

# Undocumented Matlab

unbelievable features; unbelievable quality; unbelievable cost effectiveness; unbelievable service

## MATLAB FUNDAMENTALS

### COURSE OUTLINE



#### 1. The Matlab environment

- Learn how to use the Matlab desktop
- The Matlab workspace and command window
- Using the command history
- Using the documentation system and other online resources

#### 2. Using numeric and character-based data

- Matlab's data types and precisions
- Matlab's data storage types
- Creating and manipulating data
- Operators and expressions
- Using functions
- Accessing sub-elements and data ranges

#### 3. Matlab Programming

- Creating your first Matlab script
- The Matlab editor
- Using the debugger
- Scripts vs. functions
- Controlling program control flow
- Coding conventions and best practices

#### 4. Analyzing data

- Removing and fixing invalid data
- Fitting data
- Error handling

#### 5. Saving and loading data

- To/from Matlab workspace
- To/from text or binary files
- To/from Excel
- To/from a webpage

#### 6. Visualizing data

- Displaying results in the command window
- Plotting data in 2D, 2.5D and 3D graphs
- Presenting data tables
- Preparing simple GUI (Graphical User Interfaces)
- Exporting graphics to external applications

#### 7. Where next? – topics and resources for further learning

### Summary

A 3-day introductory Matlab course.

You will learn:

- how to use Matlab to analyse data and report results
- how to load and save information using several file formats including text, binary and Excel
- how to automate analyses using basic programming and built-in functions
- how to create robust, reusable and maintainable code
- to design and present data in graphs and GUI windows
- the basic skills that will enable you to continue learning advanced topics by yourself, at your own pace

### Target audience

Matlab users with some background in technical or science fields, but little or no experience using Matlab.

No prior programming experience is assumed or necessary.