

# Matlab/Octave Programming I

Course code: MATLAB1

The course is intended for all those who want to learn about the environment and the programming language MATLAB. You will learn to use basic functions, vectors, and matrices, as well as more complex features such as graphing, working with files, or designing graphical applications.

Affiliate	Duration	Course price	ITB
Praha	2	6 200 Kč	20
Brno	2	6 200 Kč	20
Bratislava	2	340 €	20

The prices are without VAT.

## Course terms

Date	Duration	Course price	Type	Course language	Location
10.02.2025	2	340 €	Online	CZ/SK	Gopas Bratislava Online
16.04.2025	2	340 €	Presence	CZ/SK	Gopas Bratislava Prezenční
09.06.2025	2	340 €	Online	CZ/SK	Gopas Bratislava Online

The prices are without VAT.

## Required skills:

- The course assumes basic programming experience in any language

## Teaching methods:

- Professional explanation with practical samples and examples.

## Teaching materials:

- Powerpoint handouts and module printouts.

## Course syllabus:

User environment of Matlab

Matlab as a calculator

- Basic functions
- More advanced functions (sinus, amplification, factorial, ...)

Counting with vectors and matrices

- Solution of linear, quadratic and cubic equations
- Basic matrix operations
- Solution of a system of linear equations
- Fraction decomposition

M-files

- Creating scripts
- Cycles and conditions
- Design features
- Subfunctions
- Error suppression
- Stepping
- Code optimization tools

Drawing charts

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# Matlab/Octave Programming I

- Rendering of 2D charts
- Working with handles of graphic objects
- Rendering 3D charts

## Work with text strings

- Search for text
- Replacing text
- Regular expressions

## Data types struct and cell

## Working with files

- Import and export of variables
- Reading and writing to a text file
- Reading and writing to a binary file
- Image editing
- Loading an xml file
- Load json file

## Design of graphic applications

- Introducing the Guide
- Introducing Appdesigner
- Creating a graphical application

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