



Mastering SysML

The Systems Modelling Language, SysML, is the industry-standard notation that is used throughout the world for Systems Engineering. However, there is more to mastering SysML than learning the notation. This 1- or 2-day workshop introduces the main concepts of SysML and shows how to truly understand the application of the notation in order to realise the full benefits of MBSE.

Duration: 1 day if taken after our 3 day ‘A Model-Based Approach to Systems Engineering’ course

2 days if taken after our 1 day ‘MBSE for Beginners’ course

Introduction to Modelling - A Recap

This module gives a high-level recap of the main concepts of modelling and its application to systems engineering, concepts which are covered in more detail in either of our prerequisite 1- or 3-day core training courses.

The SysML Notation

- Views vs. diagrams
- The SysML meta-model
- Diagram frames
- The nine SysML diagrams – tutor-led group working

This section of the course covers the key notation of all nine diagrams that make up the SysML notation. Under the guidance of the tutor, delegates will explore the use of the various diagrams, considering the consistency between them and discussing typical uses for each of the types of diagram.

Modelling Interfaces

- Service-based interfaces
- Flow-based interfaces
- The Interface Definition Pattern

This module tackles the thorny subject of interfaces and their definition using the SysML notation. Examples will be given of service-based and flow-based interfaces, along with discussion of how physical interfaces can be modelled. The Interface Definition Pattern is introduced, which may be used at all levels of a system model to identify, capture and define interfaces in detail.

Delegates will use the Interface Definition Pattern to model a number of typical kinds of interface.



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The Exercises

Throughout the workshop delegates will be carrying out modelling exercises, either individually or in small groups. These exercises are designed to gently introduce delegates to the modelling techniques needed to evolve their knowledge of the SysML.

After each facilitated group exercise, each group will present back to the tutor and other groups to validate their understanding of the concepts and techniques, and to share and discuss different ways of modelling the problem.

Target Audience

The course is aimed at, but not limited to engineers, scientists and managers who deal with modelling and SysML models in their working lives.

Benefits

The benefits of this course are as follows:

- Understanding how SysML fits into Model-Based Systems Engineering
- An appreciation of how SysML can help with all aspects of a system model
- Understanding the difference between a SysML model and a collection of pictures
- Understanding what each of the nine SysML diagrams are for and how they are used together
- Understanding the key notation of each of the nine diagrams

Prerequisites

Attendance on one of our core MBSE courses (either the 1- or 3- day versions).

Material

Face-to-Face Courses

Delegates receive PDF copies of the course notes, summary sheets and physical copies of the book '*SysML for Systems Engineering: 3rd edition: A model-based approach*' written by the course tutors and published by the IET.

Where the course is delivered in-house, then a *mixture* of physical books is given. For a course with 12 delegates the mix is:

- 4x '*SysML for Systems Engineering*'
- 6x '*Don't Panic! The Absolute Beginner's Guide to MBSE*'
- 2x '*Foundations for Model-Based Systems Engineering*'

These numbers will be prorated for courses with fewer or more delegates.



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Remote Courses

Delegates receive PDF copies of course notes and summary sheets, along with an eBook version of '*Don't Panic! The Absolute Beginner's Guide to Model-Based Systems Engineering*' written by the course tutors and published by INCOSE UK.

More Information

For more information on this course, or any of our other offerings, please contact Scarecrow Consultants Limited using the details above.