Cochise College Center for Lifelong Learning

Excel: Fundamentals

For Lifelong Learners

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Introduction

Welcome to Excel Fundamentals! Like learning to use a new tool in your workshop, mastering Excel opens doors to greater efficiency and confidence in your workplace. This hands-on class will guide you through Excel's basic features—from navigation and data entry to formulas and formatting—with practical exercises designed for immediate application.

You'll work with real-world scenarios in fleet management and inventory tracking while building skills at your own pace. Whether you're creating your first spreadsheet or refreshing forgotten skills, you'll leave with the foundation needed for the Advanced course and greater workplace productivity.

Learning Goals

By the end of this course, you will:

- Navigate Excel's interface with confidence
- Enter, edit, and format data professionally
- Write basic formulas to calculate values automatically
- Create simple charts to visualize your data
- Prepare worksheets for sharing and printing

What You Need

- Computer with Microsoft Excel installed
- Student Files folder (provided by instructor)
- Willingness to practice and experiment

Module 1: Excel Basics

Every great journey begins with a first step—and in Excel, that first step is learning how to navigate the workspace. In this module, you'll open a real-world spreadsheet and get familiar with the key parts of the Excel window: ribbons, tabs, cells, and sheets.

You'll practice moving around, entering and editing data, and saving your work with confidence. Along the way, you'll also begin building your first working spreadsheet by updating a small fleet inventory. These essential skills form the foundation for everything else you'll learn in Excel.

Activity 1.1: Excel Interface and Basic Navigation

⚙ Getting Started with Excel

1. Click in the Windows search bar at the bottom of the screen
2. Type **`Excel`**
3. When the search dialog appears, click the ***Excel App*** link
4. Click ***Open*** on the left-side menu
5. Click ***Browse*** and find the *Student Files* folder
6. Click **`10-data`** and click ***Open***
7. Click `File → Save As → Browse`
8. Navigate to the desired file location and save it as **`10-Fleet`**

Activity 1.2: The Excel Interface

🔍 Exploring Excel's Workspace

1. Identify these fundamental Excel elements:
   - Ribbon and tabs
   - Quick Access Toolbar
   - Formula Bar
   - Worksheet grid
   - Sheet Tabs
   - Status bar
2. Click the small triangle in the top-left corner of the data cells to select the entire worksheet
3. Double-click the divider between column headers *B* and *C* to automatically set the width for all columns
4. Click in cell **`A1`**
5. Use the keyboard arrow keys to move the cursor around the worksheet

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📝 Adding New Data

1. Click in cell **A8**
2. Enter **007** then press **[Tab]**
3. Enter these values in Row 8, pressing **[Tab]** after each entry:
   - Make: **Subaru**
   - Model: **Outback**
   - Year: **2017**
   - Department: **IT**
   - Purchase Price: **22300**
   - Status: **Active**
4. After entering the last data item (Active), press **[Enter]**

Making Changes

1. Click in cell **E3** and change the Department for Vehicle 002 to **Operations**
2. Click in cell **D7** and change the Year for Vehicle 006 to **2017**
3. Right-click on the *Fleet* tab at the bottom of the worksheet and click ***Rename***
4. Enter **Inventory**
5. Press **[Ctrl]** + **[End]** to jump to the last cell
6. Press **[Ctrl]** + **[Home]** to jump to the first cell
7. Save the workbook

Navigation Tips

- Use **[Tab]** to move right, **[Shift]** + **[Tab]** to move left
- Press **[Enter]** to move down one cell
- **[Ctrl]** + **[Home]** always takes you to cell A1
- **[Ctrl]** + **[End]** jumps to the last used cell

Module 1 Checklist

1. Open and save Excel workbooks
2. Identify the main parts of the Excel window (Ribbon, Formula Bar, Sheet Tabs, Status Bar)
3. Move around a worksheet using the mouse and keyboard
4. Enter and edit data in a worksheet
5. Rename worksheet tabs for better organization

Module 2: Formatting and Formulas

Once you know how to navigate Excel, the next step is making your spreadsheets clear, attractive, and useful. In this module, you'll learn how to format tables for better readability, apply simple formulas to calculate values automatically, and use tools like Autofill and Conditional Formatting to save time and highlight important information.

With just a few clicks, you can transform raw data into organized, meaningful worksheets that are easier to understand and share.

Module Roadmap

What We'll Accomplish:

- Format headers and data for professional appearance
- Write formulas that calculate automatically
- Use Autofill to extend patterns and save time
- Apply Conditional Formatting to highlight key information
- Add calculated columns for better data analysis

Key Skills: Making data look organized and calculating basic values

Activity 2.1: Format the Table

🎨 Apply Professional Formatting

1. Click in cell **A1** then **[Shift]** + click in cell **G1**
2. Click `Home → Font → Bold`
3. Click `Home → Font → Fill Color → Dark Blue`

4. Click `Home → Font → Font Color → White`
5. Click the column header for *Column F*
6. Click `Home → Number → Comma`
7. Save the workbook

Formatting Tips

- Bold headers make tables easier to scan
- Use contrasting colors (dark background, light text)
- Apply number formatting to improve readability
- The Comma style adds thousands separators automatically

Activity 2.2: Add a Vehicle Age Column

🖩 Calculate Vehicle Age with Formulas

1. Click in cell **H1**
2. Enter **`Vehicle Age`**
3. Click in cell **H2**
4. Enter this formula: **`=YEAR(TODAY()) - D2`**
5. Use the *Autofill* handle to fill the formula down to **H8**
6. Click the small triangle in the top-left corner of the data cells to select the entire worksheet
7. Double-click the divider between column headers *B* and *C* to automatically set the width for all columns

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🖌 Apply Conditional Formatting

1. Click in cell **H2**
2. **[Shift]** + click in cell **H8**
3. Click `Home → Styles → Conditional Formatting → Highlight Cells Rules → Greater Than`

4. Specify *Format cells that are GREATER THAN:* to **9**
5. Select ***Green Fill with Dark Green Text***
6. Click ***OK***
7. Save the workbook

Formula Explanation

The formula `=YEAR(TODAY()) - D2` works by:

- `TODAY()` gets today's date
- `YEAR()` extracts just the year from that date
- Subtracting D2 (the vehicle year) gives the age
- Excel updates this automatically each day

Activity 2.3: Autofill Practice

⏭ Master Autofill for Faster Data Entry
Let's practice with different types of patterns that Excel can recognize:

☰01 Month Patterns

1. Click in cell **L1**
2. Type **Jan** and press **[Enter]**
3. Autofill down to **L12**
4. Select and delete the month names
5. Click in cell **L1**
6. Type **January** and press **[Enter]**
7. Autofill down to **L12**
8. Select and delete the month names

📅 Day and Number Patterns

1. Click in cell **L1**
2. Type **Monday** and press **[Enter]**

3. Autofill down to **L7**
4. Select and delete the day names
5. Click in cell **L1**
6. Type **1** and press **[Enter]**
7. Type **3** and press **[Enter]**
8. Type **5** and press **[Enter]**
9. Select **L1:L3** and autofill down to **L12**
10. Select and delete the number patterns

Date Patterns

1. Click in cell **L1**
2. Type today's date and press **[Enter]**
3. Autofill down to **L7**
4. Select and delete the dates
5. Click in **L1**
6. Click `Home → Cells → Delete → Delete Sheet Columns`
7. Save the workbook

Autofill Power Tips

Excel recognizes these patterns automatically:

- Months (Jan, January, Feb, February...)
- Days (Mon, Monday, Tue, Tuesday...)
- Numbers with consistent intervals (1, 3, 5... or 10, 20, 30...)
- Dates (automatically increments by days)
- Times and many other sequences

Activity 2.4: Add a Depreciation Column

$ Calculate Vehicle Depreciation

1. Click in cell **`I1`** (note: this is the letter I followed by the number 1)
2. Enter **`Depreciation`**
3. Click in cell **`I2`**
4. Enter this formula: **`=F2 * 0.15`**
5. Notice that **`I2`** automatically uses Comma format since **`F2`** uses Comma format
6. Autofill **`I2`** to cell **`I8`**
7. Click the small triangle in the top-left corner of the data cells to select the entire worksheet
8. Double-click the divider between column headers *B* and *C* to automatically set the width for all columns
9. Save the workbook

Understanding Formulas

- All formulas start with an equals sign (=)
- Use cell references (like F2) instead of typing numbers
- Excel copies formulas intelligently—F2 becomes F3, F4, etc.
- Formatting often copies automatically from referenced cells

Activity 2.5: Add a Description Column

+ Create Descriptions by Combining Data

⊞ Insert a New Column

1. Click the column header for *Column E* (the Department column)
2. Click `Home → Cells → Insert → Insert Sheet Columns`
3. A new blank column appears between *Year* and *Department*

4. Click in **E1** and enter: **Description**

Use Flash Fill for Pattern Recognition

1. Click in **E2** and enter **2015 Ford F-150** and press **[Enter]** to establish a pattern
2. In **E3**, enter **2018** and Excel will Flash Fill the rest of the column
3. Press **[Enter]** to accept the Flash Fill
4. If Flash Fill doesn't work, try **[Ctrl]** + **[E]**
5. Auto-adjust the width of all columns

Alternative Method: Formula Approach

1. As an alternative method (optional), click in **K2**
2. Enter this formula: **=D2 & " " & B2 & " " & C2**
3. Use the autofill handle to fill the formula to **K3:K8**
4. Click in **K1**
5. Click `Home → Cells → Delete → Delete Sheet Columns`
6. Save the workbook

Flash Fill vs. Formulas

Flash Fill: Excel recognizes patterns you type and completes them automatically

- Quick for simple, one-time tasks
- Creates static text (doesn't update if source changes)

Formulas: Use & to combine text from different cells

- Updates automatically when source data changes
- Better for data that might be modified later

Module 2 Checklist

1. Format headers and columns for clarity and professionalism
2. Write and apply basic formulas to calculate values automatically

3. Use Autofill to quickly extend patterns, formulas, and data series
4. Apply Conditional Formatting to highlight important data visually
5. Insert and delete worksheet columns as needed
6. Combine text from multiple cells using Flash Fill or formulas

Module 3: Prepare to Share

Creating a spreadsheet is only part of the story—sharing it clearly and professionally is just as important. In this module, you'll learn how to add finishing touches that make your workbook easier to read and more impressive to others. You'll add a title, create a simple chart to highlight key data, and set up your worksheet for printing or exporting to PDF.

These skills ensure that your hard work looks polished whether you're sharing it with a coworker, a client, or just keeping better personal records.

Activity 3.1: Worksheet Title

Add and Format a Professional Title

1. Press **[Ctrl]** + **[Home]**
2. Click `Home → Cells → Insert → Insert Sheet Rows`
3. Select **`A1:J1`**
4. Click `Home → Alignment → Merge and Center`
5. Click in **`A1`**
6. Enter **`Fleet Inventory Overview`**
7. Press **[Enter]**
8. Click in **`A1`**
9. Click `Home → Font → Bold`
10. Click `Home → Font → Fill Color → Light Blue`
11. Save the workbook

Title Best Practices

- Insert a new row rather than overwriting existing data
- Merge cells across the width of your data for centering
- Use bold formatting and light background colors
- Keep titles concise but descriptive

Activity 3.2: Simple Chart

Create a Visual Summary

1. Press **[Ctrl]** + **[Home]**
2. Select **G2:G9**
3. Click `Insert → Charts → Recommended Charts → Clustered Column`
4. Click ***OK***
5. Move the chart to **B10** so it appears underneath the data
6. Save the workbook

Chart Tips

- Select only the data you want to chart (not headers unless needed)
- Clustered Column charts work well for comparing values
- Position charts below or beside data, not overlapping
- Charts update automatically when source data changes

Activity 3.3: Print Layout

Prepare for Professional Sharing

Set Print Area and Orientation

1. Select **A1:J25**

2. Click `Page Layout → Page Setup → Print Area → Set Print Area`
3. Click `Page Layout → Page Setup → Orientation → Landscape`
4. Ensure the other Page Layout settings are correct

Add Headers and Footers

1. Click `Insert → Text → Header and Footer`
2. Enter your name in the left header box
3. Click in the right header box then click `Header & Footer → Header & Footer Elements → Page Number`
4. Click `Header & Footer → Navigation → Go to Footer`
5. Click in the right footer box then enter **`File: 10-Fleet`**
6. Click anywhere in the data cells to close the header and footer
7. Click *Normal* view in the lower-right corner of the sheet
8. Press **[Ctrl]** + **[Home]**

Export to PDF

1. Click `File → Print`
2. Choose the *Microsoft Print to PDF* printer
3. Look at the print preview to ensure everything looks right
4. Click ***Print***
5. Select the Student Files folder and name the printout **`10-Fleet`**
6. Save and close the workbook

Professional Sharing Tips

- Always set a print area to control what gets printed
- Use landscape orientation for wide spreadsheets
- Include your name and file name for easy identification
- Preview before printing to catch formatting issues

- PDF format preserves formatting across different computers

Module 3 Checklist

1. Add and format a professional title for your worksheet
2. Create a simple chart to display key data visually
3. Set up the print area and layout for optimal presentation
4. Add headers, footers, and page numbers for professional appearance
5. Export a workbook as a PDF for easy sharing across platforms

Final Words

Congratulations on completing Excel Fundamentals! You've taken your first important steps in mastering one of the most powerful tools in the modern workplace. From opening and saving files, to formatting data and building basic formulas, to preparing a polished worksheet ready to share—you now have a strong foundation to build upon.

Remember, Excel is like any new skill: the more you use it, the more confident you will become. Keep practicing, stay curious, and don't be afraid to explore new features. When you're ready, I invite you to continue your learning journey with the Excel Intermediate class, where you'll dive deeper into managing and analyzing data with even more powerful tools.

Keep Learning

I encourage you to continue experimenting with Excel in your daily life. Try using it for projects you're genuinely interested in:

- Personal budget tracking
- Home inventory lists
- Garden planning and harvest records
- Club membership or event planning
- Small business expense tracking

Thank you for being part of this course. I look forward to seeing what you'll create next!

Appendix A: Spreadsheet Fundamentals Practice

Office Supply Inventory

If you have extra time in class, or if you'd like to practice at home, this exercise will help reinforce the skills you learned in Excel Fundamentals. You'll work with a new dataset and apply your navigation, formatting, and basic formula skills to create a polished and professional inventory worksheet.

Activity 3.4: Getting Started

⚙ Open and Prepare the Practice File

1. Click in the Windows search bar at the bottom of the screen
2. Enter **`Excel`**
3. When the search dialog appears, click the ***Excel App*** link
4. Click ***Open*** on the left-side menu
5. Click ***Browse*** and find the *Student Files* folder
6. Click **`15-data`** and click ***Open***
7. Click `File → Save As → Browse`
8. Navigate to the desired file location and save it as **`15-Supplies`**
9. Rename the worksheet tab to **`Inventory`**

Activity 3.5: Explore and Format the Worksheet Data

🎨 Apply Professional Formatting

1. Select **`A1:D1`**
2. Click `Home → Font → Bold`
3. Click `Home → Font → Fill Color → Light Blue`
4. Click `Home → Font → Font Color → White`
5. Select **`D2:D11`**
6. Click `Home → Number → Comma`
7. Click the small triangle in the top-left corner of the data cells to select the entire worksheet

8. Double-click the divider between column headers *B* and *C* to automatically set the width for all columns
9. Save the workbook

Activity 3.6: Add a Total Value Column

🖩 Calculate Total Value with Formulas

1. Click in **`E1`**
2. Enter **`Total Value`**
3. In **`E2`**, enter **`=C2*D2`**
4. Use Autofill to copy **`E2`** to **`E3:E11`**
5. Auto-adjust the width of all columns
6. Save the workbook

Activity 3.7: Add a Clustered Column Chart

📊 Create a Visual Summary

1. Select **`A1:A11`** then **[Ctrl]** + click **`E1:E11`**
2. Click `Insert → Charts → Recommended Charts`
3. Choose the first chart, *Clustered Column*, and click ***OK***
4. Move the chart so the top left corner is in **`A12`**
5. Save the workbook

Activity 3.8: Set Print Layout Options and Print the Worksheet

🖨 Prepare for Professional Output

1. Select **`A1:G27`**
2. Click `Page Layout → Page Setup → Print Area → Set Print Area`
3. Click `Page Layout → Page Setup → Orientation → Landscape`

4. Click `Insert → Text → Header & Footer`
5. Enter your name on the left side and the Page Number on the right side
6. Click ***Go to Footer*** and enter **`File: 15-Supplies`** on the right side
7. Click anywhere in the data cells to close the header and footer
8. Click *Normal* view in the lower-right corner of the sheet
9. Press **[Ctrl]** + **[Home]**
10. Click `File → Print`
11. Choose the *Microsoft Print to PDF* printer
12. Select *Landscape Orientation*
13. Select *Fit All Columns on One Page*
14. Click ***Print***
15. Select the Student Files folder and name the printout **`15-Supplies`**
16. Save and close the workbook

Appendix Checklist

1. Open a file in Excel and save with a new name
2. Apply basic formatting for clarity and readability
3. Write and copy simple multiplication formulas
4. Create and edit a basic column chart
5. Prepare a worksheet for professional printing and PDF export

Practice Makes Perfect

This appendix exercise reinforces all the core skills from the main course:

- File management and navigation
- Basic formula writing and copying
- Chart creation and positioning
- Print preparation and PDF export

The more you practice the fundamentals, the more confident you'll become!