AI Excel Course Syllabus

Section 1: Introduction to AI in Excel – 2 Hours

- ➢ Overview of AI-powered features in Microsoft Excel
- ➢ Understanding AI's role in data analysis
- ➢ Natural Language Queries in Excel
- ➢ Real-world use cases for AI in Excel

Section 2: AI + Excel Fundamentals – 3 Hours

- ➢ Data types, formatting, and tables
- ➢ Essential formulas and functions
- ➢ Data validation and conditional formatting
- ➢ Keyboard shortcuts for faster work

Section 3: Data Cleaning & Transformation – 4 Hours

- ➢ Power Query basics for data preparation
- ➢ Removing duplicates and handling missing values
- ➢ AI-assisted text and number cleaning
- ➢ Combining data from multiple sources

Section 4: AI-Powered Data Analysis – 4 Hours

- ➢ Using Excel "Analyze Data" for instant insights
- ➢ AI-assisted pivot table creation
- ➢ Detecting trends and anomalies with AI
- ➢ Interactive visualizations with AI

Section 5: Forecasting & Predictive Analytics – 4 Hours

- ➢ Time-series forecasting in Excel
- ➢ AI-powered sales prediction models
- ➢ Forecast Sheet for automated projections
- ➢ Evaluating model accuracy

Section 6: Machine Learning with Excel Add-ins – 5 Hours

➤ Installing AI/ML add-ins (ML, DataRobot, etc.)
➤ Training simple models in Excel
➤ Importing external ML model results
➤ Running predictions directly in Excel

Section 7: Automation with AI - 4 Hours

➤ AI-assisted formula generation
➤ Creating VBA macros with AI help
➤ Automating reports using AI tools
➤ Integrating Excel with Power Automate

Section 8: AI + Power BI Integration – 4 Hours

➤ Connecting Excel datasets to Power BI
➤ AI-driven data visualizations in Power BI
➤ Creating interactive dashboards
➤ Automating refresh and insights updates

Section 9: AI-Enhanced Decision Making – 3 Hours

➤ Orchestrating AutoGen inside LangGraph
➤ Using AI for scenario analysis
➤ Risk assessment in Excel with AI models
➤ AI-based optimization techniques
➤ Decision support dashboards

Section 10: Real-Time AI + Excel Projects

➤ Capstone Project 1: Sales Forecast Dashboard with AI
➤ Capstone Project 2: Automated Financial Reports with AI
➤ Capstone Project 3: Customer Sentiment Analysis in Excel
➤ Capstone Project 4: AI-powered Marketing Performance Tracker