COURSE SYLLABUS

AI for Excel

Enhance your everyday tasks with AI capabilities to make data analysis, visualization, and automation more efficient. Learn how to integrate AI features in Excel to streamline workflows and gain deeper insights from your data.

Group classes in Live Online and onsite training is available for this course. For more information, email onsite@graduateschool.edu or visit: https://sdfm.graduateschool.edu/courses/ai-excel

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Course Outline

Module 1: AI Fundamentals for Excel Users

- Understand what AI can (and cannot) do for your Excel work
- Overview of AI tools: ChatGPT, Claude, Microsoft Copilot, and others
- How AI "thinks" about spreadsheets—and why that matters for getting good results
- Setting realistic expectations: AI as assistant, not replacement
- Security and data privacy considerations when using AI with sensitive data

Module 2: Mastering AI Prompts for Formula Generation

- The anatomy of an effective Excel prompt: context, examples, and constraints
- Generating simple to complex formulas on demand (VLOOKUP, INDEX-MATCH, nested IFs, array formulas)
- Prompt techniques for dynamic formulas that adapt to your data
- Troubleshooting formulas with AI: explaining errors and suggesting fixes
- Hands-on practice: Building a prompt library for your most common formula needs

Module 3: Automating Data Cleaning with AI

- Identifying data cleaning tasks AI handles best
- Prompting AI to standardize inconsistent data (dates, names, addresses, phone numbers)
- Using AI to generate formulas for splitting and combining text
- Detecting and handling duplicates, outliers, and missing values
- Hands-on practice: Cleaning a messy real-world dataset using AI-generated solutions

Module 4: AI-Assisted Data Analysis and Insights

- Asking AI the right questions about your data
- Generating summary statistics and identifying trends with AI guidance
- Using AI to suggest appropriate chart types and visualization approaches
- Creating data narratives: Having AI help explain what the numbers mean
- Hands-on practice: Analyzing a dataset and generating insights with AI assistance

Module 5: VBA and Macro Generation with AI

- When automation makes sense: Identifying repetitive workflows to streamline
- Prompting AI to write VBA macros for common tasks (formatting, reporting, data manipulation)
- Understanding and modifying AI-generated code (even if you're not a programmer)
- Testing, debugging, and refining macros with AI support
- Hands-on practice: Creating a macro to automate a repetitive reporting task

Module 6: Building Your AI-Enhanced Excel Workflow

- Integrating AI into your daily Excel routine without disrupting productivity
- Creating a personal prompt library for recurring tasks
- When to use AI vs. when to do it yourself: A practical decision framework
- Keeping up with rapidly evolving AI capabilities
- Developing an action plan for continued AI skill-building