KOENIG SOLUTIONS · COURSE OUTLINE

Advanced Data Analysis Using Excel with AI

Learn to automate and analyse data in Excel using Power Query, Power Pivot, the Data Model, and AI assistants such as ChatGPT and Copilot.

6 MODULES

54 TOPICS

COURSE OVERVIEW

This course covers the Power Excel workflow, combining Power Query and Power Pivot with AI features for data insights. It examines connecting, transforming, and automating data with Power Query, then building table relationships through Excel's Data Model. It continues with creating dynamic dashboards using Power Pivot and AI-enhanced visualization, followed by a capstone project applying automation and AI insights to a dataset. It closes by exploring AI assistants, ChatGPT and Microsoft Copilot, for data analysis, visualization, and productivity within Excel.

WHO THIS COURSE IS FOR

Data Analysts | **Excel Users** | **Business Analysts** | **Report Developers** | **Financial Analysts**

LEARNING OBJECTIVES

- Explain the Power Excel workflow and AI-driven automation integration
- Apply Power Query to connect, transform, and load data
- Build table relationships and hierarchies using the Excel Data Model
- Design dynamic dashboards with Power Pivot and slicers
- Interpret AI-driven recommendations for filtering and data validation
- Apply automation and AI insights to a capstone dataset project
- Use ChatGPT for generating data summaries and explanations
- Integrate Microsoft Copilot with Excel to automate repetitive tasks

COURSE SYLLABUS

6 Modules, 54 Topics

01

Introduction to Data Analysis and Intelligent Automation

TOPICS

- Understanding the “Power Excel” Workflow and Automation Integration
- Introduction to Power Query and Power Pivot
- When to Use Power Query & Power Pivot for Automation
- Leveraging AI Features in Excel for Data Insights

02

Connecting, Transforming, and Automating Data with Power Query

TOPICS

- Introduction
- Getting to Know Power Query
- Exploring Excel’s Power Query Editor and Automation Tools
- Power Query Data Loading Options and Automation Scripts
- **Important:** Updating Locale Settings for Consistent Automation
- Applying Basic Table Transformations with Power Query
- **Power Query Demo:** Text Tools
- **Power Query Demo:** Number & Value Tools
- **Power Query Demo:** Date & Time Tools
- **Pro Tip:** Creating a Rolling Calendar with Power Query and Automation
- **Power Query Demo:** Generating Index & Conditional Columns
- **Power Query Demo:** Grouping & Aggregating Records
- **Power Query Demo:** Pivoting & Unpivoting Data
- Modifying Excel Workbook Queries for Automation
- Merging Queries with Power Query
- Appending Queries with Power Query
- **Power Query Demo:** Connecting to a Folder of Files
- Excel Power Query Best Practices and Automation Tips

03

Building Table Relationships with Excel Data Model and AI Integration

TOPICS

- Introduction
- Meet “Data Model”
- The Data Model Data vs. Diagram View
- Principles of Database Normalization
- Understanding Data Tables vs. Lookup Tables
- Benefits of Relationships vs. Merged Tables
- Creating Table Relationships in Excel’s Data Model with AI Insights
- Modifying Data Model Table Relationships
- Managing Active vs. Inactive Table Relationships
- Understanding Relationship Cardinality
- Connecting Multiple Data Tables in the Data Model
- Understanding Filter Flow with AI-Driven Recommendations
- Hiding Fields from Excel Client Tools
- Defining Hierarchies in a Data Model
- Excel Data Model Best Practices and AI Integration

04

Creating Dynamic Dashboards with Power Pivot and AI-Enhanced Visualization

TOPICS

- Creating Dashboards with Power Pivot
- Designing Dashboards for Automated Reporting
- Using Relational Data for Intelligent Dashboards
- Incorporating AI-Driven Insights in Dashboard Design
- Slicers and Timelines
- Conditional Timelines and Automation Features
- Filter & Sorting with AI Recommendations
- Data Validation with AI Tools
- Designing Dashboard Layouts for Automation and User Engagement

05

Capstone Project - Automating Insights and AI Integration

TOPICS

- Capstone Project Based on Dataset
- Applying Automation Techniques and AI Insights to Your Project

06

Enhancing Productivity with AI Assistants: ChatGPT and Copilot

TOPICS

- **Introduction to AI Assistants:** ChatGPT and Microsoft Copilot

USING CHATGPT FOR DATA ANALYSIS AND INSIGHTS

- **Example:** How ChatGPT can assist in generating summaries and explanations for complex data sets

INTEGRATING MICROSOFT COPILOT WITH EXCEL

- **Example:** Using Copilot to automate repetitive tasks and enhance Excel functionalities

LEVERAGING AI ASSISTANTS FOR ENHANCED DATA VISUALIZATIONS

- **Example:** How AI tools can suggest and create advanced charts and graphs based on data trends

IMPROVING EFFICIENCY WITH AI-DRIVEN AUTOMATION

- **Example:** Streamlining data processing tasks using ChatGPT and Copilot integration

BEST PRACTICES FOR WORKING WITH AI ASSISTANTS IN EXCEL

- **Example:** Tips for effectively combining AI tools with Excel's built-in features for maximum productivity

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training | Live Online Classes (ILO) | Fly-Me-A-Trainer (FMAT) | Flexi (Self-Paced) | 1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

Visit koenig-solutions.com | info@koenig-solutions.com