



PHOENICIA UNIVERSITY

Excel Tips and Tricks

Practical Skills for Faster, Smarter Spreadsheet Work

Shortcuts, formulas, and features every student and analyst should know

2 The Skill Behind Every Spreadsheet

“The most valuable skill in a spreadsheet is knowing you don't have to click 200 cells one at a time.”

— A common analyst's rule of thumb

- Excel remains the most widely used data tool in business, finance, research, and academia.
- Most users rely on a small fraction of Excel's features — often just typing and formatting by hand.
- A handful of shortcuts and formulas can turn hours of manual work into minutes.

500+

built-in functions available in modern Excel,
spanning math, text, lookup, and logic

Learning even 20 of them covers the overwhelming
majority of everyday spreadsheet tasks.

3 A Brief History of the Spreadsheet

1979

VisiCalc launches on the Apple II — the first electronic spreadsheet.

1985

Microsoft releases Excel 1.0 for the Macintosh.

1987

Excel 2.0 arrives on Windows, bundled with a standalone runtime.

1993

Excel 5.0 introduces Visual Basic for Applications (VBA).

2007

The ribbon interface and .xlsx format debut in Excel 2007.

2018

Dynamic arrays and Power Query bring modern data tools to every user.

From a single Apple II program to a data platform with a billion users — but the fastest way through most tasks is still a shortcut or formula, not a mouse.

4

Essential Keyboard Shortcuts

A handful of shortcuts eliminate most of the mouse travel in everyday spreadsheet work.

Navigation

Ctrl + Arrow

Jump to the edge of a data block

Ctrl + Home / End

Jump to A1 or the last used cell

Ctrl + Page Up/Down

Switch between sheets

Editing

Ctrl + D / R

Fill down / fill right

Alt + =

AutoSum the selected range

Ctrl + ; / Ctrl + Shift + ;

Insert today's date / time

Selection & Formatting

Ctrl + Shift + Arrow

Select to the edge of data

Ctrl + 1

Open Format Cells

F4

Repeat the last action

5 Must-Know Lookup Formulas

- VLOOKUP() searches the first column of a range and returns a value from a column to its right.
- INDEX/MATCH combines two functions to look up in any direction, not just left to right.
- XLOOKUP(), introduced in 2019, replaces both — searching any direction with simpler syntax.

Example: look up a product's price by ID

```
=VLOOKUP(A2, Products!A:C, 3, FALSE)
```

```
=INDEX(Products!C:C, MATCH(A2, Products!A:A, 0))
```

```
=XLOOKUP(A2, Products!A:A, Products!C:C)
```

2019

the year XLOOKUP shipped, ending decades of
VLOOKUP workarounds

Unlike VLOOKUP, XLOOKUP defaults to an exact match and can look leftward — no column counting required.

6 Pivot Tables: Data Into Insight

A pivot table summarizes thousands of rows into a compact, reorganizable view — without a single formula.

4

field zones: Rows, Columns,
Values, and Filters

1M+

rows a single pivot table
can summarize instantly

1

click to refresh a pivot after
the source data changes

0

formulas needed to build
a complete summary

Typical workflow

- Select the data range and insert a PivotTable (Insert → PivotTable).
- Drag fields into Rows, Columns, and Values to reshape the summary instantly.
- Right-click any value to group dates, sort, or drill into the underlying rows.

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Conditional Formatting & Data Validation

Two tools that turn a spreadsheet into a self-checking, self-explaining document.

Conditional Formatting

- Highlights cells automatically based on their value — no manual coloring.
- Color scales reveal patterns across a whole range at a glance.
- Data bars turn a column of numbers into an instant visual comparison.
- Icon sets flag status (up/down, red/yellow/green) without extra columns.

Data Validation

- Restricts a cell to a dropdown list, a date range, or a whole number.
- Prevents typos and inconsistent entries before they reach the data.
- Custom formulas can enforce rules like "end date after start date."
- Found under Data → Data Validation in the ribbon.

8 Charts & Data Visualization

The right chart type makes a pattern obvious; the wrong one hides it.

Chart Type	Best For	Example
Line chart	Trends over time	<i>Monthly revenue across a year</i>
Bar / column chart	Comparing categories	<i>Sales by region or product</i>
Pie chart	Parts of a whole (use sparingly)	<i>Market share across 3–5 competitors</i>
Scatter chart	Relationship between two variables	<i>Advertising spend vs. sales</i>

Quick insert: select the data, then press Alt + F1 for an instant default chart, or F11 to create it on its own sheet.

9 Function Categories Worth Knowing

Excel's 500+ functions fall into a few families — learning one well-known function per family covers most needs.

Lookup & Reference

XLOOKUP, INDEX, MATCH, OFFSET

Find and pull data from elsewhere in the workbook.

Logical

IF, IFS, AND, OR, IFERROR

Branch results based on conditions and catch errors gracefully.

Math & Statistical

SUMIFS, AVERAGEIFS, COUNTIFS

Aggregate numbers that meet one or more criteria.

Text

TEXTJOIN, LEFT/RIGHT, TRIM, CONCAT

Clean, split, and combine text values.

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Case Study: Automating a Monthly Report

A finance team spent two full days each month copying figures from five branch spreadsheets into one summary. Rebuilding the workbook with formulas and a pivot table cut that to under an hour.

94%

reduction in time spent building the report each month

Three changes made the difference:

- Branch files fed into one master sheet automatically with Power Query, instead of copy-paste.
- SUMIFS formulas replaced manual totaling for each region and product line.
- A single pivot table replaced five separately formatted summary tables.

Outcome

The team caught two data-entry errors the manual process had missed for months, and the report became available a full week earlier in each cycle — early enough to inform that month's decisions rather than the next one.

11 Power Query & Power Pivot

Excel's two most underused tools for anyone who works with data from more than one source.

Power Query

Data → Get & Transform Data

- Imports and reshapes data from files, folders, or databases.
- Every cleaning step is recorded and reapplies automatically on refresh.
- Combines multiple files with inconsistent formatting into one clean table.

Power Pivot

Insert → PivotTable → Data Model

- Builds relationships between multiple tables, avoiding endless VLOOKUPs.
- Handles millions of rows well beyond a normal worksheet's comfort zone.
- DAX measures calculate totals that respect filters and slicers automatically.

12

Common Mistakes and How to Avoid Them

A handful of habits cause most of the errors and slowdowns in everyday spreadsheets.

The mistake

- Hard-coding numbers inside formulas instead of referencing a cell.
- Storing dates or numbers as text, breaking sorting and math.
- Merging cells for layout, which breaks sorting and filtering.
- Copy-pasting formulas instead of using structured tables.

The fix

- Put inputs in their own labeled cells and reference them in formulas.
- Use Data → Text to Columns, or the DATEVALUE function, to convert.
- Use Center Across Selection (Format Cells → Alignment) instead.
- Convert ranges to an Excel Table (Ctrl + T) so formulas auto-extend.

13 Building Toward Mastery

Practice on real data

Rebuild a report you already do by hand — the habits stick faster than any tutorial.

Learn one new function a week

Small, steady additions to your toolkit beat memorizing a long list at once.

Read the formula bar

When a result looks wrong, click the cell and read exactly what it's computing.

Use Tables and named ranges

They make formulas self-documenting and far less error-prone as sheets grow.

Key Takeaways

- A small set of shortcuts and formulas — not every feature Excel has — covers the vast majority of everyday work.
- Lookup formulas, pivot tables, and conditional formatting turn raw data into clear, checkable answers.
- Power Query and Power Pivot remove the manual, error-prone work of combining and cleaning multiple sources.
- Consistent habits — real cell references, proper data types, and Tables — prevent most spreadsheet errors before they happen.