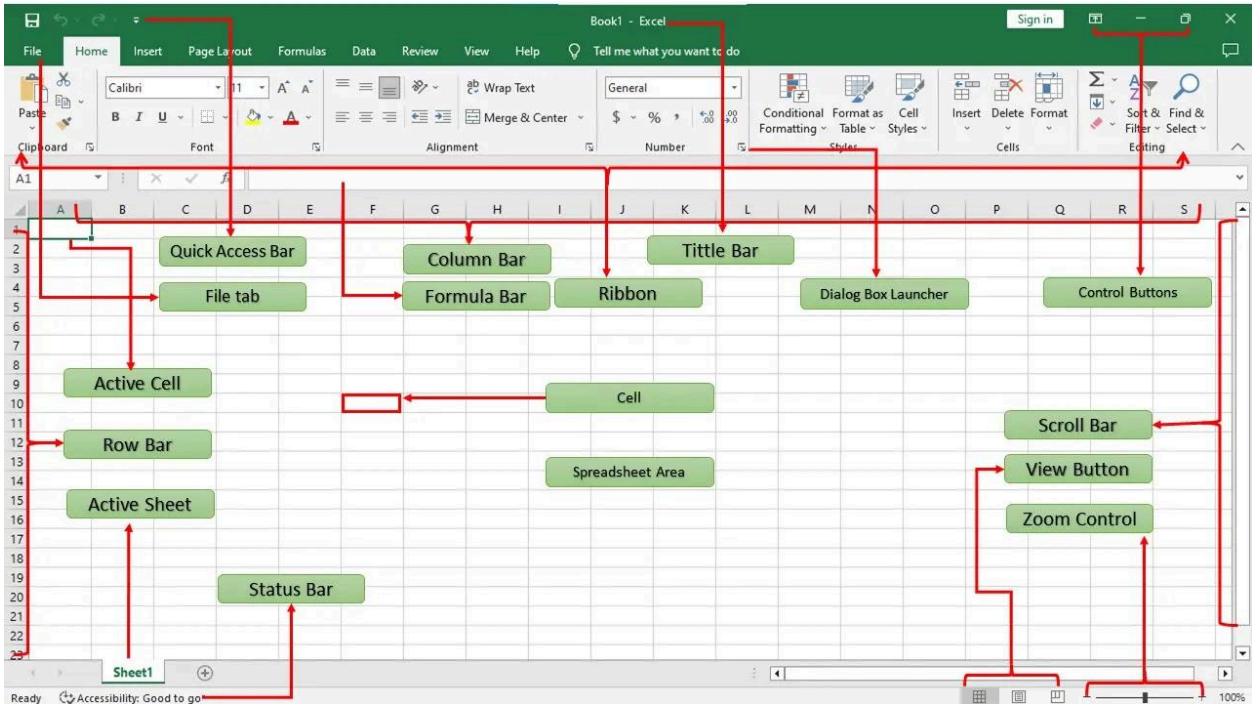
Microsoft Excel Training Manual



Module 1: The Excel Environment and Foundations

Lesson Objectives

1. Introduce learners to the purpose and uses of Microsoft Excel.
2. Explain the structure of workbooks, worksheets, rows, columns, and cells.
3. Familiarize learners with navigating the Excel interface.

Expected Outcomes

1. Learners can launch Excel and create a blank workbook.
2. Learners can identify cells, rows, columns, and the active cell.
3. Learners can correctly identify and use cell addresses (e.g., B3).

What is Excel?Excel is a software program created by Microsoft used to **organize, sort, visualize, and calculate data**. It is the industry standard for tasks like budgeting, financial analysis, and tracking information..

- **Launching Excel:** Locate the green icon with an "X" or type "Excel" into your computer's search box and press Enter.
- **Workbooks vs. Worksheets:** An Excel file is called a **Workbook**. Each workbook contains **Worksheets** (often called spreadsheets), which are individual grids where you store data. You can add more sheets by clicking the **plus (+) sign** at the bottom of the screen.

- **The Grid System:** A worksheet is a grid of **Columns** (labeled with letters A, B, C...) and **Rows** (labeled with numbers 1, 2, 3...).
- **Cells and Addresses:** The intersection of a row and a column is a **Cell**. Each cell has a **Cell Address** (e.g., **A1** is the first row of column A).
- **The Active Cell:** The cell currently selected will have a green border around it; this is the **Active Cell** where your typing will appear.

Practice Exercise: Launch Excel, create a **Blank Workbook**, and click on cell **B3**. Verify that "B3" appears in the **Name Box** (the small box above Column A).

Module 2: Entering and Editing Data

Lesson Objectives
1. Teach how to enter text, numbers, and basic data into cells.
2. Explain methods of editing cell content.
3. Introduce the Fill Handle for copying and extending data.

Expected Outcomes
1. Learners can enter and edit data in Excel cells.
2. Learners can use Enter, Tab, double-click, and F2 effectively.
3. Learners can copy data or create series using the Fill Handle.

Excel cells can hold three things: **text, numbers, or formulas**.

1. **Entering Data:** Click a cell, type your information, and press **Enter** to move down or **Tab** to move to the right.
2. **Editing Content:** To replace content, click the cell and type over it . To edit without deleting everything, double-click the cell or press **F2**.
3. **The Fill Handle:** Look for the small green square in the bottom-right corner of an active cell. Dragging this "Fill Handle" can **copy data** to adjacent cells or **continue a series** (like Jan, Feb, Mar).
4. **Saving Your Work:**
5. Go to the **File tab** and select **Save As**.
6. Click **Browse** to choose a location on your computer.
7. Type a file name and ensure the extension is **.xlsx** before clicking **Save**.

Checkpoint: Use the **Save** command (Ctrl + S) frequently to update your file with new changes.

Module 3: Basic Formatting and Number Types

Lesson Objectives
1. Introduce text and cell formatting tools.
2. Explain different number formats used in Excel.
3. Teach how to adjust column width for better data visibility.

Expected Outcomes
1. Learners can format text using fonts, bolding, and fill colors.
2. Learners can apply currency, percentage, and date formats.
3. Learners can resolve display issues like "#######" by adjusting columns.

Formatting makes your data readable and professional.

- **Text Formatting:** Use the **Home tab** to change font styles, make headers **Bold**, or apply **Fill Color** (cell shading) to distinguish different sections.
- **Number Formats:** Numbers are "generic" by default. Use the **General** dropdown on the Home tab to apply formats like **Currency ($)**, **Percentages (%)**, or **Short Dates**.
- **Adjusting Columns:** If you see "#######" in a cell, the column is too narrow to show the number. Double-click the line between column headers (e.g., between A and B) to **AutoFit** the width to the content.

Practice Exercise: Type "1000" in a cell. Use the Number group to change it to **Accounting** format with two decimal places.

Module 4: Essential Formulas (SUM and AVERAGE)

Lesson Objectives
1. Introduce the concept of formulas and functions.
2. Teach the use of SUM and AVERAGE functions.
3. Explain the advantage of using cell references in formulas.

Expected Outcomes
1. Learners can write basic formulas using operators.
2. Learners can calculate totals and averages using functions.
3. Learners understand how formulas update automatically when data changes.

A **formula** is a mathematical calculation. **All formulas must start with an equal sign (=)**.

- **Simple Math:** You can add (+), subtract (-), multiply (*), or divide (/) by typing a formula like =A1+A2.
- **The SUM Function:** Instead of adding cells one by one, use =SUM().
- **Example:** =SUM(B2:B10) adds everything from cell B2 through B10.
- **AutoSum:** Highlight your numbers and click **AutoSum** on the Home tab for an instant total.
- **The AVERAGE Function:** Calculates the arithmetic mean of a range.
- **Example:** =AVERAGE(C1:C10).

Checkpoint: Why use cell addresses (like A1) instead of numbers (like 100) in formulas? If you change the value in A1, the formula result will **automatically update**.

Module 5: Organizing Data with Sorting and Filtering

Lesson Objectives
1. Teach how to sort data alphabetically and numerically.
2. Explain how filtering helps manage large datasets.
3. Clarify the difference between filtering and deleting data.

Expected Outcomes
1. Learners can sort data in ascending or descending order.
2. Learners can apply filters to display specific data.
3. Learners understand that filtering hides data without removing it.

Excel allows you to manage large lists effectively by rearranging or hiding data.

- **Sorting:** Highlight your data and go to the **Data tab**. Use **Sort A to Z** (ascending) or **Sort Z to A** (descending) to reorder your list.
- **Filtering:** Click **Filter** on the Data tab to add dropdown arrows to your headers.
- Click the arrow in a header to **uncheck** data you want to hide temporarily.
- Filtering does not delete data; it only hides rows that don't meet your criteria.

Module 6: Visualizing Data with Basic Charts

Lesson Objectives
1. Introduce chart types and their uses.
2. Teach how to create charts from data.
3. Explain basic chart customization options.

Expected Outcomes
1. Learners can create columns and pie charts.
2. Learners can select appropriate chart types for their data.
3. Learners can modify chart styles and colors for clarity.

Charts make trends and comparisons easier to understand.

1. **Creating a Chart:**
2. Select your data, including the row and column **titles** (headers).
3. Go to the **Insert tab** and choose a chart type, such as a **Column Chart** (for comparisons) or a **Pie Chart** (for parts of a whole).
4. **Pro Tip:** Pressing **F11** after selecting data will create an instant column chart in a new tab.
5. **Customizing:** Once a chart is created, use the **Chart Tools** tabs (Design and Format) that appear on the Ribbon to change colors or styles.

Final Hands-on Task: Create a simple table with two columns: "Item" and "Cost." Enter five items. Use the **SUM** function to find the total cost. Format the costs as **Currency**, then create a **Pie Chart** to show the spending distribution.

Glossary

A

Absolute Reference: A cell address in a formula that remains constant when copied or filled to other cells. It is identified by dollar signs, such as A1.
Active Cell: The specific rectangle in a worksheet that is currently selected or highlighted with a border; this is where any data you type will appear.
Array Formula: A specialized code that can perform multiple calculations simultaneously or execute a single calculation multiple times across a specific group of cells.
AutoFit: A feature that automatically adjusts the width of a column or the height of a row to perfectly fit the content inside it.
AutoSum: A shortcut button that automatically creates a formula to add up a series of numbers in a column or row.

B

Backstage View: The area found under the File tab that contains commands for managing files, such as saving, opening, printing, and changing general options.

C

Cell: The basic building block of a worksheet where you store data; it is the individual rectangle formed where a row and a column cross each other.
Cell Address (Reference): The unique name of a cell based on its location, combining its column letter and row number (e.g., A1).
Cell Range: A collection of two or more cells that are next to each other, typically identified by the first and last cell addresses separated by a colon (e.g., B2:B6).
Chart: A visual representation of data used to make information clearer and easier to understand, such as bar graphs or pie charts.
Clipboard: A temporary storage area in the computer's memory that holds any text or graphics you have cut or copied so you can paste them in a new location.
Column: The vertical sections of a worksheet, labeled with letters (A, B, C...) at the top.
Comment: A note that you can attach to an individual cell to provide extra information or reminders; it is visible on the screen but typically not part of the printed spreadsheet.
Conditional Formatting: A tool that automatically changes the look of a cell—such as its background color or text style—based on specific rules or conditions you set.

D

Data Validation: A feature used to restrict or control what users can enter into a cell, such as creating a dropdown list to ensure data is entered accurately.

F

Fill Handle: The small square in the bottom-right corner of a selected cell used to quickly copy data to adjacent cells or to continue a series, like dates or months.
Filter: A tool that allows you to temporarily hide data that doesn't meet specific criteria, letting you focus on only the information you need.
Formula: A mathematical calculation written into a cell to get an answer; in Excel, every formula must begin with an equal sign (=).
Formula Bar: The long horizontal bar above the worksheet that displays the content or the formula used in the currently selected cell.
Freeze Panes: An option that "locks" specific rows or columns on the screen so they stay visible while you scroll through the rest of a large worksheet.
Function: A pre-defined formula built into Excel that performs specific tasks, such as adding (SUM) or finding the average (AVERAGE) of a range of numbers.

M

Macro: A recorded action or set of actions that you can run multiple times to automate repetitive tasks.
Merged Cell: A single, larger cell created by combining two or more individual cells together.

N

Name Box: The area to the left of the Formula Bar that shows the address of the active cell or the name of a selected range.

P

Pivot Table: A powerful tool used to summarize, sort, and analyze large amounts of data to find patterns and trends without changing the original list.

Q

Quick Access Toolbar: A small, customizable toolbar at the very top of the Excel window that provides one-click access to frequently used commands like Save and Undo.

R

Relative Reference: The default way Excel handles cell addresses in formulas; when you copy a formula, the address automatically changes relative to its new position.
Ribbon: The strip of buttons and icons across the top of the program, organized into tabs (like Home or Insert) and groups of related commands.
Row: The horizontal sections of a worksheet, labeled with numbers (1, 2, 3...) on the left side.

S

Sort: A feature used to rearrange data into a specific order, such as alphabetical (A to Z) or numerical (highest to lowest).
Structured Reference: A special type of cell reference used in Excel tables that uses the names of the table columns instead of standard cell addresses like A1.

T

Template: A pre-formatted Excel file that serves as a starting point for common documents like budgets or calendars, saving you the time of designing them from scratch.
Three-Dimensional (3D) Formula: A formula that calculates data across multiple different worksheets within the same workbook.

W

Workbook: The entire Excel file you save; it serves as a collection for one or more worksheets.
Worksheet (Spreadsheet): An individual grid of rows and columns within a workbook where you enter and work with your data.