Curriculum for

Certified Professional for Software Architecture (CPSA)®
Advanced Level

Module
SWARC4AI

Software Architecture for AI Systems

2024.1-RC2-EN-20241030

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Introduction: General information about the iSAQB Advanced Level

What is taught in an Advanced Level module?

- The iSAQB Advanced Level offers modular training in three areas of competence with flexibly designable training paths. It takes individual inclinations and priorities into account.
- The certification is done as an assignment. The assessment and oral exam is conducted by experts appointed by the iSAQB.

What can Advanced Level (CPSA-A) graduates do?

CPSA-A graduates can:

- Independently and methodically design medium to large IT systems
- In IT systems of medium to high criticality, assume technical and content-related responsibility
- Conceptualize, design, and document actions to achieve quality requirements and support development teams in the implementation of these actions
- Control and execute architecture-relevant communication in medium to large development teams

Requirements for CPSA-A certification

- Successful training and certification as a Certified Professional for Software Architecture, Foundation Level® (CPSA-F)
- At least three years of full-time professional experience in the IT sector; collaboration on the design and development of at least two different IT systems
  - Exceptions are allowed on application (e.g., collaboration on open source projects)
- Training and further education within the scope of iSAQB Advanced Level training courses with a minimum of 70 credit points from at least three different areas of competence
- Successful completion of the CPSA-A certification exam

Essentials

What does the module “SWARC4AI” convey?

The module presents SWARC4AI to the participants … At the end of the module, the participants know … and are able to …

Curriculum Structure and Recommended Durations

Content	Recommended minimum duration (minutes)
1. Introduction	180
2. xz	150
3. Lots of theory	120
4. xy and example	180
5. abc und d	210
6. Final example	120
Total	960 (16h)

Duration, Teaching Method and Further Details

The times stated below are recommendations. The duration of a training course on the SWARC4AI module should be at least 3 days, but may be longer. Providers may differ in terms of duration, teaching method, type and structure of the exercises, and the detailed course structure. In particular, the curriculum provides no specifications on the nature of the examples and exercises.

Licensed training courses for the SWARC4AI module contribute the following credit points towards admission to the final Advanced Level certification exam:

Methodical Competence:	10 Points
Technical Competence:	20 Points
Communicative Competence:	0 Points

Prerequisites

Participants **should** have the following prerequisite knowledge:

- Prerequisite 1
- Prerequisite 2, etc.

Knowledge in the following areas may be **helpful** for understanding some concepts:

- Area 1:
  - Knowledge 1
  - Experience 2
  - Knowledge 3

- Experience 4
- Understanding 5

Structure of the Curriculum

The individual sections of the curriculum are described according to the following structure:

- **Terms/principles**: Essential core terms of this topic.
- **Teaching/practice time**: Defines the minimum amount of teaching and practice time that must be spent on this topic or its practice in an accredited training course.
- **Learning goals**: Describes the content to be conveyed including its core terms and principles.

This section therefore also outlines the skills to be acquired in corresponding training courses.

Supplementary Information, Terms, Translations

To the extent necessary for understanding the curriculum, we have added definitions of technical terms to the iSAQB glossary and complemented them by references to (translated) literature.

1. This is the First Module's Title

Duration: XXX min	Practice time: XXX min

1.1. Terms and Principles

Term 1, Term 2, Term 3

1.2. Learning Goals

LG 1-1: The is the first learning goal, in category xy

tbd.

1.3. References

[Roser 2022], [Burkov 2019], [Géron 2022], [Kelleher 2015], [Vaughan 2020], [Bahree 2024], [Harvard et al. 2024], [Dell'Acqua 2022], [Visengeriyeva], [Visengeriyeva], [Agrawal et al.], [Tan et al.], [Chong et al.], [Hall et al. 2023], [Huyen 2022], [Wang et al. 2024]

2. Here’s the Title of the Second Lesson

Duration: XXX min	Practice time: XXX min

2.1. Terms and Principles

Term 1, Term 2, Term 3

2.2. Learning Goals

LG 2-1: TBD

tbd.

LG 2-2: TBD

tbd.

2.3. References

[Engler et al.], [Nist], [Hall et al. 2023], [Masood et al. 2023], [CSIRO et al. 2023], [Pruksachatkun et al. 2023], [Chen et al. 2022], [ATLAS], [Visengeriyeva], [EU AI Act], [Hotz], [Bhajaria 2022], [Jarmul 2023], [Molnar 2024]

3. The Third Module's Title

Duration: XXX min	Practice time: XXX min

3.1. Terms and Principles

Term 1, Term 2, Term 3

3.2. Learning Goals

LG 3-1: TBD

tbd.

LG 3-2: TBD

tbd.

3.3. References

[TU Berlin], [Bornstein et al.], [Crowe et al. 2024], [Lakshmanan et al.], [Alake], [Lakshmanan et al.], [Lakshmanan et al.], [Koc], [Cdteliot], [Visengeriyeva], [Zaharia et al.], [Savarese], [tdcox], [Studer et al.], [Hotz], [Hotz], [Saltz], [Serban], [Heiland et al. 2023], [Nahar et al.], [ML software architecture],

4. Fourth Module, This is its Title

Duration: XXX min	Practice time: XXX min

4.1. Terms and Principles

Term 1, Term 2, Term 3

4.2. Learning Goals

LG 4-1: TBD

tbd.

LG 4-2: TBD

tbd.

4.3. References

[Sarkis], [Serra], [Dehghani], [Reis et al.], [Bornstein et al.], [Ford et al.], [Bhajaria 2022], [Sanderson et al.], [Jones]

5. And This is Module no 5

Duration: XXX min	Practice time: XXX min

5.1. Terms and Principles

Term 1, Term 2, Term 3

5.2. Learning Goals

LG 5-1: TBD

tbd.

LG 5-2: TBD

tbd.

5.3. References

[Chen et al. 2022], [Treveil et al. 2020], [Haviv et al. 2023], [Osipov 2022], [Tan Wei Hao et al. 2024], [Wilson 2022], [Salama et al.], [Kumara et al.]

6. And This is Module no 6

Duration: XXX min	Practice time: XXX min

6.1. Terms and Principles

Term 1, Term 2, Term 3

6.2. Learning Goals

6.3. References

[Koc], [Dibia 2025], [Gradient Flow], [bornstein-radovanic], [Bahree 2024], [Spirin et al.], [Foster 2023], [Parnin]

7. And This is Module no 7

Duration: XXX min	Practice time: XXX min

7.1. Terms and Principles

Term 1, Term 2, Term 3

7.2. Learning Goals

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