

# Systems Modeling Language (SysML) Training Program for Model-Based Systems Engineering (MBSE) and Model-Based Engineering (MBE)/Model-Based X (MBX)

Georgia Tech offers a complete **SysML training program for professionals** wanting to learn the latest about model-based engineering (MBE)/model-based X in general and model-based systems engineering (MBSE) in particular. This comprehensive program has two main tracks: (1) a track covering all four OMG Certified Systems Modeling Professional (OCSMP) certification levels, and (2) a track covering project-focused patterns/anti-patterns, recommended practices, and more. The instructors are subject matter experts who have conducted these short courses for numerous organizations, **training over 8700 professionals** since August 2008. Their distinctions include being involved in OMG SysML™ development from the beginning, being OCSMP exam authors, conducting leading-edge R&D and MBE/MBSE deployment consulting, authoring leading SysML books, and serving as leaders in multiple INCOSE & OMG initiatives.

## Instruction Team

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## Course Administrator

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## Participant Feedback

*"I thoroughly enjoyed the course."* — Senior Systems Engineer, Ft Worth TX. *"Fun class – I especially liked the hands-on exercises and [the rover] project."* — Lead Systems Engineer, Pasadena CA. *"I enjoyed the class, and I'm finding application for it immediately here. Good practical stuff!"* — Software Design Engineer, Dayton OH. *"GREAT course!! Learned a lot and had fun."* — Lab Director, Huntsville AL. *"Very informative."* — Test Engineer, Pasadena CA. *"I really enjoyed this course ... you were able to answer all questions very effectively."* — Project Lead, Albuquerque NM.

## SysML/MBSE/MBX Certificate Program

Are you looking for a model-centric professional education certificate program? Contact us for specifics!

## Course Overviews

The following SysML 101/201 courses focus on OCSMP Levels 1 & 2 concepts and include other items essential for a well-rounded MBSE/MBX practitioner.

**2023 Offerings: SysML 101/201 BLS, SysML 621, at Your Location**  
*Aug-Sept Online      May-Jun Online      Contact Us (popular option)*

**SysML 101 – Essentials for Understanding SysML Models** covers all nine SysML diagram types in a quick and easy-to-learn format. A consistent system modeling example is presented throughout the course to better learn how SysML concepts and diagrams work together. We cover these concepts in a tool-independent manner with a focus on how to interpret SysML models.

### Benefits:

- Recognize the various types of SysML diagrams and understand their essential constructs.
- Apply this knowledge in your day-to-day work.
- Describe how SysML fits with MBSE/MBX & related technologies (CAD/E/M, PLM, DoDAF/UPDM, UML), how it supports systems engineering processes, and what you can do with a SysML model.
- Discover the benefits and costs of a SysML-based MBSE/MBX approach.
- Gain know-how for deploying SysML technology in your organization.

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**SysML 201 – Hands-On Essentials for Creating SysML Models** is a hands-on course where participants learn to implement SysML concepts using a representative tool. These skills are reinforced by *doing useful things with your SysML models*—not just building them for the sake of documentation. For example, exercises include (i) employing SysML parametrics to perform calculations on system properties and verify requirements, (ii) utilizing SysML activities to operate a mobile robot during a team-based capstone project competition, and (iii) working on a single model concurrently with other participants in a collaborative repository environment. Participants work through structured tutorial modules in class to jump-start and expand their SysML model creation know-how.

**Benefits:**

- Create models in a SysML tool that include the diagrams and constructs learned in SysML 101.
- Develop SysML activity models that are executable (e.g., to test and operate live systems).
- Construct SysML models that contain calculations and execute parametric simulations.
- Experience model-based acquisition/RFP response in a mini-capstone team project.
- Verify system requirements (e.g., based on simulation results); auto-generate traceability matrices.
- Gain exposure to SysML-based trade studies and executable architectures.
- Learn the benefits of model-based wiki technology and generating documents automatically from system models.
- Describe the benefits and costs of implementing SysML models in a real SysML tool (versus simply sketching SysML diagrams in a drawing tool).

**Delivery Modes**

These courses are offered live in onsite (your site), offsite (our site), and online/virtual modes (hybrid as well as blended live/self-paced - BLS).

**Your Sites:** The courses can be delivered at your sites and tailored to your needs. Contact us for specifics.

**Our Sites:** These courses are offered in Atlanta and other sites on an open enrollment basis via Georgia Tech’s Professional Education division. Follow these links for registration, pricing, and other specifics:

- [www.pslm.gatech.edu/courses/sysml101](http://www.pslm.gatech.edu/courses/sysml101)
- [www.pslm.gatech.edu/courses/sysml201](http://www.pslm.gatech.edu/courses/sysml201)

**Blended Live/Self-Paced (BLS) Online:** The above courses are also offered in a blended live mode via webcon sessions, self-paced video lectures, and self-study materials. *New cohorts are forming regularly.*

**Related Research Projects and Applications by Georgia Tech**

See [www.asdl.gatech.edu](http://www.asdl.gatech.edu) for project overviews, publications, prototypes, and other resources. Capabilities include the following (ranging from research/demo projects to deployment advisement):

- Modeling & simulation tools for SysML & related technologies (CAD/E/M, PLM/PDM, DoDAF/UPDM/UAF, UML, ...).
- Support to help you deploy MBSE/MBX, SysML, and related technologies in your organization (e.g., as done to help multiple organizations start and/or extend their internal MBSE/MBX initiatives).

**Related Links**

- OMG SysML website – [www.omg-system.org](http://www.omg-system.org)
- OCSMP Certification – [www.omg.org/ocsm](http://www.omg.org/ocsm)

**Also Available**

- Additional SysML courses: SysML 301, 305, 401, 405
- MBSE project courses (including intermediate-level modeling concepts): **SysML 621/631, SysML 642/643**
- Additional OCSMP preparation & practice exams
- Customized courses

Contact us for specifics.

