

# COURSE OUTLINE

## MBSE with Mathworks System Composer

### Module 01

#### Training Overview

- Instructor Introduction
- Course Purpose
- Course Outline
- Course Agenda
- Module Structure
- Required Tools
- Additional References
- Daily Schedule

### Module 02

#### Introduction to MBSE & System Composer

- Key Definitions
- Introduction to MBSE
- Introduction to System Composer

### Module 03

#### Model Organization in a Project + Lab

- Overview of Projects
- Creating a Project
- Project Organization
- Dependency Analyzer
- Project Introduction for All Labs
- Model 3 Lab Overview

Module  
**04**

## Requirements

- Requirements Overview
- Basics of Good Requirements
- Attributes of Requirements
- Requirement Abstractions
- Creating Requirements
- Importing Requirements
- Customizing Requirement Attributes
- Requirements Traceability

Module  
**05**

## Concept Model + Lab

- Concept Model Overview
- Scope and Abstraction
- Stakeholder Needs
- Defining Functional Architecture
- Defining Contextual Architecture
- Introduction to Components, Ports, and Connectors
- Module 5 Lab Overview

Module  
**06**

## Logical Architecture + Lab

- Introduction to the Logical Model
- Logical Architecture Overview
- Decomposing Structure with Components
- Attributes of Components
- Component Parameters
- Defining Interfaces
- Expanding Elements with Stereotypes
- Using Stereotypes in an Organization
- Components: Properties vs Parameters
- Module 6 Lab Overview

Module  
**07**

## System Behavior + Lab

- Logical Model Review
- System Behavior Overview
- System Process Flow with Activity Diagrams
- Activity Diagram GUI
- Activity Diagram Element Types
- Creating Activity Diagrams
- Allocating Activities
- Stateflow Charts
- Stateflow Editor GUI
- Stateflow Chart Elements
- MATLAB Scripts for Behavior
- Sequential System Behavior
- Sequence Diagram GUI
- Sequence Diagram Elements
- Module 7 Lab Overview

Module  
**08**

## Physical Models & System Analysis + Lab

- Physical Model
- System Analysis
- Module 8 Lab Overview

Module  
**09**

## Training Review

- Module 8 Lab Discussion
- Review of Modules
- Learning of Outcomes
- Reaching Out + Additional References