OMG Standards Development Organization

SYSML MODEL BUILDER FUNDAMENTAL EXAM

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

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Duration

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

Fee

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

Format

Multiple choice
(text and images)

Languages

English & Japanese. Use of translation apps during the exam is prohibited.

Passing Score

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

Prerequisites

Passing score on SysML Model User exam.

Technical Issues

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

Validity

Certifications expire 5 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) (Wolfrom)

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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).