



Course Title:

Simulink Model Management and Architecture

Course Purpose:

This two-day course describes techniques for applying Model-Based Design in a common design workflow. It provides guidance on managing and sharing Simulink® models when working in a large-scale project environment.

Topics include:

- Implementing interface control of Simulink subsystems and models
- Managing requirements in Simulink models
- Partitioning models using Simulink subsystems, libraries, and model references
- Managing a model and all its dependencies in a project
- Controlling the location, scope, and code generation behavior of model data
- Establishing and enforcing modeling standards
- Documenting and sharing a Simulink model

Pre- requisites:

MATLAB Fundamentals and Simulink for System and Algorithm Modeling. This course is intended for intermediate or advanced Simulink users.



- ✓ 2 training days
- ✓ Hours: 09:00-17:00
- ✓ Total training hours: 16

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:

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Course Objective:

Model-Based Design

Objective: Get a brief overview of how Simulink models can be used in a traditional design process. Discuss where the material covered in this course fits into that process.

Requirements Linking and Interface Control

Objective: Use a Simulink model to store system requirements, illustrate data flow, and define system interfaces.

- Component stubs
- Requirements linking
- Component interfaces
- Bus objects

Model Architecture

Objective: Discuss the pros and cons of the different features used for organizing a Simulink model into separate components.

- System component considerations
- Virtual subsystems
- Atomic subsystems
- Model references
- Libraries
- Component variants

File Management

Objective: Discuss how to effectively organize a Simulink project containing models, data, documentation, etc.

- Model dependencies
- Model manifests
- File organization
- Startup and shutdown scripts

Project Management

Objective: Discuss how to perform configuration management tasks (source control, impact analysis, etc.) from the Simulink environment.

- Project setup
- Project shortcuts

עמוד מס' 2

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- File dependencies and impact
- Source control integration
- File differences

Data Management

Objective: Explore the data dependencies of a Simulink model and learn best practices for managing a Simulink model's data.

- Workspace precedence
- Parameter management
- Saving and loading data
- Data dictionaries

Data Customization

Objective: Discusses how to control signals, parameters, and data types to affect the behavior of code generated from Simulink models.

- Signals and parameters
- Simulink data objects
- Parameter tunability
- Data types in Simulink

Modeling Standards

Objective: Explore how to set up and enforce modeling standards, check for common modeling errors, and optimize model performance.

- Modeling standards
- Model Advisor
- Reporting results
- Additional Simulink advisors
- Templates

Reporting

Objective: Discuss the methods of automatically creating reports and documentation from Simulink models.

- Print frames
- Web views
- Standard reports
- Custom reports

עמוד מס' 3

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