

SysML MODEL BUILDER FUNDAMENTAL EXAM

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Accommodations

For learning or physical disability exam accommodations, please contact certification@omg.org.



Languages

English & [Japanese](#). Use of translation apps during the exam is prohibited.



Cancellations/Refunds

An exam may be cancelled >24 hours prior to its scheduled date via [Pearson VUE](#) for a full refund or the exam price will be forfeited.



Passing Score

>=60/90 correct answers
or >=67% correct answers



Duration

105 mins in native English-speaking countries. 135 mins in all others.
Note: Extra time confirmed via email following exam order completion.



Prerequisites

Passing score on SysML Model User exam.



Fee

US\$350 + taxes
(regional currency equivalent and taxes)



Technical Issues

Contact [Pearson VUE Customer Service](#). Make sure to perform a [System Test](#) on your computer before scheduling an online exam.



Format

Multiple choice
(text and images)



Validity

Certifications expire 3 years after exam date. Take the same or higher level exam to extend certification validity.

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STANDARD COVERED

- [System Modeling Language \(SysML\) v1.2](#)

RECOMMENDED STUDY MATERIALS

- **A Practical Guide to SysML: The Systems Modeling Language, 3rd Edition (Friedenthal, Moore and Steiner)**: Chapters 3 (Getting Started with SysML) and 4 (An Automobile Example Using the SysML Basic Feature Set). *Authors contributed to the standard and exam.
- **Systems Engineering with SysML/UML: Modeling, Analysis, Design (Weilkiens)**: *Authors contributed to the standard.
- **SysML Distilled: A Brief Guide to the Systems Modeling Language (Delligatti)**
- **SysML for Systems Engineering (Perry)**: *Authors contributed to the standard.
- [The OMG SysML Tutorial](#)
- [Simulation-Based Design Using SysML: Part 1: A Parametrics Primer \(Peak\)](#)
- [MBSE Practices in Telescope Modeling \(Weilkiens\)](#)
- [Hybrid SUV Example \(SysML v1.2\)](#)
- [Cookbook for MBSE with SysML](#)
- [SysML Notations and Conventions](#)
- [Model-Based Systems Engineering \(MBSE\) with the Systems Modeling Language \(SysML\) \(Wolfram\)](#)

SysML MODEL BUILDER FUNDAMENTAL EXAM

57%	MODELING STRUCTURE AND BEHAVIOR Building a Behavioral Model Using the Basic Set of SysML Constructs (24%): How system behavior is captured in the model. Building an activity diagram using the basic set of SysML constructs. Building a sequence diagram using the basic set of SysML constructs. Building a state machine diagram using the basic set of SysML constructs. Building a Structural Model Using the Basic Set of SysML Constructs (23%): How system structure is captured in the model. Building the block definition diagram. Building the internal block diagram. Building a Parametric Model Using the Basic Set of SysML Constructs (10%): How system analyses are captured using constraints in the model. Defining constraints on a block definition diagram. Building the parametric diagram using the basic set of SysML constructs.
19%	THE MODEL Model Concepts (10%): What is a model? Relationship between model and diagram. Organizing a System Model Using the Basic Set of SysML Constructs (9%): Building the model hierarchy. Building a package diagram using the basic set of SysML constructs.
16%	MODELING REQUIREMENTS Building a Requirements Model Using the Basic Set of SysML Constructs: How system requirements are captured in the model. Building a requirements diagram using the basic set of SysML constructs. Requirements relationships to other model elements. Representing requirements in tables and matrixes. Building a use case model using the basic set of SysML constructs.
8%	CAPABILITIES AND FEATURES Allocation Relationships (4%): Allocation Relationships Customizing a model (4%): Applying a stereotype (but not creation of profiles or stereotypes).