BELLEVUE COLLEGE

COMPUTER & TECHNOLOGY PROGRAMS

Excel 2016: Introduction to VBA

In the previous Excel courses, you used Excel to simplify business tasks, including the creation of spreadsheets, graphs, charts, and formulas that were difficult to create and nearly impossible to maintain using pencil and paper. You now want to simplify your work in the Excel environment by automating many of the repetitive tasks that are part of spreadsheet development. In Excel 2016: Introduction to VBA you apply the Visual Basic for Applications (VBA) programming language to simplify many tasks.

Who should take this course?

This course is designed for those who desire to learn how to create macros. This course introduces Visual Basic for Applications (VBA) in Excel to the Excel power user who is not yet a programmer to automate tasks to accomplish more in less time.

Course Objectives

- Record and edit macros.
- Use the Visual Basic Editor.
- Create sub and function procedures.
- Understand objects, properties, methods, and events.
- Explore the Excel object hierarchy and use the Object Browser.
- Work with variable and understand data types.
- Use intrinsic functions and work with control-of-flow structures.
- Design UserForms and work with controls.
- Control PivotTables programmatically.
- Use debugging tools and add error handling to code.

Course Details

- Length: 16 hours
- Format: Classroom
- Prerequisites: Excel: Level 2 or equivalent

  The above prerequisites are considered to be the basic skills and knowledge needed prior to taking this class. Instructors will assume your readiness for the class materials and will NOT use class time to discuss prerequisite materials.

Course Contents

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 Contents, continued

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 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

Course Contents, continued

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

Course Contents, continued

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