JS_PROG1 - JavaScript I: Basics

Course code: JS_PROG1

This course is designed for anyone who wants to learn the basics of JavaScript scripting language, use it on the client or server side of web applications or for testing, or as a stepping stone for TypeScript. Participants will learn about primitive and complex data types, variable declaration, using expressions and operators, creating and using functions, conditions and loops. They will also learn how to work with built-in objects such as String, Array, Date, and Math. The course also covers more advanced concepts such as anonymous functions, Arrow functions, Rest and Spread operators, and modules. The course is not suitable for complete beginners who have never programmed in any programming language; a basic knowledge of algorithmization and programming at the [PRG] course level is recommended, or basic experience programming in another language.

Affiliate	Duration	Course price	ITB
Praha	5	38 500 Kč	50
Brno	5	38 500 Kč	50
Bratislava	5	1 650 €	50

The prices are without VAT.

Course terms

Date	Duration	Course price	Type	Course language	Location

The prices are without VAT.

For whom the course is intended
- This course is intended for beginning programmers, or programmers in other languages, who want to learn the basic syntax of JavaScript, either as a means of simply scripting HTML pages, or as a foundation for future training in developing entire applications using this language.
- The course is not suitable for complete beginners who have never programmed in any programming language; a basic knowledge of algorithmization and programming at the level of the [PRG] course is recommended, or experience with programming in another language.

What we will teach you
- Possible uses of JavaScript
- Basic JavaScript syntax
- Use built-in objects in JavaScript
- Create simple dynamic HTML pages

Prerequisite skills
- Basic knowledge of algorithmization and programming at the level of the PRG course, or experience programming in another language.
- The course is not suitable for complete beginners who have never programmed in any programming language

Course outline
Introduction and basic concepts
- Introduction to JavaScript
- JavaScript language features
- History and evolution of JavaScript
- Transpilation and Minification
- Recommended Resources

Possible uses in and out of the browser

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- JavaScript in the browser (front-end)
- JavaScript outside the browser (Backend, Node.js)
- Development environment Basics of JavaScript
- Values and data types
- Primitive data types (Number, String, Boolean, null, undefined)
- Complex data types (Object, Array)
- Using variables and constants
- Variable declarations (var, let, const)
- Scope and hoisting
- Template literals (optional)
- String interpolation
- Multiline strings

Expressions and operators
- Arithmetic operators
- Logical operators
- Comparison operators
- Conditional (ternary) operators

Functions and their uses
- Function declarations
- Function declarations vs. function expressions
- Arrow functions
- Using parameters and return values
- Function parameters
- Return values
- Block and function scope
- Anonymous and self-executing functions (IIFE)

Conditions and cycles
- Conditional constructs
- if
- switch
- Cycles
- for, while, do-while
- Iteration methods for Arrays (forEach, map, filter)

Working with objects and built-in objects
- JavaScript Object Model
- Creating and manipulating objects
- String object
- Methods for working with strings
- Array object
- Methods for manipulating arrays
- Date object
- Methods for working with date and time
- Object Math
- Methods for working with mathematical functions

Advanced concepts and practical examples (optional)
- Anonymous functions and Arrow functions
- Rest and Spread operators

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- Modules
- Importing and exporting modules
- Structuring code with modules
- Package management tools (npm, Yarn)

Practical use of JS
- Demonstration of use in the browser
- DOM manipulation using JavaScript
- Demonstration of use outside the browser
- Node.js basics and a simple server

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