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Live Online OCSMP Accelerator™ SysML Training Course Syllabus

Course Title: Live Online OCSMP Accelerator™ SysML Training Course

Objectives

- Enable participants to achieve the SysML proficiency they need to create effective systems models as members of a model-based systems engineering (MBSE) team
- Prepare candidates for the *OMG Certified Systems Modeling Professional (OCSMP) Model User* (Level 1) certification exam
- Prepare candidates for the *OMG Certified Systems Modeling Professional (OCSMP) Model Builder: Fundamental* (Level 2) certification exam

Duration

- 37.5 hours (7.5 hours per day for 5 consecutive days)

Course Textbook:

- *SysML Distilled: A Brief Guide to the Systems Modeling Language*. (**Not included in course fee;** client can purchase this book from any retail bookseller.)

Training materials/equipment (electronic copies provided by Delligatti Associates):

- SysML model of the *DellSat-77 Satellite* example system from the course textbook in the MagicDraw native file format
- 95 OCSMP certification exam sample questions, covering all ten course topics
- "Elements of Definition versus Elements of Usage" study aid
- "SysML Training Resources Guide" with links to additional learning resources on the internet

Training materials/equipment (provided by Client):

- A copy of the course textbook, SysML Distilled: A Brief Guide to the Systems Modeling Language, for each course participant. (The book may be purchased from any retail bookseller such as Amazon, Barnes & Noble, and in electronic format from the publisher's online store www.informit.com)

- Computer with high-speed internet connection for each participant as the course is delivered via Microsoft Teams meeting which must be launched from within the Delligatti Associates Learning Center learning management system (LMS). (Modeling software is *not* required for this course.)

Scope of Coverage

This course consists of the following modules and agenda items:

Module	Topic	Approx. Duration
0	Housekeeping and Introduction	0.5 hr.
1	Block Definition Diagrams (Part 1)	5 hr.
2	Block Definition Diagrams (Part 2)	3 hr.
3	Internal Block Diagrams	2.25 hr.
4	Use Case Diagrams	1.75 hr.
5	Activity Diagrams (Part 1)	2.5 hr.
6	Activity Diagrams (Part 2)	3 hr.
7	Sequence Diagrams (Part 1)	2.5 hr.
8	Sequence Diagrams (Part 2)	2.75 hr.
9	State Machine Diagrams (Part 1)	2.5 hr.
10	State Machine Diagrams (Part 2)	2 hr.
11	Constraints and Parametric Diagrams	2 hr.
12	Package Diagrams	2 hr.
13	Requirements Diagrams	2 hr.
14	Allocation Relationships	1.5 hr.

Note: a lunch break of approximately 1 hour will be provided each day.

Detailed breakdown of concepts by topic:

Module 1: Block Definition Diagrams (Part 1)

Coverage: purpose of a BDD, frame of a BDD, elements of definition versus elements of usage, blocks, part properties, reference properties, value properties, constraint properties, standard ports, interfaces, nonatomic flow ports, flow specifications, flow properties, atomic flow ports, operations, receptions, signals

Module 2: Block Definition Diagrams (Part 2)

Coverage: reference associations, composite associations, generalizations, dependencies, actors, primitive value types, structured value types, enumerations, constraints, constraint blocks, comments, designing to abstractions

Module 3: Internal Block Diagrams

Coverage: purpose of an IBD, frame of an IBD, part properties, reference properties, connectors, flow ports, standard ports, port compatibility, item flows, nested properties, dot notation, encapsulation

Module 4: Use Case Diagrams

Coverage: purpose of a use case diagram, use cases, use case specifications, use cases versus scenarios, frame of a use case diagram, system boundary, actors, associations, base use cases, included use cases, extending use cases

Module 5: Activity Diagrams (Part 1)

Coverage: purpose of an activity diagram, frame of an activity diagram, activities, object tokens, control tokens, basic actions, opaque expressions, object nodes, pins, activity parameters, streaming versus nonstreaming, object flows, control flows, criteria for initiating an action

Module 6: Activity Diagrams (Part 2)

Coverage: call behavior actions, send signal actions, accept event actions, wait time actions, absolute time events, relative time events, initial nodes, activity final nodes, flow final nodes, decision nodes, merge nodes, fork nodes, join nodes, activity partitions

Module 7: Sequence Diagrams (Part 1)

Coverage: purpose of a sequence diagram, frame of a sequence diagram, interactions, lifelines, selector expressions, event occurrences, messages, message send occurrences, message receive occurrences, asynchronous messages, synchronous messages, reply messages, create messages, creation occurrences, delete messages, destruction occurrences, execution specifications, execution start occurrences, execution termination occurrences, valid traces versus invalid traces

Module 8: Sequence Diagrams (Part 2)

Coverage: time constraints, duration constraints, state invariants, combined fragments, operands, *opt* interaction operator, *alt* interaction operator, *loop* interaction operator, *par* interaction operator, interaction uses, actual gates, formal gates

Module 9: State Machine Diagrams (Part 1)

Coverage: purpose of a state machine diagram, frame of a state machine diagram, state machines, simple states, *entry* behavior, *do* behavior, *exit* behavior, composite states, substates, final states, transitions, triggers, guards, effects, self-transitions, run-to-completion step semantics, external transitions versus internal transitions

Module 10: State Machine Diagrams (Part 2)

Coverage: signal events, receptions, call events, operations, absolute time events, relative time events, change events, initial pseudostates, junction pseudostates, regions

Module 11: Constraints and Parametric Diagrams

Coverage: blocks and constraint blocks (on BDDs), purpose of a parametric diagram, frame of a parametric diagram, constraint properties, constraint parameters, value properties, nesting notation versus dot notation, binding connectors, noncausal nature of constraints

Module 12: Package Diagrams

Coverage: purpose of a package diagram, frame of a package diagram, packages, namespaces, namespace containment, crosshair notation, nesting notation, fully qualified name strings, relative qualified name strings, dependencies, package import relationships, models, model libraries, profiles, stereotypes, views, viewpoints, conform relationships

Module 13: Requirements Diagrams

Coverage: purpose of a requirements diagram, frame of a requirements diagram, requirements, containment relationships, trace relationships, derive requirement relationships, refine relationships, satisfy relationships, verify relationships, direct notation, compartment notation, callout notation, matrices, tables, rationale

Module 14: Allocation Relationships

Coverage: purposes of allocation relationships, behavioral allocations, structural allocations, requirements allocations, direct notation, compartment notation, callout notation, matrices, tables, allocation activity partitions, allocation of definition versus allocation of usage

OCSMP Certification

The course fee does not include the cost of the OCSMP certification exam. Each participant who wishes to pursue this certification after the course ends must individually schedule and pay for the exam via the Pearson Vue website. The instructor will provide information on how to register for the exam on the last day of the course.

Cost

Item	Rate
OCSMP Accelerator™ SysML Training Course, (Live Online Delivery)	**$1,550** per participant (For groups of **10** or more, you may request any open week on our training calendar. The reserved week will become available for open enrollment to fill the class to a capacity of 30 participants.)*
On-Demand OCSMP Accelerator™ SysML Training Course**	Included in the rate for the live online course

* This is not a private class. Private classes are available by request for the cost of no less than 30 participant seats.

** All participants in the live online version of the course will additionally have a one-year subscription to the on-demand version of this course to serve as a reviewable learning resource after the live course ends.

Payment Terms

- Individual seats can be purchased via credit card in our online store (https://ei194.infusionsoft.app/app/storeFront/showCategoryPage?categoryId=4).
- For purchases made by purchase order outside of the online store, Delligatti Associates will electronically submit one invoice per live online course offering to the Client. The Client will pay the invoice at the standard rate quoted above within 30 calendar days of the end date of the respective course offering. Client will remit payment on each invoice either by credit card or via ACH electronic funds transfer (EFT).

Course Completion Certificate

- Upon completion of all modules of the course, a completion certificate, valid documentation to claim recertification Professional Development Units (PDUs) for technical certifications, will be issued.

Terms and Conditions of Service

- Delligatti Associates will email a list of access codes along with instructions for learners to redeem them to the client's point of contact (POC) within one (1) business day of Delligatti Associates receiving payment.
- To complete the registration process, each participant must redeem an access code in the Delligatti Associates Learning Center learning management system (LMS).
- Access codes are valid for one (1) year from the date they are provided to the client POC. Once a learner redeems an access code, they will see their scheduled training sessions in the LMS. Learners will need to launch each daily session from within the LMS at the appropriate date and time for the scheduled course according to the enrollment instructions email which they should receive within 24 hours of redeeming their access code.
- Access to the downloadable training materials as well as the On-demand OCSMP Accelerator™ SysML Training Course will be provided to learners one week before the start of their scheduled live online class. Access to the on-demand course will end at 11:59 PM, one year from the date access is provided. No extensions will be granted.
- Access codes for the On-demand OCSMP Accelerator™ SysML Training Course cannot be traded for access codes to any other Delligatti Associates course.
- Each access code may only be redeemed once by a single named individual. Access codes are not transferrable once redeemed.
- Access codes not redeemed prior to the period of service end date will be forfeited. No refunds will be provided for unused access codes.

Training Content Terms of Use

- Delligatti Associates training content is copyright protected. Sharing, downloading, reproduction, screen capture, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or likewise of training content is strictly prohibited without explicit permission from Delligatti Associates, LLC. Learners must agree to these terms of use upon launching and prior to viewing content in the Delligatti Associates Learning Center learning management system.

- Delligatti Associates retains ownership of our training materials. The Client does not gain joint ownership of these training materials. Delligatti Associates grants paid participants of our training courses the right to use the content provided during training in their daily engineering work. Use of the training materials to provide training to others, either internally or externally, is strictly prohibited.

Refund, Rescheduling, and Cancellation Policy

- A refund for a purchased seat may be requested by email to da@delligattiassociates.com **no later than 14 calendar days prior to the training start date.**
- In the event a registered participant is unable to attend the class during the scheduled week, the participant may request to be moved to a future class or a participant substitution may be made provided an email request is sent to da@delligattiassociates.com **no later than 14 calendar days prior to the training start date.** No changes to course enrollment will be permitted thereafter.
- If a minimum capacity of ten (10) students is not met for a scheduled class, Delligatti Associates may cancel that class.
- Delligatti Associates reserves the right to cancel a scheduled class for extenuating circumstances, including but not limited to instructor illness, power or internet outages, and force of nature events such as storms, floods, fires, earthquakes, etcetera.
- Delligatti Associates will make best efforts to coordinate with any registered participants of cancelled classes to move them into a later scheduled class. If a paid participant finds no alternative class dates acceptable, Delligatti Associates will offer the paid participant a full refund.