SysML for Reviewers

Course Outline

Module 1: Overview

- Instructor Introduction
- Course Purpose
- Course Agenda
- Module Structure
- SysML Overview
- Additional References

Module 2: Introduction to SysML

- Key Definitions
- Introduction to MBSE
- Introduction to SysML

Module 3: Introduction to Cameo Collaborator

- What is Teamwork Cloud?
- Teamwork Cloud Overview
- Cameo Collaborator Overview
- High-Level Architecture
- Collaborator User Interface
- Reviewing Models with Collaborator
- Collaborator Comments
- Model Editing with Collaborator

Module 4: Packages

- Diagram Example and Purpose
- Packages
- Containment
- Models
- Model Libraries
- Diagram Annotations
- Project Structure Best Practices

Module 5: Requirements

- Diagram Example and Purpose
- Requirements
- Requirement Abstractions
- Extended Requirements

- Requirement Relationships
- Requirement Tables
- Requirement Matrices
- Requirement Maps

Module 6: Block Definition Diagrams

- Diagram Example and Purpose
- Blocks
- Properties
- Behaviors
- Associations
- Generalization

Module 7: Internal Block Diagrams

- Diagram Example and Purpose
- Interfaces
- Part/Reference/Port Properties in IBDs
- Connectors
- Item Flows

Module 8: Use Cases

- Diagram Example and Purpose
- Use Cases
- Actors
- Blocks as System Boundaries
- Associations
- Generalizations
- Includes and Extends

Module 9: Activity Diagrams

- Diagram Example and Purpose
- Use Case Connectivity
- Activity Partitions
- Actions
- Flows
- Simulation Execution Rules
- Control Nodes
- Functional Decomposition
- Allocation of Behaviors to Blocks

Module 10: Sequence Diagrams

- Diagram Example and Purpose

- Sequencing
- Lifelines
- Messages
- Duration/Time Constraints
- State Invariants
- Combined Fragments

Module 11: State Machines

- Diagram Example and Purpose
- Navigating the State Machine
- States
- History
- Transitions
- Behaviors

Module 12: Constraints & Parametrics

- Diagram Example and Purpose
- Constraint Blocks
- Requirements Traceability
- Building Parametric Diagrams
- Simulation