

Course Syllabus

VBA Programming for Microsoft Project Versions 98 through 2007

Part Two: Advanced Project VBA

Course Overview

This course is designed to deliver a great head start for anyone wanting to program in Microsoft Project VBA for any release from version 98 through 2007. The course is delivered over the Internet in four 4-hour sessions, with a prerequisite course scheduled one week prior so you have time to practice your skills.

We offer after course support via email with the instructor to make sure there are no road blocks preventing you becoming productive with Project VBA as soon as possible.

Target Audience

The target audience is either experienced Microsoft Project schedulers or anyone who is already familiar with VBA for another application, such as with Microsoft Excel.

Pre-Requisites

Pre-requisites for this course are:

- VBA Programming for Microsoft Project Versions 98 through 2007 Part One: Intro to VBA

OR

- Some programming experience, ideally in VBA for any Office application (including Microsoft Project, if possible).

This is a course where the more you know beforehand, the more you are likely to learn during the course. The ideal preparation, therefore, is to experiment with recording and creating macros or playing with and editing an existing macro. Get clear what it is you want to be able to do after the course and what sort of macros you want to work on. We'll focus more time in student's expressed main areas of interest and much less on other areas. Please communicate what's most important for you to your training advisor.

Finally, come to class with a macro you need to develop during and after the course. Make sure that you also have time allocated between sessions and after the course to practice and use what you learn.

Learning Objectives

After completing this course, you will be able to:

- Build, edit, and use some very productive macros included with the course material.
- Use your class workbook to find the answers for many common questions and problems.
- Use Automation code to control Excel from Project and control Project from Excel. The same techniques will allow you to control Project from VB, VB.Net, C# etc.
- Work with Microsoft Project databases and know when and how to use them.
- Create VBA macros in Excel to report on information in Project Server databases. (**Note:** If you do not have Microsoft Project Server, then you can spend this time can working on other macros with the instructor's help.)

Topical Outline

Module 08: Defining and Using Custom Fields

Overview of Custom Fields

Using Formulas to Support Project VBA

Defining Custom Fields

Using a Value List in a Custom Field

Using a Formula in a Custom Field

Testing for an NA Date Value

Using Graphical Indicators in a Custom Field

Defining Custom Outline Codes

Deleting a Custom Field or Outline Code

Module 09: Using Objects, Methods, and Properties

Understanding the Project Object Model

Using Application-Related Objects, Methods, and Properties

Using Project-Related Objects, Methods, and Properties

- Using Project Objects
- Using Project Methods
- Using Project Properties

Using Task-Related Objects, Methods, and Properties

Using Resource-Related Objects, Methods, and Properties

Using Assignment-Related Objects, Methods, and Properties

Using the Object Browser

Module 10: Recording Macros

Understanding When to Record a Macro

Recording a Macro

Modifying a Recorded Macro

Storing Your VBA Code

Controlling the Size of Project .MPP Files

Repairing Corrupted Files

Module 11: Looping Through Your Schedule

Looping Through All Tasks in a Project

Clearing a Custom Field for Non-Summary Tasks

Using Loops to Set Custom Field Values

Module 12: Creating New Objects in Microsoft Project

Safely Creating New Objects

Creating New Views, Tables, and Filters

Creating a New Toolbar

Creating a New Menu

Module 13: Managing Run-Time Errors

Managing Errors

- Using Resume Next Error Handling
- Using Goto Error Handling
- Selecting an Error Handling Method
- Using the Err Object

Module 14: Creating and Running UserForms

Understanding UserForms

Creating a UserForm

Adding Code to a UserForm

Module 15: Using Events

What Are Events?

Using Project Events

Using Task Events

Module 16: Creating the Project Control Center Macro

Structuring Your Macros

Project Control Center Macro Overview

Designing the Project Control Center

Deliverables for Project Control Center

Understanding the Project Control Center Code

Module 17: Displaying Driving Tasks

Designing the Driving Task Macro

Designing the Main Procedure

Understanding Task Dependencies

Understanding the Task Driver Code

Adding a UserForm to Display the Results

Running the Macro from a Toolbar

Module 18: Distributing Your Macros

Making Your Procedures Private

Calling a Procedure from Another File

Using the Global.mpt File

Moving Macros into the Global.mpt File

Copying Modules and Forms to the Global.mpt

Adding the CopyToGlobal Toolbar Button

Creating a Global Macros Toolbar

Module 19: Working with Timephased Data

Understanding Timephased Data

Reading Timephased Data

Exporting Timephased Data to a .csv file

Writing Timephased Data

Updating the Project Control Center

Designing the Get Resource Procedure

Module 20: Controlling Excel with Project VBA

Using Excel for Project Reporting

Understanding VBA Automation

Using Late Binding

Using Early Binding

Connecting to an Already Open Copy of Excel

Exporting a List of Resources to Excel

Running Excel VBA Code Using Project VBA

Controlling Microsoft Project from Excel

Creating the S-Curves Macro in Excel

Completing the Who Does What When Macro

Module 21: Create a Cost Margin Report

Understanding the Cost Margin Report

Module 22: Consolidate Multiple Projects

Creating Consolidated Project Reports

Module 23: Changing Working Time

Working with Calendars

Designing the Update Calendars Macro

Create the Calendar Exceptions UserForm

Add the Text Class to Store Calendar Exceptions

Apply Calendar Changes to All Projects

Add the Macro to the Project Control Center Toolbar

Module 24: Display Predecessor and Successor Tasks

Working with Task Dependencies

Designing the LinkedTasks Macro

Understanding the TaskDependency Object

Understanding the TaskLinks Macro Code

Module 25: Miscellaneous Useful Code

Indenting Tasks Using VBA

Reorganizing Task Sequences

Creating Formulas in Custom Fields

Working with Hyperlinks

Working with Subprojects

Making Your Code Run Faster

Timing Code Execution

Using the Windows API to Open and Save Files

Using File Open

Using File Save as

Using Get Folder

Applying the clsBrowse Class to a New Project

Module 26: Importing Data from Other Sources

Importing Data from an Excel Workbook

Importing Data from an Access Database

Importing Data from a SQL Server Database

Module 27: Reading and Writing Data in a Database

Using the PJDB.HTM File

Looping Through all Projects in a Database

Reading Data from a Database

Creating the Database View

Creating the Excel VBA Macro

Writing Data to a Database

Module 28: Using the OLE DB

Understanding OLEDB

Using the OLEDB Driver for Your Project Version

Using the OLEDB driver with Project 2007

Connecting to an .MPP File Using OLEDB

Module 29: Accessing Project Server Data from Excel

Understanding the PJSVRDB.HTM File

Weekly Reporting on Project Server Data

Looping through All Projects

Starting Project Professional and Logging into Project Server

Setting up the Excel Report

Reading a List of All Project Titles

Reading Milestone and Current Task Data

Reading all Issues and Risks for a Project

Writing the Final VBA Code for the Excel Report Macro

Creating a Project Program Report

Module 30: Using Project 2007 VBA

Introducing Project 2007 VBA

Using Named Parameters

Undoing a Macro

Managing Custom Fields

Controlling Visual Reports

Managing Calendars

Formatting Cell Background Colors

Managing Deliverables

Converting SQL Views from 2003 to 2007