

✓ Microsoft Excel Training Outline (with AI Integration)

◆ Module 1: Introduction to Excel

- What is Excel and Why Use It?
 - Overview of Excel in Microsoft 365 (Cloud, Copilot, and AI)
 - Navigating the Excel Interface + Keyboard Shortcuts
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◆ Module 2: Working with Data

- Entering, Editing, and Formatting Data
 - AutoFill, Flash Fill (AI-like pattern recognition)
 - Working with Rows, Columns, and Freeze Panes
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◆ Module 3: Formulas and Functions

- Cell References (Relative, Absolute, Mixed)
 - Basic Math and Stats Functions
 - Logical Functions (IF, AND, OR, IFERROR)
 - Lookup Functions (VLOOKUP, XLOOKUP, INDEX/MATCH)
 - TEXT Functions (LEFT, MID, CONCAT, TEXTSPLIT)
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◆ Module 4: AI-Powered Features in Excel

✦ *New & Intelligent Tools*

- **Copilot in Excel**
 - Auto-generate formulas, summaries, and charts
 - Ask questions like “summarize this table” or “highlight outliers”
- **Flash Fill (AI-based prediction)**
 - Automatically detect patterns in names, dates, etc.
- **Data Types (Linked AI data)**

- Convert "France" into a geography type → auto-fetch capital, population, etc.
 - **Ideas (Analyze Data Tool)**
 - AI-generated insights, trends, and visual summaries
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◆ **Module 5: Data Cleaning & Validation**

- Remove Duplicates, TRIM, CLEAN, SUBSTITUTE
 - Data Validation (Lists, Custom Rules)
 - TEXTSPLIT and TEXTJOIN for smart cleanup
 - Using Power Query for Automated Cleaning (ETL)
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◆ **Module 6: Tables, Sorting & Filtering**

- Excel Tables and Structured References
 - Multi-level Sorting and Custom Filters
 - Dynamic Filters with AI Suggestions (Ideas panel)
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◆ **Module 7: Pivot Tables (Basic to Advanced)**

- Creating Pivot Tables from Tables/Range
 - Grouping, Summarizing, Filtering
 - Calculated Fields and Items
 - Pivot Charts and Slicers
 - Using AI with PivotTables (Copilot Q&A)
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◆ **Module 8: Charts and Data Visualization**

- Recommended Charts (AI Suggestion)
 - Customizing Charts (Combo, Trendlines, Dual Axis)
 - Conditional Formatting and Data Bars
 - Sparklines, Heat Maps
 - **Copilot: “Create a chart showing sales by region”**
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◆ **Module 9: Excel Dashboarding**

- Linking PivotTables, Charts, and Slicers
 - Interactive Dashboards with Buttons and Drop-downs
 - Embedding AI-generated charts and narratives
 - Excel Copilot for automatic dashboard generation
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◆ **Module 10: Advanced Excel Functions**

- Dynamic Arrays: FILTER, SORT, UNIQUE, SEQUENCE
 - INDIRECT, OFFSET, LAMBDA, LET
 - Advanced Conditional Logic with Nested IFs
 - CHOOSE + XLOOKUP for scenario mapping
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◆ **Module 11: Power Query & Power Pivot**

- Get & Transform Data from various sources (web, database, file)
 - Merge, Append, and Shape Data
 - Load to Pivot Table / Data Model
 - Basic DAX Measures (SUMX, CALCULATE, RELATED)
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◆ **Module 12: Excel + AI/ML Integration**

 *Real AI-powered Scenarios*

- **Python in Excel**
 - Load and clean datasets using Pandas
 - Predict using Scikit-learn models in Excel cells
 - **Azure ML Integration (via Power Query)**
 - Connect Excel to Azure ML Web Services
 - Run models (e.g., churn prediction, pricing recommendation)
 - **Power BI + AI**
 - Export Excel data to Power BI
 - Use Smart Narrative and AI visuals (Decomposition Tree, Key Influencers)
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◆ **Module 13: Tips, Tricks & Best Practices**

- Keyboard Shortcuts
 - Sheet Protection and Named Ranges
 - Troubleshooting Common Errors (#VALUE!, #N/A, #REF!)
 - Best practices in building scalable and readable Excel workbooks
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◆ **Module 14: Real-World Case Studies & Projects**

- **Retail Sales Analysis Dashboard** (PivotTable + AI insights)
 - **Employee Attrition Prediction** (Excel + Azure ML)
 - **Marketing Spend ROI Calculator** (with Copilot help)
 - **Financial Forecasting using LAMBDA and Forecast Sheet**
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✚ **Bonus: Practice File & Quiz**

- Provide downloadable Excel file with 10 hands-on challenges
- Quiz with multiple-choice and practical tasks
- Certificates for completion (optional)