Programming and Algorithmization Basics

Course code: PRG

The course is intended for everyone who has not done programming yet or has only minimal experience of programming and who needs to acquire the basic skills necessary to study specific programming languages.

Who is the course for

The course is intended for everyone who has not done any programming yet and needs to acquire the basic skills necessary to study specific programming languages. The course focuses on general programming principles. Specific examples are given in the Visual Basic environment.

What we teach you

Course participants will learn the fundamentals of algorithmization and programming and will gain experience with creating and implementing development diagrams. You will learn how to use variables and fundamental data types, how to manage programme flow and use logical operators such as AND, OR and XOR.

Required skills

User-level knowledge of Microsoft Windows operating system.

Course Outline

Introducing to algorithmization and programming
- Basic terms
- Programming
- Algorithm
- Compilation
- Debugging

Algorithmization
- Analyzing problem
- Creating flow charts
- Selection
- Iteration

Programming languages
- History
- Types of programming languages
- Programming languages Syntax

Event-driven programming
- Introducing to events
- Events procedures

Variables
- Introducing to Variables
- Naming conventions
- Data types
- Declaring Arrays
- Using Arrays
- Sorting Arrays

Expressions and operators
- Arithmetic operators
- Text operators

- Logic operators
- Making expressions

Visual Basic fundamentals
- Introducing to Visual Basic
- Visual Basic Data Types
- Running programs
- Compiling code in Microsoft Visual Studio

Handling Errors
- Syntactic Errors
- Run-time Errors
- Logic Errors