

## **Microsoft Excel Programming with VBA (3 Days)**

**Duration:** 3 Days of Training

### **Course Description**

This 3 day Excel VBA programming course introduces advanced Excel users to the process of writing and editing Macros in Excel, working with control structures, developing user forms to accept or display data, validating the data entry in user forms, and debugging and handling errors in code.

### **Target Students**

This course will appeal to students looking to gain the skills necessary to apply VBA to develop macros, format worksheets, create user-interactive macros, work with multiple worksheets, and perform calculations. It may also appeal to students who already have knowledge of the basics of Excel, including how to create, edit, format, and print worksheets that include charts and sorted and filtered data.

### **Prerequisites**

Proficient knowledge of Microsoft Excel is required. It is recommended that you have knowledge to an Intermediate level. Knowledge of PivotTables helpful but not required. No prior programming experience is required

### **Delivery Method**

Instructor led, group-paced, classroom-delivery learning model with structured hands-on activities.

### **Course Objectives**

Upon completion of the course, you will have gained the skills necessary to apply VBA to develop macros, format worksheets, create user-interactive macros, work with multiple worksheets, and perform calculations.

### **Course Content**

Lesson 1: Getting Started

Introducing Visual Basic for Applications

Displaying the Developer Tab in the Ribbon  
Recording a Macro

Saving a Macro-Enabled Workbook

Running a Macro

Editing a Macro in the Visual Basic Editor

Understanding the Development Environment

Using Visual Basic Help

Closing the Visual Basic Editor

Understanding Macro Security

## Lesson 2: Working with Procedures and Functions

Understanding Modules

Creating a Standard Module

Understanding Procedures

Creating a Sub Procedure

Calling Procedures

Using the Immediate Window to Call Procedures

Creating a Function Procedure

Naming Procedures

Working with the Code Editor

## Lesson 3: Understanding Objects

Understanding Objects

Navigating the Excel Object Hierarchy

Understanding Collections  
Using the Object Browser

Working with Properties

Using the With Statement

Working with Methods

Creating an Event Procedure

#### Lesson 4: Using Expressions, Variables, and Intrinsic Functions

Understanding Expressions and Statements

Declaring Variables

Understanding Data Types

Working with Variable Scope

Using Intrinsic Functions

Understanding Constants

Using Intrinsic Constants

Using Message Boxes

Using Input Boxes

Declaring and Using Object Variables

#### Lesson 5: Controlling Program Execution

Understanding Control-of-Flow Structures

Working with Boolean Expressions

Using the If...End If Decision Structures

Using the Select Case...End Select Structure

Using the Do...Loop Structure

Using the For...To...Next Structure

Using the For Each...Next Structure

Guidelines for use of Control-of-Flow Structures

## Lesson 6: Working with Forms and Controls

Understanding UserForms

Using the Toolbox

Working with UserForm Properties, Events, and Methods

Understanding Controls

Setting Control Properties in the Properties Window

Working with the Label Control

Working with the Text Box Control

Working with the Command Button Control

Working with the Combo Box Control Working with  
the Frame Control

Working with Option Button Controls

Working with Control Appearance

Setting the Tab Order

Populating a Control

Adding Code to Controls

Launching a Form in Code

## Lesson 7: Working with the PivotTable Object

Understanding PivotTables

Creating a PivotTable Using Worksheet Data

Working with the PivotTable Objects

Working with the PivotFields Collection

Assigning a Macro to the Quick Access Toolbar

## Lesson 8: Debugging Code

Understanding Errors

Using Debugging Tools

Setting Breakpoints

Stepping through Code

Using Break Mode during Run mode

Determining the Value of Expressions

## Lesson 9: Handling Errors

Understanding Error Handling

Understanding VBA's Error Trapping Options

Trapping Errors with the On Error Statement

Understanding the Err Object

Writing an Error-Handling Routine

Working with Inline Error Handling

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