Microsoft Excel – Developing Applications I

Course code: MSEX5

This course covers the basics of Visual Basic for Application (VBA), which is used for creating macros and automating work in Microsoft Excel. Participants will learn to work with Microsoft Excel object model, using the basic objects such as Workbook, Worksheet and Range. Topics will be presented and tested in many practical and useful macros to facilitate work with Microsoft Excel. For participation in the course is suitable basic knowledge of algorithmization and programming.

What we teach you:
- Basics of Visual Basic for Application (VBA), which will be used for writing macros and automating work in Microsoft Excel.
- Basic work with the Excel object model, especially objects Range, Worksheet, Workbook and Application.

Required skills:
- Knowledge of working in Microsoft Excel on user level.
- The advantage is a basic knowledge of programming in any language.

Teaching methods:
- Professional explanation with practical samples and examples.

Teaching materials:
- Powerpoint handouts and module printouts.

Course syllabus:
Introduction to Macros
- Basic concepts
- Recording macros
- Absolute, relative references
- Starting macros using keyboard shortcuts
- Personal Macro Workbook
- Editing Macros

Working with program code
- Modules
- Using the editor window
- Comments
- Setting Up the Environment
- Automatic code completion
- Configuration dialogs

Variables and procedures
- Declaring variables
- Data Types
- Data Types conversions
- Constants
- Arrays

Procedures and Functions
- Procedures and Functions
- Parameters of functions and procedures
- Optional parameters
- Passing parameters by value and by reference
- Selected built-in functions

GOPAS Praha
Kodaňská 1441/46
101 00 Praha 10
Tel.: +420 234 064 900-3
info@gopas.cz

GOPAS Brno
Nové sady 996/25
602 00 Brno
Tel.: +420 542 422 111
info@gopas.cz

GOPAS Bratislava
Dr. Vladimíra Clementisa 10
Bratislava, 821 02
Tel.: +421 248 282 701-2
info@gopas.sk

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Program Flow Control
- Logical and comparison operators
- If ... Then
- Select ... Case
- Do ... Loop
- For ... Next
- Exiting Cycle

Debugging
- Types of errors
- Watch window
- Immediate window
- Call Stack
- Locals window
- Break mode &Program stepping

Catching errors
- Run-time error
- Err object
- Concatenation of errors
- Inline error handling

Excel object model
- Basic characteristics of objects
- Properties, methods and events
- Object Browser
- Collection

Object Range
- Basic work with the Range object
- Definition of contiguous and non-contiguous areas
- Passage cells area
- Collection of rows, columns, and cells
- Working with the currently selected area
- Inserting values
- Inserting formulas

Worksheet object
- Sheets Worksheets and Charts objects
- Inserting and removing sheets
- Protection
- Visibility
- Print Settings
- Sheet events

Workbook object
- Creating a new workbook
- Opening and saving workbooks
- Data consolidation
- Workbook closing
- Workbook protection
- Workbook events

Object Application

- Application object and MS Office
- Selected properties and methods of Excel.Application object