Programming and Data Wrangling with VBA and Excel®

Duration: 3 Days
Method: Instructor-Led Training (ILT) | Live Online Training

Course Description

VBA (Visual Basic for Applications) enables you to enhance and extend the capabilities of Microsoft® Excel and other applications in the Microsoft Office application suite. You can use VBA to perform tasks that would be difficult or impossible to do using only worksheet functions, and you can automate a wide range of tasks involving the collection, processing, analysis, and visualization of data. This course will give participants a good foundation for understanding, creating, and using VBA in their own Excel workbooks. It will also show them how to work with data across different applications, and how to package the macros and functions they create so they can be backed up, move them to other computers, and share them with other users.

Target Audience

This course is intended for experienced Excel users who:
- Want to gain the skills necessary to use VBA to automate tasks in Excel such as collecting data from external sources, cleaning, and manipulating data.
- May (also) want to learn how to create custom worksheet functions to streamline worksheet formulas and make complex worksheets easier to support, maintain, and understand.

Prerequisites

To attend this course, candidates must be:
- Comfortable creating and working with Excel workbooks, including tasks such as entering worksheet formulas, using absolute and relative addressing, formatting cells, and creating pivot tables and charts.
  NOTE: This level of skill could be acquired by taking the *Microsoft Excel for Office 365™ (Desktop or Online)* courses, *Parts 1, 2, and 3*.

Course Objectives

Upon successful completion of this course, attendees will be able to:

- Identify general components of VBA and their appropriate use in solving business solutions.
- Record VBA macros to automate repetitive tasks.
- Use reference tools built into Excel to get help on VBA programming language and objects used in the Excel VBA environment.
- Write VBA code to create a custom worksheet function.
- Eliminate, avoid, or handle errors in VBA code, and optimize its performance.
- Control how and when macros run.
- Develop UserForm objects to create custom dialogue boxes and windows.
- Use VBA to read and write data from local files and cloud services.
- Use VBA to clean and transform data.
- Run programs and commands outside of Excel and share VBA projects with other users.

Course Topics

Module 1: Using VBA to Solve Business Problems

- Use Macros to Automate Tasks in Excel
- Identify Components of Macro-Enabled Workbooks
- Configure the Excel VBA Environment

Module 2: Automating Repetitive Tasks

- Use the Macro Recorder to Create a VBA Macro
- Record a Macro with Relative Addressing
- Delete Macros and Modules
- Identify Strategies for Using the Macro Recorder

Module 3: Getting Help on VBA

- Use VBA Help
- Use the Object Browser to Discover Objects You Can Use in VBA
- Use the Immediate Window to Explore Object Properties and Methods

Module 4: Creating Custom Worksheet Functions

- Create a Custom Function
- Make Decisions in Code
- Work with Variables
- Perform Repetitive Tasks

Module 5: Improving Your VBA Code

- Debug VBA Errors
- Deal with Errors
- Improve Macro Performance

Course Topics *Continued*

Module 6: Controlling How and When Macros Run
- Prompt the User for Information
- Configure Macros to Run Automatically

Module 7: Developing Custom Forms
- Display a Custom Dialog Box
- Program Form Events

Module 8: Using VBA to Work with Files
- Use VBA to Get File and Directory Structure
- Use VBA to Read Text Files
- Use VBA to Write Text Files

Module 9: Using VBA to Clean and Transform Data
- Automate Power Query
- Transform Data Using VBA and Workbook Functions
- Use Regular Expressions
- Manage Errors in Data

Module 10: Extending the Programming Environment Beyond the Workbook
- Run Other Programs and Commands
- Share Your VBA Projects

ACTIVITIES INCLUDED