealing.

Fonts

A font is a predefined typeface that can be used for formatting characters.

The Font Group

The Font group on the Home tab contains options to set font properties such as font face, size, and colour.

The Format Cells Dialog Box

The Format Cells dialog box contains various options for formatting the appearance of data in an Excel worksheet. The Format Cells dialog box consists of six tabs containing formatting options.

Number: Options for changing the number formatting such as Currency, Short Date, Long Date and Time.

Alignment: Options for changing the alignment and orientation of data in a cell range.

Font: Font properties such as Font Face, Style, Size and Colour.

Border: Border formatting options such as Line and Colour.

Fill: Fill colour options such as Background Colour, Pattern Colour and Pattern Style.

Protection: Protection options such as locking cells or hiding formulas in a worksheet.

MODULE 06

WORKBOOK FORMAT & VISUALS

The Format Painter

The Format Painter provides you with an easy option to copy only the formatting that is applied to a cell, to another cell or cell range, without copying the data.

The format painter works similar to a paintbrush and can be used to apply format changes to data, or to copy a colour scheme from one cell to another.

Galleries

A gallery is a repository for elements that belong to the same category.

In Excel, a gallery acts as a central location for accessing various options such as cell styles, tables, shapes, and charts.

Galleries enable you to choose from any of the present formats and styles to quickly alter worksheet objects.

The Mini Toolbar

The Mini Toolbar is a floating toolbar that is displayed when you right-click a cell or select data within a cell. It combines some of the options available in the various groups on the Home tab.

Borders and Colors

After emphasizing specific data, you may want to highlight key information in the worksheet by using various borders and colours.

Adding borders and colours to specific cells in a worksheet helps you highlight key information. It also allows the grouping of similar data and makes worksheets that have loads of data look uncluttered.

Excel provides you with various options for adding borders and colours to cells.

MODULE 06

EXERCISE 01

You are preparing a sales report. You feel that you need to make the worksheet look more visually appealing. You decide to modify the font properties of the data.

1. Change the font face of the data

- Prepare a basic worksheet
- Click the Select All button to select the entire worksheet
- On the Home tab in the Fonts group, click the Font drop down arrow, and in the displayed list, scroll down and select Times New Roman
- On the Home tab in the Fonts group, click the Font Size drop down arrow, and from the displayed list, select 14
- Observe that the font for the entire worksheet has changed to Times New Roman and 14pt
- Evaluate more settings within the Font Group

MODULE 06

EXERCISE 02

You are still in the process of formatting the sales analysis report. You want to highlight the title and heading of the data in the worksheet.

1. Add a background color a range

- Continue on the previous worksheet
- Select the first row in your data range
- On the Home tab, in the Font group, click the Fill Color drop-down arrow, and from the displayed gallery, in the Theme Colors section, select Blue, Accent 1, Darker 25%

2. Add a border to a range

- Select the first row in your data range again
- On the Home tab, in the Font group, click the Border drop-down arrow, and from the displayed list, select All Borders
- Click any cell to deselect the highlighted region
- Save the worksheet

MODULE 07

CUSTOMISE EXCEL WORKBOOKS

Worksheets Options

With the relevant knowledge of Excel's tools, you can efficiently manage and work with large workbooks. Excel provides you with options to reposition, hide, or delete worksheets easily in a workbook.

The following Worksheet Options will be explored

- Insertion Options
- Deletion Options
- Reposition Methods
- Tab Formatting
- Hide & Unhide Options
- Freeze Panes Options

Insertion Options

When you open a new Excel workbook, three worksheets will be displayed on the sheet tab bar by default.

Excel provides you with various options to modify the number of worksheets in a workbook based on your requirements.

You can insert new worksheets by clicking the Insert Worksheet button, or by selecting the Insert Sheet option from the Insert drop-down list in the Cells group.

MODULE 07

CUSTOMISE EXCEL WORKBOOKS

Deletion Options

To delete worksheets with unwanted or obsolete data,

- A) You can select the Delete Sheet option from the Delete drop-down list in the Cells group, or
- B) Right-click the desired Sheet Tab and Select Delete

Tab Formatting Options

When you open a new Excel workbook, three worksheets will be displayed on the sheet tab bar by default.

Excel provides you with various options to modify the number of worksheets in a workbook based on your requirements.

You can insert new worksheets by clicking the Insert Worksheet button, or by selecting the Insert Sheet option from the Insert drop-down list in the Cells group.

Deletion Options

To delete worksheets with unwanted or obsolete data,

- A) You can select the Delete Sheet option from the Delete drop-down list in the Cells group, or
- B) Right-click the desired Sheet Tab and Select Delete

MODULE 07

EXERCISE 01

While reviewing the sales report, you realize that you want to hide some columns containing information you do not currently need for evaluation.

1. Hide Column A and other

- Continue from the previous worksheet
- Select column A
- On the Home tab in the Cells group, in the Format drop-down list, move the mouse pointer over Hide & Unhide and from the submenu displayed, choose Hide Columns.
- Observe the columns hidden, the worksheet will now display from B
- In the Cells Group, in the Format drop-down list, move the mouse pointer over Hide & Unhide and from the submenu displayed, choose Unhide Columns
- Save the document

MODULE 07

EXERCISE 02

You are reviewing the data in the sales report. Due to a large amount of data, you find it difficult to identify and focus on specific data.

1. Freeze Panes

- Continue from the previous worksheet
- Select the second row of your data range (the row beneath the headings)
- On the View tab in the Window group, from the Freeze Panes drop-down list, select Freeze Panes
- In the Worksheet, scroll down to evaluate the application of the freeze pane
- Observe that the column headings are visible, while the rest of the worksheet can be scrolled
- In the Window group, from the Freeze Panes drop-down list, select Unfreeze Panes.

MODULE 08

PREPARE WORKSHEETS FOR PRINT

You worked with a large workbook. You may want to share a worksheet with others. One way to share the content of a worksheet is by printing it. The Print option in Excel is integrated with the Back stage view, and provides you with the ability to print worksheets with just a few mouse clicks.

Define the Page Layout

Once a workbook is finalized, it is prepared for printing.

Before printing a workbook, you need to check and adjust the page layout so that the printed output looks professional.

To achieve the desired print output, you may need to adjust the layout of the worksheets, add headers and footers, or change the page orientation.

Headers and Footers

A header or footer is a data block that comprises text and graphics displayed at the top or bottom of a printed page. By default, Excel headers and footers contain three placeholders at the left, centre and right edges of a page.

The Header and Footer Command can be found in the Insert Tab within the Text group. You can include information in any of the three placeholders in a header or footer. Each placeholder can contain text or graphics that will remain the same for all pages, or text that changes based on some criteria, such as the page number.

Header and Footer Settings

Headers and footers are displayed only in the Page Layout view and on printed pages.

Predefined settings allow you to insert page numbers, page content, sheet numbers, predefined text, and current date in a predefined layout.

MODULE 08

PREPARE WORKSHEETS FOR PRINT

Page Margins

A page margin is a boundary line that determines the amount of space between the worksheet data and the edge of the paper. Page margins define a region within which the content of a page should fit in. Excel provides you with options to select from a list of predefined margins or specify a custom value for page margins.

You can set the top, bottom, left and right margins.

Margin Settings in the Print Preview

Margin Tab Options

The options on the Margins Option in the Page Layout Tab allow you to set margin sizes for either the entire worksheet or only the current section.

Margin Tabs and their Options:

Left, Top, Header, Right, Bottom and Footer spin boxes

- Set the respective margin values by using the up or down arrow or by entering a value for the margin

The Center on page section

- Specify whether the content should be centered horizontally or vertically on a printed page

The Print Button

- Set the print options in the Print dialog box

The Print Preview Button

- Preview a worksheet

The Options Button

- Set the document properties for the print output

MODULE 08

EXERCISE 02

You will be presenting a report on the sales revenue of your team. You want to distribute the printed copies of the report to other managers. You decide to add the header and footer information to the copies.

1. Create the Header

- Continue from previous document
- Select the Insert tab, and in the Text group, click Header & Footer
- In the left Header text box, click and type, My Company Name
- In the center Header text box, click and type SA Sales
- In the right Header text box, and on the Design contextual tab, in the Header & Footer Elements group, click Current Time

2. Create the Footer

- On the Header & Footer Tools tool tab, on the Design contextual tab, in the Navigation group, click Go To Footer
- Click in the center footer text box, and on the Design contextual tab, in the Header & Footer group, click the Footer drop-down arrow and from the displayed list, select Page 1 of ?

3. Preview

- On the File tab, choose Print
- Observe the preview of the worksheet



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