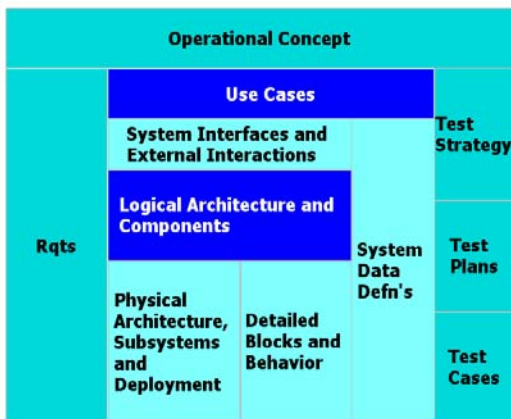


Fundamentals of Systems Modeling Training

3-day class delivers industry-proven modeling foundation skills to get teams started with model-driven engineering of complex, high performance systems using the SysML language.

Architecting, specifying and developing complex, high performance systems presents unprecedented challenges. To manage complexity, deliver quality, improve productivity, and maximize the collaboration between systems engineering and development, successful organizations engineer their systems with an architecture-focused, model-driven approaches. Giving your systems engineering teams a competitive edge starts with a foundation set of skills in systems modeling built on industry best practice.

Bring your team up to speed with proven techniques in systems modeling quickly and efficiently with Pathfinder Solutions *Fundamentals of Systems Modeling* training. Based on decades of industry experience with model-driven systems engineering and architecture, this 3 day course delivers the essential elements of tool-independent modeling approaches for architecting and specifying complex, real-time and other high performance systems.



Fundamentals of Systems Modeling introduces techniques proven to improve productivity, boost system quality, and enhance collaboration in the engineering of complex, high performance systems with multi-disciplinary development and deployment.

“The methodology emphasis and tool independence put this class head-and-shoulders above the typical tool-focused training out there. The step-by-step techniques are invaluable.”

Brian P., System Architect
Lockheed-Martin



Course Outline

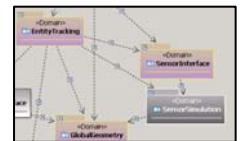
This 3-day course is organized to sequentially build specific SysML and general modeling skills while teaching each integrated phase of systems modeling:

Systems Modeling - Overview

- The System and the World, the System Within
- Work Products Produced
- General Modeling Common Sense

Context and Use Cases

- Context Diagram
- External Interfaces
- Building Use Cases
- Reviewing Use Case models

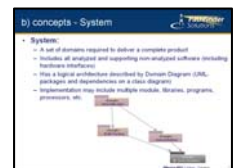


Logical Architecture

- Components and Interfaces
- Domain Modeling
- Reviewing Logical Architecture

Detailed Blocks

- The Block
- Construction and Evolution
- Component Focus
- Building and reviewing blocks



Behavior Modeling

- Operations
- Component Strategy through Scenarios

Physical Architecture

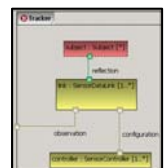
- Subsystems and Interfaces
- Ports and Flows
- Deploying Components to Subsystems

Requirements and Modeling

- Normative Elements
- Relating Requirements with the Model
- Textual Requirements Outside the Model

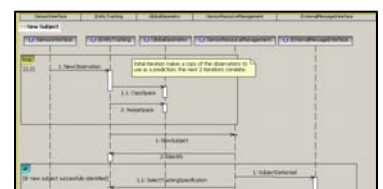
Systems Modeling Work Products

- Customer Focus
- Required Work Products
- Build Only What is Needed



Bridging to Development

- The Chasm
- Drivers for collaboration
- The Obstacles
- Shared Elements
- Joint development



Fundamentals of Systems Modeling Training

Refined Curriculum based on Pragmatic Techniques

This class delivers proven model-driven techniques from an accumulation of decades of industry best practice. Building a solid foundation in systems modeling skills, Pathfinder Solutions has tailored each section to introduce essential skills and disciplines that fit into a coherent process for specifying, architecting and developing complex systems. With a focus on building simple, high quality elements, this course teaches your team what it needs to know to get your project done successfully and on schedule.

Build Team-Wide Competence

This course accommodates engineers with a range of experience and ability to quickly bring your entire team up to an effective level of competence in modeling.

Extensive In-Class Exercises

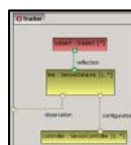
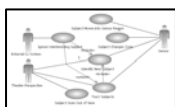
Class material is reinforced and internalized with an extensive set of in-class exercises. The team-based whiteboard efforts build actual model elements in settings closely matching real-world contexts.

Integrated Example System Provided

In-class exercises build actual elements of a complex example system. A non-trivial system with a range of components, this example is sufficiently challenging to illuminate the utility of each modeling technique, but is still simple enough to grasp within the class context. Available in a range of modeling environments as a complete SysML model, the example system is a valuable resource during the class and afterwards.

On-Site Classes Available

Have this training onsite at your location to reduce travel costs and inconvenience.



Substantially Improve Business Results

This class focuses on optimizing modeling efforts to efficiently meet work product consumer needs. In addition to improving system quality and overall productivity, this approach enhances the extent and effectiveness of collaboration between systems engineering and software architecture/development efforts.

Tool-Independent Methodology

Based on OMG SysML standards with a focus on logical architecture and platform independent techniques, this step-by-step approach is suitable for use with a range of modern modeling environments. An optional tool-specific module is available for hands-on instruction in building SysML models in popular tools.

Maintain Momentum with Pathfinder Systems Modeling Mentoring

Students and instructors develop a rhythm and momentum. Continue to build success with Pathfinder *Systems Modeling Mentoring*. Our experienced mentors continue to teach and guide, directly participating in your team's systems engineering efforts.

Industries & Application Domains

Fundamentals of Systems Modeling training has helped build competent modelers in a wide range of industries:

- Defense & Avionics
- Automotive
- Telecommunications
- Manufacturing and Process Control
- Consumer Electronics
- Medical Device and Instrumentation
- Office Automation

Give your team the competitive edge - contact us:

888-662-7284 • info@PathfinderSystemsModeling.com • www.PathfinderSystemsModeling.com