



## System Modeling with SysML

### Course Background:

As a natural extension to the Unified Modeling Language (UML) for software modeling and specification, the Object Management Group (OMG), together with its industrial partners, has set a standard for the system modeling language SysML. This language supports the integral modeling and specification of software intensive systems and helps to improve system-architecting practices by enabling systematic model-based systems engineering (MBSE).

### Course Benefits:

Our course System Modeling with SysML aims to provide a basic working knowledge of the various modeling techniques offered in the SysML. Participants will learn:

A general approach to model based system engineering	Allocate functionality in use cases over the system parts
The various modeling techniques in the SysML	To describe behavior using state machine diagrams
To capture functional requirements using use cases	To describe behavior using activity diagrams
To model dependencies between functional and non-functional requirements	To address allocation of behavior, e.g. to software or hardware parts
To model system structure using block diagrams with parts and ports	Some heuristics and evaluation techniques to obtain high quality models
To model physical and logical constraints, and studying trade-offs	

### Who will benefit from this course?

- System analysts
- Systems engineers
- Managers who are responsible for the delivery of software intensive systems
- System architects
- Professionals moving into system-level engineering

### Pre-requisites:

The participants will need to have working knowledge of UML and an initial understanding of generic system engineering processes.

### Course Format:

Teaching Method: Lectures, small exercises and workshop  
Language: English or Dutch

### Course Contents:

Course duration: 4 days

<b>Day 1:</b>	<b>Day 3:</b>
SysML approach and overview	System functional behavior: Activity diagrams
Capturing functional requirements using use cases	System state-based behavior: State Machine diagrams
Requirements modeling in SysML	<b>Day 4:</b>
System hierarchy and interconnection: Block diagrams	System design constraints: Parametric diagrams
<b>Day 2:</b>	Trade studies on non-functional constraints (performance, reliability etc.)
System hierarchy and interconnection: Internal Block diagrams	Integrating SysML into a development environment
Structuring a SysML model (packaging)	
System behavior analysis: Use Case analysis and Sequence diagrams	

### Additional Options:

Please indicate any desired options when signing up for this course, or contact your account manager. There is no focus on specific tools and platforms.

### Terms and conditions:

The standard terms and conditions of Mithun Training & Consultancy are applicable. We will send you a copy on request.