



CRaG Systems Modelling Training and Consultancy

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SysML Introduction Training Course - 1 Day

This SysML training course is aimed at decision makers who direct projects and the review outputs of an engineering team. The course teaches an appreciation of the breadth of capability of the Systems Modelling Language SysML and its use within the context of systems engineering disciplines including specification, analysis, architecture, design, validation and testing of equipment for industrial, military and aerospace applications. The advantages that using these techniques have for project estimation, requirements traceability, test development and project management is discussed.

Delegates will learn:

- The basics of the SysML Systems Modelling Language
- How hierarchical and interdependent requirements can be created and maintained within a SysML Model
- How traceability is maintained between requirements and reports of requirements and models are generated
- How an overview of the external functional requirements of a system is created with actors and use cases on a use case diagram
- How high-level system structure is modelled and decomposed using block definition diagrams
- How the detailed internal structure of blocks is modelled on internal block diagrams
- How system level analogue behaviour can be defined and modelled on parametric diagrams
- How the externally visible behaviour of a system and its constituent parts is modelled using activity diagram
- How timing, interaction and messaging between system elements is modelled on sequence diagrams
- How state dependant behaviour is modelled on state machine diagrams

Suitable for:

Project managers, specifiers, decision makers and engineers with at least 2 years experience. This course is not suitable for those seeking certification as a step towards a qualification. See the Certification Policy for a detailed discussion.

Course Logistics:



Course attendance is limited to 12 students. Courses start at 9.30am and finish at 5.00pm. Some exercises will be performed on paper. The use of a SysML modelling tool will be demonstrated as part of the course but use of it by students will not be required. Printed course manuals for each student with copies of all presentations, exercises and solutions are provided.

On-Site (In-House) Courses:



The client is expected to provide an appropriate venue, refreshments, XGA/WXGA projector and screen, whiteboard or flipchart. For a full discussion of on-site course issues please see On-Site Course Logistics.

Pricing:



On-site (in-house) course pricing is available from the On-Site Course Price Calculator page. For consultancy pricing please see the On-Site Consultancy Price Calculator.

Training Course Outline

Morning

Introduction

People - Modelling - Systems Engineering - System Modelling Language SysML

Requirements Modelling

Requirements Diagrams - Requirements - Test Cases - Hierarchic Requirements - - Generating Documents - Managing Traceability - Repositories - Specifying Functional Requirements with Use Cases

Defining Structural Elements with Block Definition Diagrams

Blocks and Block Definition Diagrams - Value Types - Enumerations Part and Shared Associations - Containment - Generalization

Defining Structural Detail with Internal Block Diagrams

Parts (Properties) - Internal Block Diagrams - Ports - Connectors - Item Flows

Requirements and Structure Diagrams Demonstration

Afternoon

Parametric Modelling

Constraint Blocks - Parametric Diagrams - Constraint Properties

Modelling Behaviour as Activity

Activity Diagrams - Activities and Actions - Control and Object Flows - Flow Charts with Activity Diagrams

Modelling Interaction and Messaging on Sequence Diagrams

Interactions and Messages, Sequence Diagrams - Synchronous and Asynchronous Messages - Timing Constraints

Modelling State Dependant Behaviour

The Meaning of the State Model - State Machine Diagrams - States and Transitions - Events and Conditions - Actions and Activities

Behavioural Modelling Demonstration

Should the content of the available SysML courses not fit your exact requirements, then CRaG Systems can create a custom course for you. Please either email or call us to discuss your particular needs.

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