



### Course Title:

## **Simulation-Based Testing with Simulink**

### Course Purpose:

This one-day course describes techniques for testing Simulink® model behavior against system requirements using Simulink Test™, Simulink Requirements™, and Simulink Coverage™. Topics include:

- Identifying the role of verification and validation in Model-Based Design
- Creating test cases for Simulink models
- Analyzing simulation results to verify model behavior
- Automating testing activities and managing results
- Automatically generating artifacts to communicate results

### Pre- requisites:

MATLAB Fundamentals and Simulink for System and Algorithm Modeling



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

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### **Training Center Systematics - Contact information:**

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

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



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

### Course Objective:

#### Verification and Validation in Model-Based Design

**Objective:** Introduce verification and validation in the Simulink environment and discuss how it fits in to a typical project workflow using Model-Based Design.

- Continuous test and verification
- Types of verification
- Electronic throttle control project

#### Developing Test Cases

**Objective:** Create time-based and logic-based test cases for a Simulink model.

- Defining test cases
- Generating test harnesses
- Creating and importing test inputs
- Incorporating logic in tests

#### Analyzing Test Results

**Objective:** Analyze test results of a Simulink simulation, both during and after the simulation.

- Performing requirements-based assessments
- Logging, inspecting, and comparing test results
- Collecting model coverage

#### Building Test Suites

**Objective:** Create repeatable groups of tests and automatically generate reports from the test results.

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- Configuring simulation, baseline, and equivalence tests
- Viewing and documenting test results

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