



Course Title:

MATLAB for Data Processing and Visualization

Course Purpose

This one-day course focuses on importing and preparing data for data analytics applications. The course is intended for data analysts and data scientists who need to automate the processing, analysis, and visualization of data from multiple sources.

Topics include:

- Introduction
- Importing data
- Processing data
- Customizing visualizations
- Working with irregular data
- Conclusion

Pre- requisites

MATLAB Fundamentals



- ✓ 1 training day
- ✓ Hours: 09:00-17:00
- ✓ Total training hours: 8

Teaching method

The course combines lectures, demonstrations and practical exercises in MATLAB, using original training books from MathWorks. The course is in Hebrew, but the training materials are in English.

עמוד מס' 1

Training Center Systematics - Contact information:

Phone number: 03-7660111 Ext: 6 **Email:** training@systematics.co.il

Website: <http://www.systematics.co.il/mathworks>



Course Objective:

Introduction

Objective: Understand MathWorks products, a brief company history (The MathWorks & Systematics Limited), and course schedule.

Importing data

Objective: Read text files that contain a mixture of data types, delimiters, and headers.

- Import a mixture of data types from arbitrarily formatted text files
- Import only required columns of data from a text file
- Import and merge data from multiple files

Processing Data

Objective: Process raw imported data by extracting, manipulating, aggregating, and counting portions of data.

- Process data with missing elements
- Create and modify categorical arrays
- Aggregate, bin, and count groups of data

Customizing Visualizations

Objective: Annotate and modify standard plots to produce informative customized graphics.

- Determine properties of graphics objects and their associated values
- Locate and manipulate graphics objects
- Customize plots by modifying properties of graphics objects

Working with Irregular Data

Objective: Import and visualize scattered data from text files with irregular formatting.

- Parse text files to determine formatting
- Import data from separate sections of a text file
- Extract data from container variables
- Interpolate irregularly spaced three-dimensional data
- Visualize three-dimensional data in two and three dimensions

עמוד מס' 2

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