OMG-OCSMP-MBA400 Exam Overview

Exam Number	OMG-OCSMP-MBA400
Exam Duration	105 minutes in English-speaking countries (exception: city of Quebec) and 135 minutes in all others.
Exam Fee	US$250 (or local equivalent) in English-speaking countries (exception: city of Quebec) and US$260 (or local equivalent) in all others.
Exam Type	Multiple choice (text and SysML diagrams)
Exam Pass Score	>=64 of 90 questions answered correctly (>=71%)
Exam Prerequisite(s)	Passing scores on the OCSMP Model User, Model Builder Fundamental and Model Builder Intermediate Exams.
Exam Specifications	This exam is based on **System Modeling Language (SysML) v1.2**. Use it solely as a reference. If interested, you can only view the differences between SysML v1.2 and **v1.6**.
	UML Profile for MARTE: Modeling and Analysis of Real-Time Embedded Systems v1.2: Chapters 2 (Scope), 7.1 (Scope of OMG RT/E Related Standards), 7.2 (Rationale and General Principles) and 7.3 (Approach and Structure).
	Unified Profile for DoDAF and MODAF (UPDM) v2.1.1: Figures 2.2 (UPDM Compliance Levels 0 and 1) and 2.3 (L0 and L1) and Chapters 7.1 (Introduction), 7.2 (Philosophy), 7.3 (Core Principles) and 7.6 (Important Areas of the Architecture) and 8.3 (UPDM L1) to 8.3.1.
	SysML-Modelica Transformation v1.0: Chapters 1 (Scope) and 7 (Transformation Approach), and Annexes A (Examples) and B (Justification). For more information visit the **Modelica Website**.
	Requirements Interchange Format v1.2: Chapter 1 (Scope)
	Object Constraint Language v2.4: Chapter 7 through 7.3.
Recommended Exam Study Guides	***A Practical Guide to SysML: The Systems Modeling Language, 3rd Edition*** **(Friedenthal, Moore and Steiner)**: Chapters 2.2 (Modeling Principles), 2.4 (Questions), 5 (Viewing SysML Models with Diagrams), 15 (Customizing SysML for Specific Domains), 17.3.4 (Define Logical Architecture) and 18 (Integrating SysML into A Systems Development Environment). All authors contributed to the SysML specification.
	Systems Engineering with SysML/UML: Modeling, Analysis, Design **(Weilkiens)**: Chapter 5 (Systems Engineering Profile—SYSMOD). The author contributed to the SysML specification.
Additional Reading	***Using OMG's SysML to Support Simulation*** **(Paredis & Johnson)**
	Metamodel-based UML Notations for Domain-specific Languages **(Brucker & Doser)**
	Applied Metamodeling – A Foundation for Language Driven Development **(Clark)**: Chapters 2 (Metamodelling) and 3 (A Metamodelling Facility).
	What Do Models Mean? **(Seidewitz)**
	Simulation-Based Design Using SysML: Part 1: A Parametrics Primer **(Peak)**: Four authors contributed to generating this exam.
	Simulation-Based Design Using SysML: Part 2: Celebrating Diversity by Example (Peak): Four authors contributed to generating this exam.
	All About IEE Std 1471 **(Hilliard)**: Focus on Slides 23 to 31. See **IEEE Std 1471 Webpage** for more.
	Building Bridges Between Systems and Software with SysML and UML **(Hause & Thorn)**
	MARTE, THE UML Standard Extension for Real-Time and Embedded Systems **(Gerard)**
	Introduction to UPDM **(Bleakley)**
	Model-Based System of Systems Engineering with UPDM **(Hause)**
	Integrating Models and Simulations of Continuous Dynamics into SysML **(Johnson)**
	Survey of Model-Based Systems Engineering (MBSE) Methodologies **(Estefan)**: Chapters 1 (Introduction) and 2 (Differentiating Methodologies from Processes, Methods, and Lifecycle Models).
	Systems Engineering Best Practices with the Rational Solution for Systems and Software Engineering v4.1 (Hoffmann): Chapter 2.2
	What Is Systems Engineering? (Bahill & Dean)

	Evaluating Quality in Model-Driven Engineering (Mohagheghi & Aagedal)
	Existing Model Metrics and Relations to Model Quality (Mohagheghi & Dehlen) For greater detail, read *Definitions and Approaches to Model Quality in ModelBased Software Development – A Review of Literature* (Mohagheghi & Dehlen).
Exam Voucher Program	Visit the Pearson VUE Voucher Store for a 10% discount/10 vouchers or contact certificationinfo@omg.org or call **+1-781-444-0404 Ext. 144** for a 15% discount/25 vouchers, a 20% discount/50 vouchers and a 25% discount/100+ vouchers. Vouchers can be transferred. Vouchers expire one year after purchase. Contact Pearson VUE to honor a previously purchased voucher price.
Exam Registration	Pearson VUE: create an account, locate a test center, view available tests, (re)schedule a test (online or at a test center), cancel your exam (contact Pearson VUE >=24 hours prior to exam for a full refund or you forfeit the full exam price), view exam scores and Contact Pearson VUE.
Testing Accommodations	If you have a hearing, learning, physical or visual disability you may contact us at certificationinfo@omg.org to provide instructions on testing accommodations.
Online Exam Check-In & Requirements	Visit Pearson VUE Online Proctoring for detailed info. Log in at least 30 minutes early (online verification may take 15-20 minutes). Late arrivals will not be allowed to take the exam.
Test Center Check-In & Requirements	Arrive at least 30 minutes early. Late arrivals will not be allowed to take the exam. Two forms of ID (at least one with photo and both with signature): alien registration card, bank card, credit card, employee badge, government issued, green card, military, passport, school and state ID. Do not bring any items (personal or otherwise) other than the two forms of ID to a test center. Pearson VUE Test Center Coronavirus Guidelines
Exam Languages	Offered in English. You cannot use a translating app during the exam.
Review Your Answers	Before completing the exam you will be presented with a review screen to review your answers to all questions.
Exam Score Reports	Pass or fail, you will be provided with a score report on computer screen immediately following the exam whether on-site at test center or online. A hardcopy will be provided to you before leaving test center with your score in each major section. If you fail, you can review those sections where you scored poorly to assist you when you decide to retake the exam. You can also review your exam scores via your Pearson VUE account.
Certification Kit	Those who pass the exam will receive a certification kit within 4-6 weeks of taking the exam. The kit will include a certification letter, certificate, digital certification logo download instructions, guidelines and how to opt-into the OMG Certified Professionals Directory. Certifications are associated with individuals and not companies.
Lost Certificate	Contact certificationinfo@omg.org with your full name, mailing address and candidate ID number. Shipping costs will apply.
Updating Contact Information	You must first update your contact information via your Pearson VUE account and then contact certificationinfo@omg.org to update the OMG Certified Professionals Directory.
Retaking the Exam	You can retake the exam 30 days after you last took the exam. However, an exam cannot be retaken more than 3 times within a 12-month period. The cost of a retaken exam is US$175 (or local equivalent) in English-speaking countries (exception: city of Quebec) and US$185 (or local equivalent) in all others. Contact certificationinfo@omg.org to request a discounted exam retake voucher.
Still Have Questions?	certificationinfo@omg.org

General Areas Tested in OMG-OCSMP-MBA400 Exam

CONCEPTS FOR ADAPTING SYSML INCLUDING METAMODELING, PROFILES, MODEL LIBRARIES & VIEWPOINTS	
Customizing the Language Rationale and motivations for using the different available mechanisms for extending the language. **Metamodel-based Extensions of SysML** Understanding metamodeling concepts, capabilities and limitations. **Profiles** Creating and using a profile, including defining stereotypes, their properties and constraints. **Model Libraries** Creating and using a model library. **Viewpoints** Specifying a viewpoint and using that viewpoint to support model development.	25%
INTEGRATING SYSML WITH OTHER MODELING LANGUAGES SUCH AS UML, MARTE, UPDM & MODELICA	
UML Integrating SysML and UML models to support the transition from systems to software design. **MARTE** Extending the modeling of hardware and software to real-time and embedded environments. **UPDMTM** Supporting the transition from a MoDAF or DoDAF enterprise architecture expressed using UPDM, into systems architectures using SysML. **Modelica** Preparing SysML models for analysis in Modelica-based tools.	20%
INTEGRATING SYSML MODELING TOOLS WITH OTHER TYPES OF TOOLS & TOOL SELECTION CRITERIA	
Tool Integration Approaches Integrating a SysML modeling tool with other engineering tools (e.g., requirements management, software or hardware development, model analysis, etc.). Configuring SysML models in configuration management tools including the use of the MOF versioning standard for model versioning. **Model Interchange** Understanding the reasons for performing model interchange and issues that must be considered. Understanding different interchange mechanisms. Using model interchange standards such as XMI, RIF and AP233. **Tool Selection Criteria**	20%
METHODOLOGY-RELATED CONCEPTS AND PRACTICES INCLUDING ASSESSMENT OF THE QUALITY OF THE MODEL	
Understanding all the steps of a project development from start to final design. Understanding the different aspects of a system development methodology. Choosing a system development methodology. Using OCL to state formal constraints. Assessing model quality.	35%
Total	**100%**