



# Microsoft® Office Excel® 2013 Programming with VBA

## Course Description

**Course Objective:** You will automate your job tasks in Microsoft® Office Excel® 2013.

**Target Student:** This course is intended for advanced Microsoft Excel professionals that need to automate Excel spreadsheet tasks using Visual Basic for Applications (VBA).

**Prerequisites:** Knowledge of the basics of Excel, including how to create, edit, format, and print worksheets that include charts and sorted and filtered data. Students are recommended to first take the following CompuTrain courses or have equivalent knowledge:

- Microsoft® Office **Excel® 2013 - Introduction**
- Microsoft® Office **Excel® 2013 - Intermediate**
- Microsoft® Office **Excel® 2013 - Advanced**

## Course Objectives

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

- Develop macros.
- Format worksheets using macros.
- Format pivot tables using macros.
- Create an interactive worksheet.
- Work with multiple worksheets.
- Perform calculations.

## Course Content

### 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

### 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

**Course Content (continued on next page)**



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## Course Content (continued from previous page)

### 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

### Using Expressions, Variables, and 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

### 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

### 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

### 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

### Debugging Code

- Understanding Errors
- Using Debugging Tools
- Setting Breakpoints
- Stepping through Code
- Using Break Mode during Run mode
- Determining the Value of Expressions

### 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