

CESL01: SimuLink

(2-days)

This course is intended to provide training on SimuLink; an extension of MATLAB computing environment for modeling, simulating, and analyzing dynamic and linear/nonlinear systems.

Day 1 of 2

Introduction

- A quick overview of MATLAB computing environment
- Overview of SimuLink: A tool for simulation and Model-based design
- Course content and material discussion

Building your first SimuLink model

- Modeling example
- Creating an empty model
- Browsing the SimuLink block library
- Adding blocks
- Connecting the blocks
- Configuring the model
- Setting simulation preferences
- Running the model
- Visualizing and retrieving simulation results
- Generating a model report
- Annotating diagrams
- Interactive demonstrations

Developing hierarchical models

- Creating subsystems
- Navigating the subsystem models
- Controlling access to subsystems
- Creating conditionally executed subsystems
- Enabled subsystem
- Triggered subsystem
- Function call subsystem
- Referencing models

Day 2 of 2

SimuLink debugger

- Introduction
- Using the debugger GUI
- Using the debugger command
- Starting the debugger
- Starting a simulation in debug mode
- Running a model step-by-step
- Setting break points

**Using the embedded
MATLAB function**

- Introduction
- Creating an example embedded function
- Debugging an embedded function
- Embedded MATLAB function editor
- Typing and sizing function arguments
- Passing parameters as arguments in embedded function

**Hands-on
experiments**

- Case studies and hands-on experiments
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