

KOENIG SOLUTIONS · COURSE OUTLINE

Customize Excel for PMH with Power Features

Learn to build advanced Excel workbooks using functions, pivot tables, Power Query, Power Pivot and VBA automation with ODBC connectivity.

8 Days

48 HOURS

19

MODULES

136

TOPICS

COURSE OVERVIEW

This course covers intermediate and advanced Excel skills, starting with functions, list management, data visualisation, conditional formatting, pivot tables and data tools such as data validation and goal seek. It then moves into Excel business intelligence, using Power Query to connect, transform and shape data, and the Excel Data Model to build table relationships and create Power Pivot dashboards with slicers and timelines. The final part introduces Excel VBA, covering macros, modules and procedures, control flow, message and input boxes, working with cells and ranges, and connecting to external databases through ODBC to execute SQL queries and retrieve or update data.

WHO THIS COURSE IS FOR

Excel Users

Data Analysts

Business Analysts

Financial Analysts

Report Developers

VBA Developers

LEARNING OBJECTIVES

- Apply logical, lookup, statistical, date and text functions in Excel
- Organise and analyse lists using tables, sorting and subtotals
- Visualise data using charts, chart tools and the Quick Analysis tool
- Apply conditional formatting, styles and custom templates
- Build pivot tables, pivot charts and dashboards with slicers
- Transform and load data using Power Query
- Build table relationships and hierarchies with the Excel Data Model
- Develop VBA macros to automate tasks and connect to databases via ODBC

19 Modules, 136 Topics

DAY 1

Intermediate & Advanced Excel

4 hours

01

Functions

TOPICS

- **Logical Functions:** IF, IFS, AND, OR, NOT, SUMIF, SUMIFS
- **Lookup and reference Functions:** VLOOKUP, HLOOKUP, MATCH, INDEX, XLOOKUP, FILTER, TRANSPOSE
- **Statistical Functions:** AVERAGEIF, AVERAGEIFS, COUNT, COUNTIF, COUNTIFS, MAXIF, MAXIFS, MINIF, MINIFS
- **Date and Time Functions:** DAYS, MONTH, YEAR, EOMONTH, DATEDIF, NETWORKDAYS, TODAY, NOW, WEEKDAY, WEEKNUM, WORKDAY.INTL
- **Text Functions:** CONCATENATE, LEFT, RIGHT, MID, LOWER, UPPER, PROPER, TEXT

02

Working with Lists

TOPICS

Converting a List to a Table · Removing Duplicates from a List · Sorting Data in a List · Filtering Data in a List · Adding Subtotals to a List

03

Visualizing Your Data

TOPICS

- Inserting Charts
- Using the Chart Recommendation Feature
- Editing Charts
- Using Chart Tools
- Using the Quick Analysis Tool
- Add and Format Objects
- Create a Custom Chart Template
- Working with different charts (Column, Bar, Pie, Treemap, Histogram, Line, Sparklines)

04

Advanced Formatting

TOPICS

Applying Conditional Formatting · Using Conditional Formatting · Working with Styles · Creating and Modifying Templates

05

Using Pivot Tables

TOPICS

- Creating Pivot Tables
- More PivotTable Functionality
- Inserting Slicers
- Multi-Select Option in Slicers
- PivotTable Enhancements
- Working with Pivot Tables
- Inserting Pivot Charts
- More Pivot Table Functionality
- Working with Pivot Tables
- Creating a Dashboard using Pivot Tables

06

Data Tools

TOPICS

Converting Text to Columns · Linking to External Data · Controlling Calculation Options · Data Validation · Using Data Validation · Consolidating Data · Goal Seek · Using Goal Seek

01

Introduction To Power Excel

TOPICS

Understanding the “Power Excel” Workflow · Introduction to Power Query + Power Pivot · When to use Power Query & Power Pivot

02

Connecting & Transforming Data With Power Query

TOPICS

- Introduction
- Getting to Know Power Query in Excel
- Exploring Excel's Power Query Editor
- Power Query Data Loading Options
- **Important:** Updating Locale Settings
- Applying Basic Table Transformations with Power Query
- **Power Query Demo:** Text Tools

DAY 4

4 hours

02

Connecting & Transforming Data With Power Query

TOPICS

- **Power Query Demo:** Number & Value Tools
- **Power Query Demo:** Date & Time Tools
- **Pro Tip:** Creating a Rolling Calendar with Power Query
- **Power Query Demo:** Generating Index & Conditional Columns
- **Power Query Demo:** Grouping & Aggregating Records
- **Power Query Demo:** Pivoting & Unpivoting Data
- Modifying Excel Workbook Queries
- Merging Queries with Power Query
- Appending Queries with Power Query
- **Power Query Demo:** Connecting to a Folder of Files
- Excel Power Query Best Practices

DAY 5

4 hours

03

Building Table Relationships with Excel Data Model

TOPICS

- Introduction
- Meet Excel's "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
- Modifying Data Model Table Relationships
- Managing Active vs. Inactive Table Relationships
- Understanding Relationship Cardinality

03

Building Table Relationships with Excel Data Model

TOPICS

- Connecting Multiple Data Tables in the Data Model
- Understanding Filter Flow
- Hiding Fields from Excel Client Tools
- Defining Hierarchies in a Data Model
- Excel Data Model Best Practices

04

Power Pivot

TOPICS

Creating dashboards with Power Pivot · Creating dashboards · Using relational data for database · Slicers and timelines · Conditional timelines · Filter & sorting · Data validation · Designing dashboard layouts

01

Introducing Visual Basic for Applications

TOPICS

- What is VBA?
- What is a Macro?
- What can Macros do?
- To use or not to use Macros?
- Macro - The 5 Tenets
- What is the Excel Object Model?
- Your Personal.XLSB file
- Need to check your security options
- How do I access VBA?
- Macro Security Settings
- Displaying and reviewing the Developer Tab in the Ribbon

02

Modules and Procedures

TOPICS

- Modules and Procedures
- Program design and concepts
- A Good Spreadsheet Application
- Code Format / Layout
- To Dim or Not to Dim? In other words Why Dim?
- How to Declare a Variable / Dim / Private / Public
- Understanding Constants and how to Declare them
- Run Timing Test Macro

03

Controlling Flow and Make Decisions

This module explains how to work with Loops & Conditional Statements

04

Using Message Boxes, Input Boxes, and Running Macros

TOPICS

Creating and Using Message Boxes · Types Of Message Box · Using Input Box · Running a Macro from within Excel · Assigning a Keyboard Shortcut to a Macro · Assigning and launching a Macro from a shapes

05

Working With Cells and Ranges

TOPICS

Different Functions to access cells · Cell Range · Cell Color · Cell Back Color · Cell Alignment · Cell Wrap & Merge · Cell Orientation

06

Working with ODBC

ESTABLISHING A CONNECTION

- Define a connection string that includes the necessary information such as the driver, server, database, username, and password
- Create a new ADODB.Connection object
- Open the connection using the connection string

06

Working with ODBC

EXECUTING SQL QUERIES

- Create a new ADODB.Command object
- Set the CommandText property to the SQL query you want to execute
- Set the CommandType property to adCmdText
- Set the ActiveConnection property to the previously established connection
- Execute the command using the Execute method

RETRIEVING DATA

- Create a new ADODB.Recordset object
- Set the Source property to the SQL query you want to execute
- Set the ActiveConnection property to the previously established connection
- Open the recordset using the Open method
- Iterate through the recordset using the MoveNext method to retrieve the data

INSERTING OR UPDATING DATA

- Create a new ADODB.Command object
- Set the CommandText property to the SQL insert or update query
- Set the CommandType property to adCmdText
- Set the ActiveConnection property to the previously established connection
- Execute the command using the Execute method

CLOSING THE CONNECTION

- Close the recordset using the Close method
- Set the recordset and connection objects to Nothing to release the resources

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

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