



AI Data Analysis Course Syllabus

In this AI data analysis course, learn to use AI to help you summarize and analyze data in Excel spreadsheets, and develop techniques to extract key findings, themes, and inconsistencies. Explore methods for using AI to interpret reports, condensing large volumes of text into executive-ready insights, and build practical skills for supporting advanced analysis in Excel and Power BI, including working with PivotTables, KPIs, and dashboards. The course also covers best practices for iterative prompting, teaching you how to refine your questions to get more precise business insights.

Introduction to AI for Data Analysis

- Understanding what AI can do with external data including Excel, PowerPoint, and PDF.
- Differences between Gemini, ChatGPT, and Copilot for data analysis
- Security and privacy considerations when evaluating data using AI systems.

Prompt Engineering for Data Analysis

- Crafting precise prompts for accurate results.
- Iterative prompting: refining analysis through feedback loops.
- Summarizing data, reviewing financial data into insights, extracting facts from documents

Hands-On: Excel AI Data Analysis

- Summarize and detect trends in Excel tables.
- Identify anomalies, risks, or exceptions.
- Extract and compare insights from large PDF reports.
- Practice extracting data from Excel and PDF files

Advanced Data Analysis with Excel + Power BI

- Using AI for formula building and error detection.
- Insights that match or exceed PivotTables with simple prompts
- Summarizing dashboards and identifying KPIs in Power BI.
- Hands-on exercises

Data Analysis from External Sources

- How AI ingests and interprets presentation files.
- Summarize slide decks and reports into key findings.
- Identify recurring themes, inconsistencies, or gaps across slides.
- Compare insights across multiple presentations and sources
- Develop analysis from presentation files to extract data and summarize

Best Practices & Secure Deployment Options

- Risks of data leakage and compliance requirements.
- Evaluating secure deployment options
- Choosing the right tool and AI deployment option for your organization.

Data analysis projects

- Confirm understanding of data analysis process through hands-on projects