TOGAF® Certification for People

Conformance Requirements
(Multi-Level)

December 2011
Version 2.0

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TOGAF® Certification for People: Conformance Requirements (Multi-Level), Version 2.0

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Contents

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1. BACKGROUND

1.1 Introduction

The Open Group TOGAF Certification Program for People (the Program) is intended to make certification available to people who have knowledge and understanding of TOGAF Version 9.

The Program is not intended to validate the ability of Candidates to use TOGAF effectively in practice, nor to determine whether Candidates are competent IT or Enterprise Architects.

The Program is intended to evolve to address subsequent versions of TOGAF that The Open Group may publish from time to time.

The Program is designed with the following attributes:

Openness	The Program is open to applicants from all countries, although materials and examinations will initially be available only in English.
Fairness	Certification is achieved only by passing an examination that is the same as that taken by any other Candidate. Candidates may choose whatever training or self-study they believe matches their needs in preparation for certification.
Market Relevance	The Program is structured to meet the perceived needs of the market for conversion from TOGAF 8 as well as for people without prior TOGAF Certification, and for certification at multiple levels (initially two). Additional levels may be introduced during the life of the Program, as may updated versions of TOGAF.
Learning Support	Training courses are provided by third parties, according the needs of the market.
Quality	Training course providers may choose to seek Open Group accreditation for their courses. Accredited courses are listed on The Open Group web site. Only accredited courses may use The Open Group logo and include the TOGAF examinations within the course.
Best Practice	The Program is designed to comply with ISO/IEC 17024:2003, Conformity Assessment – General Requirements for Bodies Operating Certification of Persons. The IAF Guidance Document for ISO/IEC 17024[1] has also been used to assist in the development of the Program.
Community	The Association of Enterprise Architects (AEA) is an online community that provides support and resources to both practicing and aspiring Architects, as well as for those seeking TOGAF and ITAC Certification.

TOGAF Certification may be achieved directly through The Open Group, by passing The Open Group TOGAF 9 examination (or by passing the TOGAF 8 to TOGAF 9 bridge examination if already TOGAF

[1] Guidance on the Application of ISO/IEC 17024:2003 (IAF GD 24 2004), published by the International Accreditation Forum, Inc. (www.iaf.nu). This document provides guidance to certification bodies seeking accreditation to ISO/IEC 17024, and enables accreditation bodies to harmonize their application of the standards against which they assess certification bodies.

8 Certified). These examinations are available in test centers operated worldwide by The Open Group Examination Provider. In preparing for these examinations, applicants are free to acquire their knowledge of TOGAF by self-study or by attending a course of their choosing.

Certification may also be achieved by passing the examination as part of an Accredited TOGAF Training Course (ATTC). ATTC Providers may either offer the examination themselves, or refer their students to a test center operated by The Open Group Examination Provider.

The Conformance Requirements for TOGAF Certification apply equally to both routes to certification.

The Program is based upon a set of key documents:

1. The *Certification Policy*, which sets out the policies and processes by which a Candidate may achieve certification.
2. The *Conformance Requirements* (this document), which documents the body of knowledge that a Candidate must possess to achieve certification.
3. The *Accreditation Policy*, which sets out the policies and processes by which a training course may achieve accreditation.
4. The *Accreditation Requirements*, which documents the criteria that must be met by an Accredited TOGAF Training Course (ATTC).

1.2 Levels of Certification

The Program currently recognizes two levels of certification.

1.2.1 Level 1

Purpose	Target Audience
The purpose of certification to TOGAF Level 1 is to provide validation that the Candidate has gained knowledge of the terminology, structure, and basic concepts of TOGAF 9, and understands the core principles of Enterprise Architecture and TOGAF. The learning objectives at this level focus on knowledge and comprehension.	The target audience for Level 1 includes but is not limited to: • Individuals who require a basic understanding of TOGAF 9 • Professionals who are working in roles associated with an architecture project such as those responsible for planning, execution, development, delivery, and operation • Architects who are looking for a first introduction to TOGAF 9 • Architects who want to achieve Level 2 certification in a stepwise approach

1.2.2 Level 2

Purpose	Target Audience
The purpose of certification to Level 2 is to provide validation that in addition to the knowledge and comprehension of Level 1,[2] the Candidate is able to analyze and apply this knowledge. The learning objectives at this level focus on application and analysis, in addition to knowledge and comprehension.	The target audience for Level 2 includes but is not limited to: • Individuals who require a deeper understanding of TOGAF 9 • Professionals who are working in an organization where TOGAF 9 has been adopted and who need to participate in architecture projects and initiatives • Architects who will be responsible for developing architecture artifacts • Architects who wish to introduce TOGAF 9 into an architecture practice • Architects who want to achieve a recognized qualification to demonstrate their detailed knowledge of TOGAF 9

1.3 Migration

TOGAF 8 Certification for individuals is an active and continuing program.

TOGAF 9 Certification for People is available to new Candidates and to people already certified for TOGAF 8.

Candidates for TOGAF 9 Certification who have been TOGAF 8 Certified in the past may certify to TOGAF 9 Level 2 by passing a bridge examination provided through The Open Group Examination Provider, or by successful completion of other means of assessment as approved by The Open Group from time to time.

1.4 Program Logo

Those certified within the Program are able to use an Open Group logo on their business cards, in proposals, in marketing materials, etc. In accordance with the Trademark License Agreement (TMLA) and Trademark Usage Guide, the logo requires the use of a label (tag line) indicating the level of certification achieved.

The labels for the two levels are as follows:

Level	Label
2	TOGAF 9 Certified
1	TOGAF 9 Foundation

[2] Level 2 is a superset of the learning objectives of Level 1.

1.5 Terminology and Definitions

This table defines terms or clarifies the meaning of words used within this document. Where an acronym is also used, it is provided in parentheses.

Accredited TOGAF Training Course (ATTC)	A training course, operated by a third party, that has successfully completed the accreditation process and which is listed in the register of Accredited TOGAF Training Courses (ATTCs) on the Certification Authority's web site.
Candidate	A person seeking TOGAF Certification at Level 1 or Level 2.
Certification Authority (CA)	The organization that manages the day-to-day operations of the Program in accordance with the policies defined in this document. The Open Group acts as the Certification Authority for TOGAF Certification.
Certification Record	The information identifying the Candidate, including contact details, and describing the way in which the Candidate meets the Conformance Requirements, including the Candidate's level of certification. The Certification Record of a Certified Person is made available by the Certification Authority at the discretion of the Certified Person.
Certification System Deficiency (CSD)	An agreed error in the Certification System that is inhibiting the certification process. A Certification System Deficiency is one possible outcome of a Problem Report.
Certified Person	A Candidate who has successfully completed the certification process, accepted the Trademark License Agreement (TMLA), and who has been notified in writing by the Certification Authority that the certification requirements have been met.
Examination Provider	The organization contracted by The Open Group to provide and administer The Open Group TOGAF examinations.
Interpretation (INT)	Decision made by the Specification Authority that elaborates or refines the meaning of the Conformance Requirements, Certification Policy, Accreditation Requirements, Accreditation Policy, or a standard or best practice referenced therein. An Interpretation is one possible outcome of a Problem Report.
Key Learning Point (KLP)	A self-contained learning object, typically ranging from 2 to 15 minutes. The TOGAF 9 Knowledge Base is defined as a set of Key Learning Points (KLPs) on a section-by-section basis.
Learning Outcome	What the Candidate should know, understand, or be able to do on completion of one or more Learning Units.
Learning Unit	A related set of Key Learning Points (KLPs) derived from the TOGAF 9 Knowledge Base (see Section 7). It is expected that a Learning Unit would equate to between 30 and 90 minutes of taught learning equivalence.
Problem Report (PR)	A question of clarification, intent, or correctness of an accreditation or certification document, or the web-based Certification System.
Program Logo	The logo or other trademarks as designated from time to time by The Open Group for use within the Program in relation to Certified Persons in accordance with the terms of the Trademark License Agreement (TMLA).
Specification Authority (SA)	The Open Group Architecture Forum, or its successor, which is responsible for developing, maintaining, and interpreting the Certification Policy, Conformance Requirements, Accreditation Policy, and Accreditation Requirements of the Program.

TOGAF Certification Directory	The official list of all Certified Persons, which is maintained by the Certification Authority and made publicly available on the Certification Authority's web site.
Trademark License Agreement (TMLA)	The agreement between the Certified Person and The Open Group that contains the legal commitment by the Candidate to the terms and conditions of the Program and for use of the Program Logo.

2. CONFORMANCE TERMINOLOGY

The Conformance Requirements by certification level are specified as sets of Learning Units. To achieve certification for a given level, Candidates must complete the applicable Learning Units and successfully pass the corresponding Indicator of Compliance (see Section 6).

The definition of the Learning Units does not dictate the structure, order, or time duration that topics should be taught in an Accredited TOGAF Training Course (ATTC). Training organizations are free to structure their courses as they see fit, so long as Candidates have the mandatory Learning Outcomes at the end of a course for the target certification level.

2.1 Learning Unit Format

Each Learning Unit is defined in a table organized as follows:

Unit Name: A descriptive name for the Learning Unit.

Purpose: A succinct statement of the purpose of the Learning Unit, including a high-level learning outcome.

KLP Reference: A reference back to the Key Learning Point (KLP) reference in the specification, as detailed in Section 7. **This is required for traceability.**

Candidate Learning Outcome Statement: A statement of what the Candidate is expected to have learned by completing the Learning Unit. A specific term is used to define the depth of learning, from low to high as follows:

- **Identify** – name one or more items.
- **List** – name multiple items.
- **Understand** – an understanding of the concept or item.
- **Define** – provide a definition of a term.
- **Demonstrate** – describe and explain a concept or term.
- **Describe/State** – provide a description of or statement for a concept or item; give a factual statement.
- **Explain** – provide a description with a rationale.
- **Discuss** – the ability to write logically about a topic.
- **Justify** – demonstrate the correctness of an assertion through a written discussion.

3. LEVEL 1 CONFORMANCE REQUIREMENTS

To achieve certification to Level 1 Candidates must complete all Learning Units defined in Section 3.1 and successfully pass the corresponding Indicator of Compliance for Level 1 certification (see Section 6).

3.1 Level 1 Syllabus

3.1.1 Basic Concepts

UNIT 1	Basic Concepts
Purpose	The purpose of this Learning Unit is to introduce the basic concepts of Enterprise Architecture and TOGAF.
KLP Reference	1-*, 2-*
Learning Outcome	The Candidate must be able to: 1. Describe what an enterprise is (KLP 1.2-1) 2. Explain the purpose of an enterprise architecture (KLP 1.2-2) 3. List the business benefits of having an enterprise architecture (KLP 1.2-3) 4. Define what an Architecture Framework is (KLP 1.2-4) 5. Explain why TOGAF is suitable as a framework for enterprise architecture (KLP 1.2-5) 6. Describe the structure of TOGAF, and briefly explain the contents of each of the parts (KLP 1.1-1, 1.1-2) 7. Briefly explain what TOGAF is (KLP 2.1-1) 8. Explain what architecture is in the context of TOGAF (KLP 2.2-1) 9. List the different types of architecture that TOGAF deals with (KLP 2.3-1)

3.1.2 Core Concepts

UNIT 2	Core Concepts
Purpose	The purpose of this Learning Unit is to help the Candidate explain the core concepts of TOGAF.
KLP Reference	2-*
Learning Outcome	The Candidate must be able to define and explain the following core concepts: 1. The ADM: phase names and the purpose of each phase (high-level) (KLP 2.4-1) 2. The Architecture Content Framework: deliverables, artifacts, and building blocks (KLP 2.5-1, KLP 31.1-1) 3. The Enterprise Continuum (KLP 2.6-1) 4. The Architecture Repository (KLP 2.7-1) 5. How to establish and maintain an enterprise Architecture Capability (KLP 2.8-1) 6. Establishing the Architecture Capability as an operational entity (KLP 2.9-1) 7. How to use TOGAF with other frameworks (KLP 2.10-1)

3.1.3 General Definitions

UNIT 3	General Definitions
Purpose	The purpose of this Learning Unit is to help the Candidate understand the key terminology of TOGAF.
KLP Reference	3-*

UNIT 3	General Definitions
Learning Outcome	The Candidate must be able to understand and explain the following definitions from Chapter 3: 1. Application (KLP 3.4-1) 2. Application Architecture (KLP 3.5-1) 3. Architecture (KLP 3.9-1) 4. Architecture Building Block (ABB) (KLP 3.10-1) 5. Architecture Development Method (ADM) (KLP 3.12-1) 6. Architecture Domain (KLP 3.13-1) 7. Architecture Framework (KLP 3.14-1) 8. Architecture Principles (KLP 3.17-1) 9. Architecture Vision (KLP 3.19-1) 10. Baseline (KLP 3.21-1) 11. Building Block (KLP 3.24-1) 12. Business Architecture (KLP 3.25-1) 13. Business Governance (KLP 3.28-1) 14. Capability (KLP 3.30-1) 15. Concerns (KLP 3.34-1) 16. Constraint (KLP 3.35-1) 17. Data Architecture (KLP 3.36-1) 18. Deliverable (KLP 3.37-1) 19. Enterprise (KLP 3.38-1) 20. Foundation Architecture (KLP 3.42-1) 21. Gap (KLP 3.44-1) 22. Governance (KLP 3.45-1) 23. Information (KLP 3.46-1) 24. Information Technology (IT) (KLP 3.47-1) 25. Logical (KLP 3.50-1) 26. Metadata (KLP 3.51-1) 27. Metamodel (KLP 3.52-1) 28. Method (KLP 3.53-1) 29. Methodology (KLP 3.54-1) 30. Model (KLP 3.55-1) 31. Modeling (KLP 3.56-1) 32. Objective (KLP 3.57-1) 33. Physical (KLP 3.61-1) 34. Reference Model (RM) (KLP 3.66-1) 35. Repository (KLP 3.67-1) 36. Requirement (KLP 3.68-1) 37. Solution Architecture (KLP 3.77-1) 38. Solution Building Block (SBB) (KLP 3.78-1) 39. Stakeholder (KLP 3.80-1) 40. Strategic Architecture (KLP 3.82-1) 41. Target Architecture (KLP 3.83-1) 42. Technology Architecture (KLP 3.86-1) 43. Transition Architecture (KLP 3.87-1) 44. View (KLP 3.88-1) 45. Viewpoint (KLP 3.89-1) Note: It is expected that these definitions would be covered as part of the learning in other units.

3.1.4 Introduction to the ADM

UNIT 4	Introduction to the ADM
Purpose	The purpose of this Learning Unit is to help the Candidate understand the ADM cycle, briefly explain the objective of each phase in the cycle, and how to adapt and scope the ADM for use.
KLP Reference	2-*, 5-*
Learning Outcome	The Candidate must be able to: 1. Briefly describe the ADM cycle, its phases, and the objective of each phase (KLP 2.4-1, 5.2.2-1, -2, -3) 2. Describe a typical set of steps, such as those for Phases B, C, and D (KLP 5.2.2-2) 3. Describe the versioning convention for deliverables used in Phases A to D (KLP 5.2.2-3) 4. Briefly describe the relationship between the ADM and other parts of TOGAF (Enterprise Continuum, Architecture Repository, Foundation Architecture, Supporting Guidelines and Techniques) (KLP 5.1-1) 5. Explain the purpose of the supporting guidelines and techniques, and the difference between guidelines and techniques (KLP 5.1-2) 6. Briefly describe the key points of the ADM cycle (KLP 5.2.1-1) 7. List the main reasons why you would need to adapt the ADM (KLP 5.3-1) 8. Explain the need for the ADM process to be governed (KLP 5.4-1) 9. Describe the major information areas managed by a governance repository (KLP 5.4-2) 10. Briefly explain the reasons for scoping an architecture activity (KLP 5.5-1) 11. List the possible dimensions for limiting the scope (KLP 5.5-2) 12. Briefly explain the need for an integration framework that sits above individual architectures (KLP 5.6-1)

3.1.5 Enterprise Continuum and Tools

UNIT 5	Enterprise Continuum and Tools
Purpose	The purpose of this Learning Unit is to help the Candidate understand the concept of the Enterprise Continuum, its purpose, and constituent parts.
KLP Reference	39-*, 41-*, 42-*
Learning Outcome	The Candidate must be able to: 1. Briefly explain what the Enterprise Continuum is (KLP 39.1-1) 2. Explain how it is used in organizing and developing an architecture (KLP 39.2-1) 3. Explain how the Enterprise Continuum promotes re-use of architecture artifacts (KLP 39.2-2) 4. Describe the constituents of the Enterprise Continuum (KLP 39.3-1) 5. Explain the purpose of the Enterprise Continuum (KLP 39.3-2) 6. Explain the purpose of the Architecture Continuum (KLP 39.4-3) 7. List the stages of architecture evolution defined in the Architecture Continuum (KLP 39.4-4) 8. Explain the purpose of the Solutions Continuum (KLP 39.4-6) 9. List the stages of architecture evolution defined in the Solutions Continuum (KLP 39.4-7) 10. Explain the relationship between the Enterprise Continuum and the TOGAF ADM (KLP 39.5-1) 11. Describe the Architecture Repository (KLP 41-1) 12. Explain the relationship between the Enterprise Continuum and the Architecture Repository (KLP 39.1-2,41.1-2) 13. Describe the classes of information held in the Architecture Repository (KLP 41.1-2)

UNIT 5	Enterprise Continuum and Tools
	14. List the three levels of the Architecture Landscape (KLP 41.2-1) 15. Explain the purpose of the Standards Information Base within the Architecture Repository (KLP 41.4-1)

3.1.6 ADM Phases (Level 1)

UNIT 6	ADM Phases (Level 1)
Purpose	The purpose of this Learning Unit is to help the Candidate understand how each of the ADM phases contributes to the success of enterprise architecture by understanding the *objectives*, and the *approach* for each phase.
KLP Reference	6-*, 7-*,8-*,9-*,10-*,11-*,12-*,13-*,14-*,15-*,16-*,17-*
Learning Outcome	**Preliminary Phase**: The Candidate must be able to: 1. Describe the objectives of the phase (KLP 6.1-1) 2. Briefly explain the seven aspects of the approach undertaken in this phase (KLP 6.2-1): o Defining the enterprise o Identifying key drivers and elements in the organizational context o Defining the requirements for architecture work o Defining the Architecture Principles that will inform any architecture work o Defining the framework to be used o Defining the relationships between management frameworks o Evaluating the enterprise architecture maturity **Phase A**: The Candidate must be able to: 1. Describe the main objectives of the phase (KLP 7.1-1) 2. Briefly explain the two main aspects to the approach in this phase (KLP 7.2-1): o Creating the Architecture Vision o Business Scenarios **Phase B**: The Candidate must be able to: 1. Describe the main objectives of the phase (KLP 8.1-1) 2. Briefly explain the main aspects of the approach in this phase (KLP 8.2-1): o Developing the Baseline Description o Business Modeling o Using the Architecture Repository **Phase C**: The Candidate must be able to: 1. Describe the main objectives of the phase (KLP 9.1-1,10.1-1,11.1-1) 2. Briefly explain the approach recommended by TOGAF, including: o Key considerations for the Data Architecture (KLP 10.2-1) o Using the Architecture Repository (KLP 10.2-1,11.2-1) **Phase D**: The Candidate must be able to: 1. Describe the main objectives of the phase (KLP 12.1-1) 2. Briefly explain the approach to the phase (KLP 12.2-1), including: o Using the Architecture Repository **Phase E**: The Candidate must be able to: 1. Describe the main objectives of the phase (KLP 13.1-1) 2. Briefly explain the approach to the phase (KLP 13.2-1) **Phase F**: The Candidate must be able to: 1. Describe the main objectives of the phase (KLP 14.1-1) 2. Briefly explain the approach to the phase (KLP 14.2-1) **Phase G**: The Candidate must be able to: 1. Describe the main objectives of the phase (KLP 15.1-1)

UNIT 6	ADM Phases (Level 1)
	2. Briefly explain the approach to the phase (KLP 15.2-1) **Phase H**: The Candidate must be able to: 1. Describe the main objectives of the phase (KLP 16.1-1) 2. Briefly explain the approach to the phase (KLP 16.2-1), including: o Drivers for change o Enterprise architecture management process o Guidelines for maintenance *versus* architecture redesign **ADM Architecture Requirements Management**: The Candidate must be able to: 3. Briefly explain how Requirements Management fits into the ADM cycle (KLP 17.1-1) 1. Describe the nature of the Requirements Management process (KLP 17.1-2) 2. Describe the approach to Requirements Management (KLP 17.2-1)

3.1.7 ADM Guidelines and Techniques

UNIT 7	ADM Guidelines and Techniques
Purpose	The purpose of this Learning Unit is to introduce the Candidate to the ADM Guidelines and Techniques available to support application of the ADM.
KLP Reference	18-*, 23-*,26-*,27-*,29-*,30-*,31-*,32-*
Learning Outcome	The Candidate must be able to: 1. Briefly explain the contents of Part III of TOGAF 9 (KLP 18.1-1) 2. Briefly explain the need for Architecture Principles and where they are used within TOGAF (KLP 23.1-1) 3. Describe the standard template for Architecture Principles (KLP 23.3-1) 4. Explain what makes a good Architecture Principle (KLP 23.4-2) 5. Understand what a Business Scenario is and its purpose (KLP 26.1-1) 6. Explain where Business Scenarios are used within the ADM cycle (KLP 26.1-2) 7. Explain the purpose of Gap Analysis (KLP 27.2-1) 8. Describe the Gap Analysis technique (KLP 27.2-1) 9. Explain the term interoperability (KLP 29.2-1) 10. Understand the use of Interoperability Requirements within the TOGAF ADM (KLP 29.1-1) 11. Understand the Business Transformation Readiness program (KLP 30.1-2) 12. Understand where Business Transformation Readiness is used within the ADM (KLP 30.1-1) 13. Understand the characteristics of Risk Management (KLP 31.1-2) 14. Understand where Risk Management is used within the TOGAF ADM (KLP 31.1-1) 15. Understand Capability-Based Planning (KLP 32.1-1)

3.1.8 Architecture Governance (Level 1)

UNIT 8	Architecture Governance (Level 1)
Purpose	The purpose of this Learning Unit is to help the Candidate understand how Architecture Governance contributes to the Architecture Development Cycle.
KLP Reference	46-*,47-*, 48-*, 49-*, 50-*

UNIT 8	Architecture Governance (Level 1)
Learning Outcome	The Candidate must be able to: 1. Briefly explain the concept of Architecture Governance (KLP 50.1-1) 2. Describe the main concepts that make up an Architecture Governance framework (KLP 50.2-1) 3. Explain why Architecture Governance is beneficial (KLP 50.3-1) 4. Briefly explain the need for establishment of an Architecture Board (KLP 47.1-1) 5. List the responsibilities of an Architecture Board (KLP 47.2-1) 6. Briefly explain the role of Architecture Contracts (KLP 49.1-1) 7. Briefly explain the meaning of Architecture Compliance (KLP 48.2-1) 8. Briefly explain the need for Architecture Compliance (KLP 48.1-1) 9. Briefly explain the purpose of Architecture Compliance Reviews (KLP 48.3-1) 10. Briefly describe the Architecture Compliance Review process (KLP 48.4-1) 11. Briefly explain how the ADM can be used to establish an Architecture Capability (KLP 46.1-1)

3.1.9 Architecture Views, Viewpoints, and Stakeholders

UNIT 9	Architecture Views, Viewpoints, and Stakeholders
Purpose	The purpose of this Learning Unit is to help the Candidate understand the concepts of views and viewpoints, and their role in communicating with stakeholders as well as applying them to the Architecture Development Cycle.
KLP Reference	35-*
Learning Outcome	The Candidate must be able to: 1. Define and explain the following key concepts (KLP 35.1-1): o Stakeholders o Concerns o Views o Viewpoints 2. Describe a simple example of a viewpoint and view (KLP 35.1-2) 3. Discuss the relationship between stakeholders, concerns, views, and viewpoints (KLP 35.1-3) 4. Describe the view creation process (KLP 35.2-1)

3.1.10 Building Blocks

UNIT 10	Building Blocks
Purpose	The purpose of this Learning Unit is to help the Candidate understand the concept of building blocks within TOGAF.
KLP Reference	37-*, 25-*
Learning Outcome	The Candidate must be able to: 1. Define what a building block is, and explain what makes a good building block (KLP 37.2-1) 2. Explain the distinction between Architecture Building Blocks and Solution Building Blocks (KLP 37.2-2) 3. Briefly explain the use of building blocks in the ADM cycle (KLP 37.3-1) 4. Describe the characteristics of an Architecture Pattern (KLP 25.1-1)

3.1.11 ADM Deliverables

UNIT 11	ADM Deliverables
Purpose	The purpose of this Learning Unit is to help the Candidate understand key deliverables of the ADM cycle.

UNIT 11	ADM Deliverables
KLP Reference	36.1-1, KLP 36.2-1
Learning Outcome	The Candidate must be able to: 1. Briefly explain the role of architecture deliverables across the ADM cycle (KLP 36.1-1) 2. Briefly explain the purpose of the following deliverables (KLP 36.2-1): o Architecture Building Blocks o Architecture Contract o Architecture Definition Document o Architecture Principles o Architecture Repository o Architecture Requirements Specification o Architecture Roadmap o Architecture Vision o Business Principles, Business Goals, and Business Drivers o Capability Assessment o Change Request o Communications Plan o Compliance Assessment o Implementation and Migration Plan o Implementation Governance Model o Organizational Model for Enterprise Architecture o Request for Architecture Work o Requirements Impact Assessment o Solution Building Blocks o Statement of Architecture Work o Tailored Architecture Framework Note: It is expected that at least some of these deliverables would be covered as part of the learning in other units.

3.1.12 TOGAF Reference Models (Level 1)

UNIT 12	TOGAF Reference Models (Level 1)
Purpose	The purpose of this Learning Unit is to introduce the TOGAF Reference Models.
KLP Reference	43-*, 44-*
Learning Outcome	The Candidate must be able to: 1. Explain the role of the TRM as a Foundation Architecture (KLP 43.1-2, 43.3-1) 2. Describe the major characteristics of a Foundation Architecture (KLP 43.1-1) 3. Briefly explain the basic concepts of the III-RM (KLP 44.1-1) 4. Briefly explain the relationship of the III-RM to the concept of Boundaryless Information Flow (KLP 44.1-2)

3.1.13 TOGAF Certification Program

UNIT 13	TOGAF Certification Program
Purpose	The purpose of this Learning Unit is to help the Candidate understand the TOGAF Certification program.
KLP Reference	None.
Learning Outcome	The Candidate must be able to: 1. Explain the TOGAF Certification program, and distinguish between the levels for certification

4. LEVEL 2 CONFORMANCE REQUIREMENTS

To achieve certification to Level 2 Candidates must complete all Learning Units defined in Section 3.1 and Section 4.1, and successfully pass the corresponding Indicator of Compliance for Level 2 certification (see Section 6).

4.1 Level 2 Syllabus

4.1.1 Preliminary Phase

UNIT 1	Preliminary Phase
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply the Preliminary Phase in development of an enterprise architecture.
KLP Reference	6-*, 23-*, 21-3, 36.2
Learning Outcome	The Candidate must be able to: 1. Understand the inputs to the phase (KLP 6.3-1), and be able to explain the following key elements: o Architecture Frameworks o Business principles, business goals, and business drivers 2. Explain the influence of pre-existing architectural inputs on the phase (KLP 6.3-1) 3. Understand the steps (KLP 6.4-1, 6.4.3), and be able to: o Describe how to establish an enterprise architecture team and organization o Identify and establish a set of Architecture Principles for a given scenario (KLP 6.4.4-1, 23.4-1, 23.5-1) o Discuss the appropriate considerations for tailoring the framework (KLP 6.4.5-1) 4. Understand the outputs (KLP 6.5-1), and be able to explain the following key elements (KLP 36.2-2): o Architecture Principles o Architecture Governance Framework o Request for Architecture Work 5. Explain how Security Architecture influences this phase (KLP 21-3)

4.1.2 Architecture Governance (Level 2)

UNIT 2	Architecture Governance (Level 2)
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply Architecture Governance in development of an enterprise architecture.
KLP Reference	47-*, 50-*
Learning Outcome	The Candidate must be able to: 1. Explain how Architecture Governance fits within the ADM cycle 2. Discuss the key success factors for putting Architecture Governance into practice (KLP 50.3-1) 3. Discuss the factors that should be considered when setting up an Architecture Board (KLP 47.3-1) 4. Explain how to operate an Architecture Board (KLP 47.4-1) Note: There is expected to be some overlap with the Learning Unit covering Phase G.

4.1.3 Business Scenarios Technique

UNIT 3	Business Scenarios Technique
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply the Business Scenarios technique.
KLP Reference	26-*
Learning Outcome	The Candidate must be able to 1. Describe the properties of a good Business Scenario (KLP 26.3-1, KLP 26.7-1, KLP 26.9-1) 2. Explain how to develop and validate a Business Scenario (KLP 26.3-1, KLP 26.7-1, KLP 26.9-1)

4.1.4 Phase A: Architecture Vision

UNIT 4	Phase A: Architecture Vision
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply Phase A in development of an enterprise architecture.
KLP Reference	7-*; 21-4, 30-*, 31-*,36.2
Learning Outcome	The Candidate must be able to: 1. Understand the inputs to the phase (KLP 7.3-1), and be able to: o Describe the typical contents of the Architecture Repository at this point 2. Understand the steps (KLP 7.4-1), and be able to: o Describe how to identify stakeholders, their concerns, and business requirements o Explain the purpose of a Business Transformation Readiness Assessment o Describe the risk assessment approach taken in this phase 3. Understand the outputs (KLP 7.5-1), and be able to explain the following key elements including their purpose (KLP 36.2-2): o Statement of Architecture Work o Capability Assessment o Architecture Vision o Communications Plan 4. Explain the Security Architecture influences on this phase (KLP 21-4)

4.1.5 Architecture Content Framework

UNIT 5	Architecture Content Framework
Purpose	The purpose of this Learning Unit is to help the Candidate understand the TOGAF Architecture Content Framework.
KLP Reference	33-*
Learning Outcome	The Candidate must be able to: 1. Explain the purpose of the Architecture Content Framework (KLP 33.2-1) 2. Describe the main components of the Content Metamodel (KLP 33.2-1) 3. Describe the relationship between the Architecture Content Framework and the TOGAF ADM (KLP 33.3-1)

4.1.6 Stakeholder Management

UNIT 6	Stakeholder Management
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply the Stakeholder Management technique.
KLP Reference	35-*; 24-*

UNIT 6	Stakeholder Management
Learning Outcome	The Candidate must be able to: 1. Describe the steps in developing a Stakeholder Map (KLP 24-1, 24-2, 24-3, 24-4) 2. Explain the benefits of creating views (KLP 35.2-1) 3. For three example views provided by TOGAF in Chapter 35 (Sections 35.7 ….) (KLP 35.1-3): o Describe the stakeholders and their concerns o Use the example Stakeholder Map (in Section 24.4) provided by TOGAF as a guideline to identify stakeholders

4.1.7 TOGAF Content Metamodel

UNIT 7	TOGAF Content Metamodel
Purpose	The purpose of this Learning Unit is to help the Candidate understand the TOGAF Content Metamodel.
KLP Reference	34.1-*, 34.2-*
Learning Outcome	The Candidate must be able to: 1. Describe the core metamodel concepts (KLP 34.2-1) 2. Explain the purpose of dividing the metamodel into core and extensions (KLP 34.2-1) 3. Describe the key concepts related to the core metamodel entities (KLP 34.2-3)

4.1.8 Architecture Implementation Support Techniques

UNIT 8	Architecture Implementation Support Techniques
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply different techniques that will assist with the implementation of the architectures defined in the coming phases.
KLP Reference	7-2, 7-3, 29-* ; 30-*; 32-*
Learning Outcome	The Candidate must be able to: 1. Explain how to reconcile Interoperability Requirements with potential solutions (KLP 29.6-1) 2. Explain the factors that influence Business Transformation Readiness (KLP 30.2-1) 3. Explain how to determine requirements for risk assessments (KLP 31.4-1) 4. Explain how Capability-Based Planning is applied in an enterprise architecture context (KLP 32.4-2) Note: There is expected to be some overlap with the Phase A Learning Unit.

4.1.9 Phase B: Business Architecture

UNIT 9	Phase B: Business Architecture
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply Phase B in development of an enterprise architecture.
KLP Reference	8-*; 21-5, 27-*

UNIT 9	Phase B: Business Architecture
Learning Outcome	The Candidate must be able to: 1. Understand the inputs to the phase (KLP 8.3-1), and explain the following key elements: o Business principles, business goals, and business drivers 2. Understand the steps (KLP 8.4-1), and be able to: o Describe three techniques for business modeling o Explain the considerations for selecting reference models, viewpoints, and tools (KLP 8.4.1-1) o Explain the technique of Gap Analysis (KLP 27.1, 27.2) 3. Explain how building blocks are used in the development of the Business Architecture (KLP 8.4-1) 4. Understand the outputs (KLP 8.5-1), and be able to explain the following key elements: o Business Architecture components of the Architecture Definition Document o Business Architecture components of the Architecture Requirements Specification 5. Explain the Security Architecture influences on this phase (KLP 21-5)

4.1.10 Phase C: Information Systems Architectures – Data Architecture

UNIT 10	Phase C: Information Systems Architectures – Data Architecture
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply Phase C (Data Architecture) in development of an enterprise architecture.
KLP Reference	10-*; 21-6
Learning Outcome	The Candidate must be able to: 1. Explain the considerations for the implementation order of the Data and Application Architectures (KLP 9.2) 2. Understand the inputs to the phase (KLP 10.3-1), and explain the following key elements: o Data Principles 3. Understand the steps (KLP 10.4-1), and be able to: o Explain the considerations for selecting reference models, viewpoints, and tools 4. Understand the outputs (KLP 10.5-1), and be able to explain the following key elements: o Data Architecture components of the Architecture Definition Document o Data Architecture components of the Architecture Requirements Specification 5. Explain the Security Architecture influences on this phase (KLP 21-6)

4.1.11 Phase C: Information Systems Architectures – Application Architecture

UNIT 11	Phase C: Information Systems Architectures – Application Architecture
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply Phase C (Application Architecture) in development of an enterprise architecture.
KLP Reference	11-*, 21-6

UNIT 11	Phase C: Information Systems Architectures – Application Architecture
Learning Outcome	The Candidate must be able to: 1. Understand the inputs to the phase (KLP 11.3-1), and explain the following key elements: o Application Principles 2. Understand the steps (KLP 11.4), and be able to: o Explain the considerations for selecting reference models, viewpoints, and tools 3. Understand the outputs (KLP 11.5-1), and be able to explain the following key elements: o Application Architecture components of the Architecture Definition Document o Application Architecture components of the Architecture Requirements Specification 4. Explain the Security Architecture influences on this phase (KLP 21-6)

4.1.12 TOGAF Foundation Architecture: Technical Reference Model (Level 2)

UNIT 12	TOGAF Foundation Architecture: Technical Reference Model (Level 2)
Purpose	The purpose of this Learning Unit is to help the Candidate have a detailed understanding of the TOGAF Technical Reference Model (TRM).
KLP Reference	43-*
Learning Outcome	The Candidate must be able to: 1. Explain the TRM graphic, including the following key elements (KLP 43.3-2, 43.3-3, 43.3-4, 43.3-5): o Application Software Categories o Application Platform Interface o Application Platform o Communications Infrastructure Interface o Qualities 2. Briefly describe the structure of the TRM (KLP 43.1-3, 43.2-1) 3. Briefly explain the main architecture objectives of using the TRM (KLP 43.2-2) 4. Explain what the Platform Services Taxonomy is (KLP 43.4-1) 5. Explain what the Service Quality Taxonomy is (KLP 43.4-2) 6. Explain how to customize the TRM to meet an organization's specific needs (KLP 43.5-2)

4.1.13 Integrated Information Infrastructure Reference Model (Level 2)

UNIT 13	Integrated Information Infrastructure Reference Model (Level 2)
Purpose	The purpose of this Learning Unit is to help the Candidate have a detailed understanding of the TOGAF Integrated Information Infrastructure Reference Model (III-RM).
KLP Reference	44-*

UNIT 13	Integrated Information Infrastructure Reference Model (Level 2)
Learning Outcome	The Candidate must be able to: 1. Describe the business and technical drivers for Boundaryless Information Flow 2. Explain how the III-RM fulfills the solution space for Boundaryless Information Flow 3. Briefly describe the high-level structure of the III-RM (KLP 44.2-1) 4. Explain the III-RM graphic, including the following components (KLP 44.1-3, 44.1-4, 44.2-1, 44.3-1): o Business Applications o Infrastructure Applications o Application Platform o Interfaces o Qualities

4.1.14 Phase D: Technology Architecture

UNIT 14	Phase D: Technology Architecture
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply Phase D in development of an enterprise architecture.
KLP Reference	12, 21-7
Learning Outcome	The Candidate must be able to: 1. Understand the inputs to the phase (KLP 12.3), and explain the following key elements: o Technology Principles 2. Understand the steps (KLP 12.4), and be able to: o Explain how the TRM can be used when developing a Technology Architecture o Explain the role of ABBs 3. Understand the outputs (KLP 12.5), and be able to explain the following key elements: o Technology Architecture components of the Architecture Definition Document o Technology Architecture components of the Architecture Requirements Specification 4. Explain the Security Architecture influences on this phase (KLP 21-7)

4.1.15 Migration Planning Techniques

UNIT 15	Migration Planning Techniques
Purpose	The purpose of this Learning Unit is to help the Candidate understand the techniques used in Phase E and F for migration planning.
KLP Reference	28-*

UNIT 15	Migration Planning Techniques
Learning Outcome	The Candidate must be able to: 1. Describe how the Implementation Factor Assessment and Deduction Matrix can be used to document factors impacting the Architecture Implementation and Migration Plan (KLP 28-1) 2. Explain the purpose of the Consolidated Gaps, Solutions, and Dependencies Matrix (KLP 28-2) 3. Describe the purpose of an Architecture Definition Increments Table (KLP 28-3) 4. Explain how the Transition Architecture State Evolution Table can be used in conjunction with the TRM (KLP 28-4) 5. Explain how the Business Value Assessment Technique can be used in architecture development (KLP 28-5) Note: There is expected to be overlap with Learning Units on Phase E and F.

4.1.16 Phase E: Opportunities and Solutions

UNIT 16	Phase E: Opportunities and Solutions
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply Phase E in development of an enterprise architecture.
KLP Reference	13-*, KLP 21-8
Learning Outcome	The Candidate must be able to: 1. Describe the key stakeholders involved in this phase (KLP 13.3) 2. Explain how migration planning techniques are used in this phase to review and consolidate the Gap Analysis results from earlier phases (KLP 13.4) 3. Describe the steps to create the Implementation and Migration Strategy (KLP 13.4) 4. Describe three basic approaches to implementation (KLP 13.4) 5. Explain how to identify and group work packages (KLP 13.4) 6. Explain how Transition Architectures are created and documented (KLP 13.5) 7. Explain the Security Architecture influences on this phase (KLP 21-8)

4.1.17 Phase F: Migration Planning

UNIT 17	Phase F: Migration Planning
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply Phase F in development of an enterprise architecture.
KLP Reference	14-*, 21-9 ;28-*
Learning Outcome	The Candidate must be able to: 1. Describe the management frameworks that have to be coordinated within this phase (KLP 14.3) 2. Explain how business value is assigned to each work package (KLP 14.4) 3. Describe the steps to prioritize the migration projects (KLP 14.4) 4. Describe the steps to confirm the Architecture Roadmap (KLP 14.4) 5. Explain key outputs of this phase (KLP 14.5), specifically: o Implementation and Migration Plan o Architecture Definition Document, including Transition Architectures (if any) 6. Explain the Security Architecture influences on this phase (KLP 21-9)

4.1.18 Phase G: Implementation Governance

UNIT 18	Phase G: Implementation Governance
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply Phase G in development of an enterprise architecture.

UNIT 18	Phase G: Implementation Governance
KLP Reference	15-*, 48-*, 49-*; 21-10; 31-*
Learning Outcome	The Candidate must be able to: 1. Understand the inputs to the phase (KLP 15.3) 2. Understand the steps (KLP 15.4), and be able to describe the following: o Explain how to tailor and conduct an Architecture Compliance Review (KLP 48.6-1) 3. Understand the outputs (KLP 15.5), and be able to explain the following key elements: o The contents of Architecture Contracts (KLP 49.2-1) o Their relationship to Architecture Governance (KLP 49.3-1) 4. Explain the Security Architecture influences on this phase (KLP 21-10) 5. Demonstrate the role that risk monitoring plays in this phase (KLP 31.7-1)

4.1.19 Phase H: Architecture Change Management

UNIT 19	Phase H: Architecture Change Management
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply Phase H in development of an enterprise architecture.
KLP Reference	16-*, 46-*, 21-11
Learning Outcome	The Candidate must be able to: 1. Understand the inputs to the phase (KLP 16.3), and be able to explain the following: o Change Requests 2. Understand the steps (KLP 16.4), and be able to describe the following: o Architecture Board meetings 3. Understand the outputs (KLP 16.5), and be able to explain when the following might occur: o Updated Architecture Contracts o A new Request for Architecture Work 4. Explain the Security Architecture influences on this phase (KLP 21-11)

4.1.20 ADM Architecture Requirements Management

UNIT 20	ADM Architecture Requirements Management
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply the process of managing architecture requirements.
KLP Reference	17-*; 21-2
Learning Outcome	The Candidate must be able to: 1. Understand the inputs to the phase (KLP 17.3) 2. Understand the steps and their correspondence to phases (KLP 17.4) 3. Explain how the Requirements Management steps correspond to ADM phases (KLP 17.4) 4. Explain the purpose of the outputs of Requirements Management (KLP 17.5) 5. Explain the Security Architecture influences on the requirements captured (KLP 21-2)

4.1.21 Architecture Partitioning

UNIT 21	Architecture Partitioning
Purpose	The purpose of this Learning Unit is to help the Candidate understand how Architecture Partitioning can be used to simplify the development and maintenance of an enterprise architecture.

UNIT 21	Architecture Partitioning
KLP Reference	40.1, 40.2
Learning Outcome	The Candidate must be able to: 1. Describe the purpose of Architecture Partitioning (KLP 40.1) 2. Describe the classification criteria for solutions and architectures when considering partitioning (KLP 40.2-1) 3. Describe how Architecture Partitioning can be employed in the Preliminary Phase of the ADM (KLP 40.2-3)

4.1.22 Architecture Repository

UNIT 22	Architecture Repository
Purpose	The purpose of this Learning Unit is to help the Candidate understand the purpose of the Architecture Repository, its constituent parts, and its relationship to other parts of TOGAF.
KLP Reference	41-*
Learning Outcome	The Candidate must be able to: 1. Explain the relationship between the Architecture Repository and the Enterprise Repository 2. Describe the purpose of the repository areas that hold output of projects, specifically: o Architecture Landscape (KLP 41.2-1) o Reference Library (KLP 41.3-1) o Standards Information Base (KLP 41.4-2) o Governance Log (KLP 41.5-1)

4.1.23 Guidelines for Adapting the ADM: Iteration and Levels

UNIT 23	Guidelines for Adapting the ADM: Iteration and Levels
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply iteration and different levels of architecture with the ADM.
KLP Reference	19-*, KLP 20-*
Learning Outcome	The Candidate must be able to: 1. Describe the concept of iteration and how it applies to TOGAF (KLP 19-2) 2. Describe the factors influencing the use of iteration (KLP 19-3) 3. Describe some suggested iteration cycles (KLP 19-1) 4. Describe how the ADM supports different types of engagements within the organization (KLP 19-2) 5. Explain how to apply iteration cycles to the ADM phases (KLP 19-1, KLP 19-2) 6. Explain how the concepts of levels and the Enterprise Continuum are used to organize the Architecture Landscape (KLP 20-1) 7. Identify the different levels of architecture that exist in an organization (KLP 20-1)

4.1.24 Guidelines for Adapting the ADM: Security

UNIT 24	Guidelines for Adapting the ADM: Security
Purpose	The purpose of this Learning Unit is to help the Candidate understand the security considerations that need to be addressed during application of the ADM.
KLP Reference	21-*

UNIT 24	Guidelines for Adapting the ADM: Security
Learning Outcome	The Candidate must be able to: 1. Describe the responsibility that Enterprise Architects have towards Security Architecture (KLP 21-1) 2. Describe the recommended Security adaptations to the ADM Note: This Learning Unit overlaps with each of the ADM phases.

4.1.25 Guidelines for Adapting the ADM: SOA

UNIT 25	Guidelines for Adapting the ADM: SOA
Purpose	The purpose of this Learning Unit is to help the Candidate understand how the ADM can be adapted for the SOA style of architecture.
KLP Reference	22-*
Learning Outcome	The Candidate must be able to: 1. Describe SOA as an architectural style (KLP 22-1) 2. Explain how enterprise architecture supports SOA (KLP 22-2) 3. Describe the recommended SOA adaptations to the ADM (KLP 22-3)

4.1.26 Architecture Maturity Models

UNIT 26	Architecture Maturity Models
Purpose	The purpose of this Learning Unit is to help the Candidate understand the role of Architecture Capability Maturity Models in enabling an enterprise to determine the state of the enterprise architecture and to evaluate risks and options during the development of the enterprise architecture.
KLP Reference	51-*
Learning Outcome	The Candidate must be able to: 1. Explain the role of a Capability Maturity Model (KLP 51.1-1) 2. Explain the CMMI process improvement approach development by CMU (KLP 51.2) 3. Describe the structure and levels of the ACMM developed by CMU for the US DoC (KLP 51.3) 4. Explain the role of Maturity Assessments in the ADM (KLP 51.3-2, 51.4-1)

4.1.27 Architecture Skills Framework

UNIT 27	Architecture Skills Framework
Purpose	The purpose of this Learning Unit is to help the Candidate understand the Architecture Skills Framework, a classification model for architect roles.
KLP Reference	52-*
Learning Outcome	The Candidate must be able to: 1. Explain the purpose of the Architecture Skills Framework and why it is needed (KLP 52.2) 2. Describe the benefits of using the Architecture Skills Framework (KLP 52.3) 3. Describe the structure of the Architecture Skills Framework, including roles, skills, and proficiency levels (KLP 52.4)

5. CONFORMANCE REQUIREMENTS FOR BRIDGING FROM TOGAF 8 CERTIFIED TO LEVEL 2

To achieve certification to Level 2 for Candidates bridging from TOGAF 8 Certified, Candidates must complete all units defined in Section 3.1, Section 4.1, and Section 5.1, and successfully pass the corresponding Indicator of Compliance to Level 2 via the *bridging option* (see Section 6).

5.1 Syllabus for Bridging from TOGAF 8 Certified to Level 2

The learning outcome for Candidates bridging from TOGAF 8 Certified to Level 2 is identical to the combination of Level 1 and Level 2, with the following additional Learning Unit:

UNIT 1	**TOGAF 8.1.1 to TOGAF 9 Migration**
Purpose	The purpose of this Learning Unit is to help the Candidate understand the differences between TOGAF 8.1.1 and TOGAF 9.
KLP Reference	KLP 4-*
Learning Outcome	The Candidate must be able to: 1. Describe the new features in TOGAF 9 2. Explain the benefits of the new features 3. Explain the high-level structural changes between TOGAF 8.1.1 and TOGAF 9 4. Describe the key differences between the ADM in TOGAF 8.1.1 and TOGAF 9 5. Discuss approaches to migrate an enterprise from TOGAF 8.1.1 to TOGAF 9

6. INDICATORS OF COMPLIANCE

The primary Indicators of Compliance for the Program are The Open Group examinations. The examinations will be available only in English at the start of the Program, but examinations in other languages will follow soon afterwards, according to demand.

The descriptions of the examinations for each level are maintained by the Certification Authority and displayed on The Open Group web site. This includes a description of the examination type (for example, simple multiple choice, complex scenario, etc.), the number of questions, the duration, supervision requirements, whether an examination is Open Book, the Pass Score, and the Pre-requisites for taking the examination.

Candidates who are not fluent in English may request additional time when taking the examinations in English.

To meet the need for certification to be accessible for those whose command of written English is insufficient to take the examinations in English, providers of Accredited TOGAF Training Courses (ATTCs) delivered in other languages may offer other means of assessment, subject to approval by The Open Group on a case-by-case basis.

7. TOGAF 9 KNOWLEDGE BASE

This section defines the Knowledge Base for TOGAF 9. The layout of this section is based on the table of contents of TOGAF 9. For each chapter of TOGAF 9, Key Learning Points (KLPs) have been defined together with an indication of the applicable certification level. These KLPs are referenced in the Learning Units defined in this document that form the Conformance Requirements for individual certification.

7.1 Format of Entries

Each KLP has a unique reference relating to the section of TOGAF 9, the certification level in parentheses, and if new or revised material (compared to TOGAF 8.1.1) the notation "N".

For example, KLP 1.1-1 (1N) is the first KLP for Section 1.1, is a KLP for Level 1 certification, and is new or revised material in TOGAF 9.

Similarly KLP 7.4.1-2 (2) is the first KLP for Section 7.4, is a KLP for Level 2 certification, and the material is equivalent to TOGAF 8.1.1.

Where a KLP is not applicable to either Level 1 or 2, it is denoted as follows: KLP n.nn-nn (-).

It should be noted that Level 1 is contained in Level 2, so the learning coverage for a Candidate at Level 2 is the sum of the learning for Levels 1 and 2.

7.2 Knowledge Requirements by Chapter

The text in *Section* corresponds to sections of the document. The text in *KLP* is a free-form text describing a Key Learning Point (KLP) for that section.

Section		**Key Learning Point(s)**
Part I: Introduction		*The Key Learning Point(s) per section are an understanding of……*
1	Introduction	
1.1	Structure of TOGAF Document	KLP 1.1-1 (1N) The high-level structure of TOGAF 9, its organization, and contents as shown in Figure 1-1 KLP 1.1-2 (1N) The seven parts to TOGAF KLP 1.1-3 (2N) The intention of dividing the TOGAF specification into independent parts
1.2	Executive Overview	KLP 1.2-1 (1) What is an enterprise? KLP 1.2-3 (1) Why do I need an enterprise architecture? KLP 1.2-4 (1) What is an Architecture Framework? KLP 1.2-5 (1) Why do I need TOGAF as a framework for enterprise architecture?

Section		Key Learning Point(s)
2	Core Concepts	KLP 2.1-1 (1) What is TOGAF? KLP 2.2-1 (1) What is architecture in the context of TOGAF? KLP 2.3-1 (1) What kind of architecture does TOGAF deal with? KLP 2.4-1 (1) The high-level overview of the ADM, the phase names, and their purpose KLP 2.5-1 (1N) Deliverables, artifacts, and building blocks (explaining these key concepts and the relationships between them) KLP 2.6-1 (1) Enterprise Continuum (introduces the concept) KLP 2.7-1 (1N) Architecture Repository (introduces the concept) KLP 2.8-1 (1N) Establishing and maintaining an enterprise Architecture Capability KLP 2.9-1 (1N) Establishing the Architecture Capability as an operational entity KLP 2.10-1 (1) Using TOGAF with other frameworks
3	Definitions	KLP 3-1 The existence of the Definitions section and its purpose KLP 3.1-1 (-) Abstraction KLP 3.4-1 (1) Application KLP 3.5-1 (1) Application Architecture KLP 3.9-1 (1) Architecture KLP 3.10-1 (1) Architecture Building Block (ABB) KLP 3.12-1 (1) Architecture Development Method (ADM) KLP 3.13-1 (1) Architecture Domain KLP 3.14-1 (1) Architecture Framework KLP 3.17-1 (1) Architecture Principles KLP 3.19-1 (1) Architecture Vision KLP 3.20-1 (1N) Artifact KLP 3.21-1 (1) Baseline KLP 3.24-1 (1) Building Block KLP 3.25-1 (1) Business Architecture KLP 3.28-1 (1) Business Governance KLP 3.30-1 (1N) Capability KLP 3.34-1 (1) Concerns KLP 3.35-1 (1) Constraint KLP 3.36-1 (1) Data Architecture KLP 3.37-1 (1) Deliverable KLP 3.38-1 (1) Enterprise KLP 3.42-1 (1) Foundation Architecture KLP 3.44-1 (1) Gap KLP 3.45-1 (1) Governance KLP 3.46-1 (1) Information KLP 3.47-1 (1) Information Technology (IT)

Section		Key Learning Point(s)
		KLP 3.49-1 (-) Knowledge KLP 3.50-1 (1) Logical KLP 3.51-1 (1) Metadata KLP 3.52-1 (1N) Metamodel KLP 3.53-1 (1) Method KLP 3.54-1 (1) Methodology KLP 3.55-1 (1) Model KLP 3.56-1 (1) Modeling KLP 3.57-1 (1) Objective KLP 3.58-1 (-) Organization KLP 3.61-1 (1) Physical KLP 3.66-1 (1) Reference Model (RM) KLP 3.67-1 (1) Repository KLP 3.68-1 (1) Requirement KLP 3.72-1 (2N) Segment Architecture KLP 3.77-1 (1) Solution Architecture KLP 3.78-1 (1) Solution Building Block (SBB) KLP 3.80-1 (1) Stakeholder KLP 3.82-1 (1N) Strategic Architecture KLP 3.83-1 (1) Target Architecture KLP 3.86-1 (1) Technology Architecture KLP 3.87-1 (1) Transition Architecture KLP 3.88-1 (1) View KLP 3.89-1 (1) Viewpoint
4	Release Notes	KLP 4-1 (1N) The existence of the Release Notes section and its purpose KLP 4.1-1 (1N) What's new in TOGAF 9? KLP 4.2-1 (1N) The benefits of TOGAF 9 (*versus* TOGAF 8) KLP 4.3-1 (-) Mapping from TOGAF 8.1.1 to TOGAF 9 (minimally from the structural perspective of the document) KLP 4.4-1 (-) Mapping of TOGAF 9 structure to TOGAF 8.1.1 KLP 4.5-1 (1) The conditions of use for TOGAF
Part II: Architecture Development Method		
5	Introduction	
5.1	ADM Overview	KLP 5.1-1 (1) The relationship between the ADM and other parts of TOGAF (Enterprise Continuum, Architecture Repository, Foundation Architecture, Supporting Guidelines and Techniques) KLP 5.1-2 (1N) The existence of supporting guidelines and techniques to use with the ADM and the difference between the two sections: guidelines *versus* techniques

Section		Key Learning Point(s)
5.2	Architecture Development Cycle	KLP 5.2.1-1 (1) The Architecture Development Cycle; key points KLP 5.2.2-1 (1) The ADM basic structure, including the phases KLP 5.2.2-2 (1) The phases are divided into steps KLP 5.2.2-3 (1) The versioning of output is managed by version numbers
5.3	Adapting the ADM	KLP 5.3-1 (1) Why you would need to adapt the ADM
5.4	Architecture Governance	KLP 5.4-1 (1) The need to govern the ADM process KLP 5.4-2 (1) The major information areas managed by a governance repository
5.5	Scoping the Architecture	KLP 5.5-1 (1) The reasons for constraining the scope of the architectural activity KLP 5.5-2 (1) The dimensions to define and limit scope of an architecture
5.6	Architecture Integration	KLP 5.6-1 (1) The need for an integration framework that sits above individual architectures
5.7	Summary	
6	Preliminary Phase	
6.1	Objectives	KLP 6.1-1 (1N) An understanding of the objectives of the Preliminary Phase
6.2	Approach	KLP 6.2-1 (1N) An understanding of the approach to the Preliminary Phase: • Defining the enterprise • Understanding the organizational context • Defining the requirements for architecture work • Establishing Architecture Principles • Adapting the TOGAF ADM to relate to and integrate with other management frameworks • Assessing the level of architecture maturing in the enterprise KLP 6.2.1-1 (1) Enterprise scope KLP 6.2.2-1 (1) Organizational context KLP 6.2.3-1 (1) Requirements for architecture work KLP 6.2.4-1 (1) Principles KLP 6.2.5-1 (1) Management frameworks

Section		Key Learning Point(s)
6.3	Inputs	KLP 6.3-1 (2N) The inputs for this phase: • TOGAF • Other Architecture Framework(s) • Business strategies, IT strategy, principles, business goals, and business drivers • Governance and legal frameworks • Constraints (financial, etc.) • Partnership and contract agreements • Architecture Capability • Existing Organizational Model(s) for Enterprise Architecture • Existing Architecture Framework • Existing Architecture Principles • Existing Architecture Repository
6.4	Steps	KLP 6.4.1-1 (2N) Scope the enterprise organizations impacted KLP 6.4.2-1 (2N) Confirm governance and support strategy KLP 6.4.3-1 (2N) Define and establish enterprise architecture team and organization KLP 6.4.4-1 (2N) Identify and establish Architecture Principles KLP 6.4.5-1 (2N) Tailor TOGAF and, if any, other selected Architecture Frameworks KLP 6.4.6-1 (2N) Implement architecture tools
6.5	Outputs	KLP 6.5-1 (2N) The outputs for this phase: • Organizational Model for Enterprise Architecture • Tailored Architecture Framework, including Architecture Principles • Initial Architecture Repository • Restatement of business principles, business goals, and business drivers • Request for Architecture Work • Enterprise organizations impacted statement • Enterprise architecture team organization and structure • Constrains and Requests for Change • Governance Framework
7	Phase A: Architecture Vision	
7.1	Objectives	KLP 7.1-1 (1N) An understanding of the objectives of Phase A
7.2	Approach	KLP 7.2-1 (1N) An understanding of the approach to Phase A: • The role of the Request for Architecture Work • Definition of scope for this cycle of architecture work • The Architecture Vision • The need to develop first-cut high-level architecture descriptions • The relevance of Business Scenarios • The importance of consensus KLP 7.2.2-1 (1) Creating the Architecture Vision KLP 7.2.3-1 (1) Business Scenarios

Section		Key Learning Point(s)
7.3	Inputs	KLP 7.3-1 (2N) The inputs for this phase: • Architecture reference materials • Request for Architecture Work • Business principles, business goals, and business drivers • Organizational Model for Enterprise Architecture • Tailored Architecture Framework, including Architecture Principles • Populated Architecture Repository; that is, existing architecture documentation (framework description, architecture descriptions, existing baseline descriptions, etc.)
7.4	Steps	KLP 7.4.1-1 (2N) Establish the architecture project KLP 7.4.2-1 (2) Identify stakeholders, concerns, and business requirements KLP 7.4.3-1 (2N) Confirm and elaborate business goals, business drivers, and constraints KLP 7.4.4-1 (2N) Evaluate business capabilities KLP 7.4.5-1 (2N) Assess Business Transformation Readiness KLP 7.4.6-1 (2N) Define scope KLP 7.4.7-1 (2N) Confirm and elaborate Architecture Principles, including business principles KLP 7.4.8-1 (2N) Develop Architecture Vision KLP 7.4.9-1 (2N) Define the Target Architecture value propositions and KPIs KLP 7.4.10-1 (2N) Identify the Business Transformation risks and mitigation activities KLP 7.4.11-1 (2N) Develop Statement of Architecture Work; secure approval

7.5	Outputs	KLP 7.5-1 (2N) The outputs for this phase:
		• Approved Statement of Architecture Work
		• Refined statements of business principles, business goals, and business drivers
		• Elaborated Architecture Principles
		• Capability Assessment
		• Tailored Architecture Framework
		• Refined key high-level business requirements
		• Architecture Vision
		• Draft Architecture Definition Document, including:
		  ○ Baseline Business Architecture
		  ○ Baseline Data Architecture
		  ○ Baseline Application Architecture
		  ○ Baseline Technology Architecture
		  ○ Target Business Architecture
		  ○ Target Data Architecture
		  ○ Target Application Architecture
		  ○ Target Technology Architecture
		• Communications Plan
		• Additional content populating the Architecture Repository
		• Work product performance assessments
		• Business case and KPI metrics

Section		Key Learning Point(s)
8	Phase B: Business Architecture	
8.1	Objectives	KLP 8.1-1 (1N) An understanding of the objectives of Phase B: • Select architecture viewpoints to demonstrate how stakeholder concerns are addressed in the Business Architecture • Select tools and techniques for viewpoints • Describe the existing Business Architecture (the current baseline) • Develop a Target Business Architecture • Analyze the gaps between the Baseline and Target Architectures
8.2	Approach	KLP 8.2-1 (1N) An understanding of the approach to Phase B

8.3	Inputs	KLP 8.3-1 (2N) The inputs for this phase:
		• Request for Architecture Work
		• Capability Assessment
		• Communications Plan
		• Approved Statement of Architecture Work
		• Business principles, business goals, and business drivers
		• Architecture Principles
		• Enterprise Continuum
		• Architecture Repository
		• Architecture Vision
		• Draft Architecture Definition Document, including:
		  ○ Baseline Business Architecture
		  ○ Baseline Data Architecture
		  ○ Baseline Application Architecture
		  ○ Baseline Technology Architecture
		  ○ Target Business Architecture
		  ○ Target Data Architecture
		  ○ Target Application Architecture
		  ○ Target Technology Architecture
		• Organizational Model for Enterprise Architecture
		• Tailored Architecture Framework

Section		Key Learning Point(s)
8.4	Steps	KLP 8.4.1-1 (2) Select reference models, viewpoints, and tools KLP 8.4.2-1 (2) Develop Baseline Business Architecture Description KLP 8.4.3-1 (2N) Develop Target Business Architecture Description KLP 8.4.4-1 (2) Perform Gap Analysis KLP 8.4.5-1 (2N) Define candidate roadmap components KLP 8.4.6-1 (2N) Resolve impacts across the Architecture Landscape KLP 8.4.7-1 (2) Conduct formal stakeholder review KLP 8.4.8-1 (2) Finalize the Business Architecture KLP 8.4.9-1 (2) Create Architecture Definition Document

8.5	Outputs	KLP 8.5-1 (2N) The outputs for this phase:
		• Statement of Architecture Work, updated if necessary
		• Validated business principles, business goals, and business drivers
		• Elaborated Business Architecture Principles
		• Draft Architecture Definition Document, containing content updates:
		  o Baseline Business Architecture (detailed), if appropriate
		  o Target Business Architecture (detailed)
		• Views corresponding to selected viewpoints addressing key stakeholder concerns
		• Draft Architecture Requirements Specification, including content updates:
		  o Gap Analysis results
		  o Technical Requirements
		  o Updated business requirements
		• Business Architecture components of an Architecture Roadmap

9	Phase C: Information Systems Architectures	
9.1	Objectives	KLP 9.1-1 (1) An understanding of the objectives of Phase C
9.2	Approach	KLP 9.2-1 (2) Sequence of development
9.3	Inputs	KLP 9.3-1 (2) The inputs for this phase; see Sections 9.3, 10.3, and 11.3
9.4	Steps	KLP 9.4-1 (2) See Sections 10.4 and 11.4
9.5	Outputs	KLP 9.5-1 (2) See Sections 9.5, 10.5, and 11.5
10	Phase C: Information Systems Architectures: Data Architecture	
10.1	Objectives	KLP 10.1-1 (1) An understanding of the objectives of Phase C (Data Architecture)
10.2	Approach	KLP 10.2-1 (1) An understanding of the approach to Phase C (Data Architecture)

Section		Key Learning Point(s)

10.3	Inputs	KLP 10.3-1 (2N) The inputs for this phase:
		• Request for Architecture Work
		• Capability Assessment
		• Communications Plan
		• Data Principles
		• Statement of Architecture Work
		• Architecture Vision
		• Architecture Repository
		• Draft Architecture Definition Document, containing:
		  ○ Baseline Business Architecture (detailed)
		  ○ Target Business Architecture (detailed)
		  ○ Baseline Data Architecture (high-level)
		  ○ Target Data Architecture (high-level)
		  ○ Baseline Application Architecture (detailed or high-level)
		  ○ Target Application Architecture (detailed or high-level)
		  ○ Baseline Technology Architecture (high-level)
		  ○ Target Technology Architecture (high-level)
		• Draft Architecture Requirements Specification, including:
		  ○ Gap Analysis results
		  ○ Relevant Technical Requirements
		• Business Architecture components of an Architecture Roadmap
		• Organizational Model for Enterprise Architecture
		• Tailored Architecture Framework

Section		Key Learning Point(s)
10.4	Steps	KLP 10.4.1 (2N) Select reference models, viewpoints, and tools KLP 10.4.2 (2N) Develop Baseline Data Architecture Description KLP 10.4.3 (2N) Develop Target Data Architecture Description KLP 10.4.4 (2) Perform Gap Analysis KLP 10.4.5 (2N) Define candidate roadmap components KLP 10.4.6 (2N) Resolve impacts across the Architecture Landscape KLP 10.4.7 (2) Conduct formal stakeholder review KLP 10.4.8 (2) Finalize the Data Architecture KLP 10.4.9 (2) Create Architecture Definition Document

10.5	Outputs	KLP 10.5-1 (2N) The outputs for this phase:
		• Statement of Architecture Work
		• Validated Data Principles, or new Data Principles
		• Draft Architecture Definition Document, containing content updates:
		  o Baseline Data Architecture
		  o Target Data Architecture
		• Data Architecture views corresponding to the selected viewpoints, addressing key stakeholder concerns
		• Draft Architecture Requirements Specification, including content updates:
		  o Gap Analysis results
		  o Relevant Technical Requirements that will apply to this evolution of the Architecture Development Cycle
		  o Constraints on the Technology Architecture
		  o Updated business requirements
		  o Updated application requirements
		• Data Architecture components of an Architecture Roadmap

11	Phase C: Information Systems Architectures: Application Architecture	
11.1	Objectives	KLP 11.1-1 (1) An understanding of the objectives of Phase C (Application Architecture)
11.2	Approach	KLP 11.2-1 (1) An understanding of the approach to Phase C (Application Architecture)

Section		Key Learning Point(s)

11.3	Inputs	KLP 11.3-1 (2N) The inputs for this phase:
		• Request for Architecture Work
		• Capability Assessment
		• Communications Plan
		• Application Principles
		• Statement of Architecture Work
		• Architecture Vision
		• Architecture Repository
		• Draft Architecture Definition Document, containing:
		  ○ Baseline Business Architecture (detailed)
		  ○ Target Business Architecture (detailed)
		  ○ Baseline Data Architecture (detailed or high-level)
		  ○ Target Data Architecture (detailed or high-level)
		  ○ Baseline Application Architecture (high-level)
		  ○ Target Application Architecture (high-level)
		  ○ Baseline Technology Architecture (high-level)
		  ○ Target Technology Architecture (high-level)
		• Draft Architecture Requirements Specification, including:
		  ○ Gap Analysis results
		  ○ Relevant Technical Requirements
		• Business and Data Architecture components of an Architecture Roadmap
		• Organizational Model for Enterprise Architecture
		• Tailored Architecture Framework

11.4	Steps	KLP 11.4.1-1 (2N) Select reference models, viewpoints, and tools KLP 11.4.2-1 (2N) Develop Baseline Application Architecture Description KLP 11.4.3-1 (2N) Develop Target Application Architecture Description KLP 11.4.4-1 (2) Perform Gap Analysis KLP 11.4.5-1 (2N) Define candidate roadmap components KLP 11.4.6-1 (2N) Resolve impacts across the Architecture Landscape KLP 11.4.7-1 (2) Conduct formal stakeholder review KLP 11.4.8-1 (2) Finalize the Application Architecture KLP 11.4.9-1 (2) Create Architecture Definition Document

Section		Key Learning Point(s)

11.5	Outputs	KLP 11.5-1 (2N) The outputs for this phase:
		• Statement of Architecture Work
		• Validated application principles, or new application principles
		• Draft Architecture Definition Document, containing content updates:
		  o Baseline Application Architecture
		  o Target Application Architecture
		• Application Architecture views corresponding to the selected viewpoints, addressing key stakeholder concerns
		• Draft Architecture Requirements Specification, including content updates:
		  o Gap Analysis results
		  o Relevant Technical Requirements that will apply to this evolution of the Architecture Development Cycle
		  o Constraints on the Technology Architecture
		  o Updated business requirements
		  o Updated data requirements
		• Application Architecture components of an Architecture Roadmap

12	Phase D: Technology Architecture	
12.1	Objectives	KLP 12.1-1 (1N) An understanding of the objectives of Phase D
12.2	Approach	KLP 12.2-1 (1N) An understanding of the approach to Phase D: • Architecture Repository

12.3	Inputs	KLP 12.3-1 (2N) The inputs for this phase:
		• Request for Architecture Work
		• Capability Assessment
		• Communications Plan
		• Technology Principles
		• Statement of Architecture Work
		• Architecture Vision
		• Architecture Repository
		• Draft Architecture Definition Document, containing:
		  o Baseline Business Architecture (detailed)
		  o Target Business Architecture (detailed)
		  o Baseline Data Architecture (detailed)
		  o Target Data Architecture (detailed)
		  o Baseline Application Architecture (detailed)
		  o Target Application Architecture (detailed)
		  o Baseline Technology Architecture (high-level)
		  o Target Technology Architecture (high-level)
		• Draft Architecture Requirements Specification, including:
		  o Gap Analysis results
		  o Relevant Technical Requirements
		• Business, Data, and Application Architecture components of an Architecture Roadmap
		• Organizational Model for Enterprise Architecture
		• Tailored Architecture Framework

Section		Key Learning Point(s)
12.4	Steps	KLP 12.4.1 (2N) Select reference models, viewpoints, and tools KLP 12.4.2 (2N) Develop Baseline Technology Architecture Description KLP 12.4.3 (2N) Develop Target Technology Architecture Description KLP 12.4.4 (2) Perform Gap Analysis KLP 12.4.5 (2N) Define candidate roadmap components KLP 12.4.6 (2N) Resolve impacts across the Architecture Landscape KLP 12.4.7 (2) Conduct formal stakeholder review KLP 12.4.8 (2) Finalize the Technology Architecture KLP 12.4.9 (2) Create Architecture Definition Document

12.5	Outputs	KLP 12.5-1 (2N) The outputs for this phase:
		• Statement of Architecture Work, updated if necessary
		• Validated Technology Principles or new Technology Principles (if generated here)
		• Architecture Definition Document, containing content updates:
		  o Baseline Technology Architecture
		  o Target Technology Architecture
		• Technology Architecture views corresponding to the selected viewpoints, addressing key stakeholder concerns
		• Architecture Requirements Specification, including content updates:
		  o Gap Analysis report
		  o Updated Technology Requirements
		• Technology Architecture components of an Architecture Roadmap

13	Phase E: Opportunities and Solutions	
13.1	Objectives	KLP 13.1-1 (1N) An understanding of the objectives of Phase E
13.2	Approach	KLP 13.2-1 (1N) An understanding of the approach to Phase E
13.3	Inputs	KLP 13.3-1 (2N) The inputs for this phase: • Request for Architecture Work • Capability Assessment • Communications Plan • Statement of Architecture Work • Architecture Vision • Architecture Repository • Architecture Definition Document • Architecture Requirements Specification • Change Requests for existing programs and projects • Candidate Architecture Roadmap components from Phases B, C, and D • Planning Methodologies • Product Information • Organizational Model for Enterprise Architecture • Governance Models and Frameworks • Tailored Architecture Framework

Section		Key Learning Point(s)
13.4	Steps	KLP 13.4-1 (2N) Steps KLP 13.4.1 (2) Determine/confirm key corporate change attributes KLP 13.4.2 (2) Determine business constraints for implementation KLP 13.4.3 (2) Review and consolidate Gap Analysis results from Phases B to D KLP 13.4.4 (2) Review consolidated requirements across related business functions KLP 13.4.5 (2) Consolidate and reconcile Interoperability Requirements KLP 13.4.6 (2) Refine and validate dependencies KLP 13.4.7 (2) Confirm readiness and risk for Business Transformation KLP 13.4.8 (2) Formulate Implementation and Migration Strategy KLP 13.4.9 (2) Identify and group major work packages KLP 13.4.10 (2) Identify Transition Architectures KLP 13.4.11 (2) Create the Architecture Roadmap & Implementation and Migration Plan
13.5	Outputs	KLP 13.5-1 (2N) The outputs for this phase: • Statement of Architecture Work, updated if necessary • Architecture Vision, updated if necessary • Architecture Definition Document • Implementation and Migration Plan • Inclusion of project list and project charters • Architecture Requirements Specification, updated if necessary • Capability Assessments • Architecture Roadmap
14	Phase F: Migration Planning	
14.1	Objectives	KLP 14.1-1 (1N) An understanding of the objectives of Phase F
14.2	Approach	KLP 14.2-1 (1N) An understanding of the approach to Phase F
14.3	Inputs	KLP 14.3-1 (2N) The inputs for this phase: • Request for Architecture Work • Capability Assessment • Communications Plan • Governance Models and Frameworks • Statement of Architecture Work • Architecture Vision • Architecture Repository • Architecture Definition Document • Architecture Requirements Specification • Change Requests for existing programs and projects • Architecture Roadmap (Version 0.1) • Implementation and Migration Plan (Version 0.1) • Organizational Model for Enterprise Architecture • Tailored Architecture Framework

Section		Key Learning Point(s)
14.4	Steps	KLP 14.4-1 (2N) Confirm management framework interactions for the Implementation and Migration Plan KLP 14.4-2 (2N) Assign a business value to each work package KLP 14.4-3 (2N) Estimate resource requirements, project timings, and availability/delivery vehicle KLP 14.4-4 (2N) Prioritize the migration projects through the conduct of a cost/benefit assessment and risk validation KLP 14.4-5 (2N) Confirm Architecture Roadmap and update Architecture Definition Document KLP 14.4-6 (2N) Generate the Implementation and Migration Plan KLP 14.4-7 (2N) Complete the Architecture Development Cycle and document lessons learned
14.5	Outputs	KLP 14.5-1 (2N) The outputs for this phase: • Implementation and Migration Plan • Finalized Architecture Definition Document • Finalized Architecture Requirements Specification • Finalized Architecture Roadmap • Re-Usable Architecture Building Blocks • Requests for Architecture Work for the architecture aspects of implementation projects (if any) • Implementation Governance Model • Requests for Change arising from lessons learned
15	Phase G: Implementation Governance	
15.1	Objectives	KLP 15.1-1 (1N) An understanding of the objectives of Phase G
15.2	Approach	KLP 15.2-1 (1N) An understanding of the approach to Phase G
15.3	Inputs	KLP 15.3-1 (2N) The inputs for this phase: • Request for Architecture Work • Capability Assessment • Statement of Architecture Work • Architecture Vision • Architecture Repository • Architecture Definition Document • Architecture Requirements Specification • Architecture Roadmap • Transition Architecture • Implementation Governance Model • Architecture Contract • Organizational Model for Enterprise Architecture • Tailored Architecture Framework

Section		Key Learning Point(s)
15.4	Steps	KLP 15.4-1 (2N) Confirm scope and priorities for deployment with development management KLP 15.4-2 (2N) Identify deployment resources and skills KLP 15.4-3 (2N) Guide development of solutions deployment KLP 15.4-4 (2N) Perform enterprise Architecture Compliance Reviews KLP 15.4-5(2N) Implement business and IT operations KLP 15.4-6 (2N) Perform post-implementation review and close the implementation

15.5	Outputs	KLP 15.5-1 (2N) The outputs for this phase:
		• Architecture Contract (signed)
		• Compliance Assessments
		• Change Requests
		• Impact Analysis – Implementation Recommendations
		• Architecture-compliant solutions deployed, including:
		  ○ The architecture-compliant implemented system
		  ○ Populated Architecture Repository
		  ○ Architecture Compliance recommendations and dispensations
		  ○ Recommendations on service delivery requirements
		  ○ Recommendations on performance metrics
		• Service Level Agreements (SLAs)
		• Architecture Vision, updated post-implementation
		• Architecture Definition Document, updated post-implementation
		• Transition Architecture, updated post-implementation
		• Business and IT operating models for the implemented solution

16	Phase H: Architecture Change Management	
16.1	Objectives	KLP 16.1-1 (1N) An understanding of the objectives of Phase H
16.2	Approach	KLP 16.2-1 (1N) An understanding of the approach to Phase H
16.3	Inputs	KLP 16.3-1 (2N) The inputs for this phase: • Change Requests due to technology changes • Change Requests due to business changes • Request for Architecture Work identified in Phases E and F • Statement of Architecture Work • Architecture Vision • Architecture Repository • Architecture Definition Document • Architecture Requirements Specification • Architecture Roadmap • Transition Architecture • Implementation Governance Model • Architecture Contract (signed) • Compliance Assessments • Organizational Model for Enterprise Architecture • Tailored Architecture Framework

Section		Key Learning Point(s)
16.4	Steps	KLP 16.4-1 (2N) Establish Value Realization process KLP 16.4-2 (2N) Deploy monitoring tools KLP 16.4-3 (2N) Manage risks KLP 16.4-4 (2N) Provide analysis for Architecture Change Management KLP 16.4-5 (2N) Develop change requirements to meet performance targets KLP 16.4-6 (2N) Manage governance process KLP 16.4-7 (2N) Activate the process to implement change
16.5	Outputs	KLP 16.5-1 (2N) The outputs for this phase: • Architecture updates • Changes to Architecture Framework and Principles • New Request for Architecture Work, to initiate another cycle of the ADM • Statement of Architecture Work, updated if necessary • Architecture Contract, updated if necessary • Compliance Assessments, updated if necessary
17	ADM Architecture Requirements Management	
17.1	Objectives	KLP 17.1-1 (1) Requirements Management applies to all phases KLP 17.1-2 (1) It is a dynamic process central to driving the ADM
17.2	Approach	KLP 17.2-1 (1) An understanding of the approach to the phase: The ADM is continuously driven by the Requirements Management process, and requirements can be managed by a number of different techniques.
17.3	Inputs	KLP 17.3-1 (2) The inputs for this phase: The inputs to the Requirements Management process are the requirements-related outputs from each ADM phase. The first high-level requirements are produced as part of the Architecture Vision. Each architecture domain then generates detailed requirements. Deliverables in later ADM phases contain mappings to new types of requirements (for example, conformance requirements).
17.4	Steps	KLP 17.4-1 (2) How the Requirements Management steps correspond to the ADM phases
17.5	Outputs	KLP 17.5-1 (2) The outputs for this phase: • Changed requirements • Requirements Impact Assessment, which identifies the phases of the ADM that need to be revisited to address any changes. The final version must include the full implications of the requirements (e.g., costs, timescales, and business metrics).
Part III: ADM Guidelines and Techniques		
18	Introduction	KLP 18.1-1 (1N) Understanding the contents of Part III including an overview of the purpose of each of the guidelines and techniques provided

Section		Key Learning Point(s)
19	Applying Iteration to the ADM	KLP 19-1 (2N) Understand the concept of iteration and how to apply iteration cycles to the ADM KLP 19-2 (2N) Understand the different types of architecture engagement and which iteration cycles they focus on KLP 19-3(2N) Understand the organizational factors influencing the use of iteration
20	Applying the ADM across the Architecture Landscape	KLP 20-1 (2N) Understand how levels can be used to organize the Architecture Landscape
21	Security Architecture and the ADM	KLP 21-1 (2N) Characteristics of Security Architecture for the Enterprise Architect KLP 21-2 (2N) Define the Security Architecture influences on ADM Architecture Requirements Management KLP 21-3 (2N) Define the Security Architecture influences on the Preliminary Phase KLP 21-4 (2N) Define the Security Architecture influences on Phase A KLP 21-5 (2N) Define the Security Architecture influences on Phase B KLP 21-6 (2N) Define the Security Architecture influences on Phase C KLP 21-7 (2N) Define the Security Architecture influences on Phase D KLP 21-8 (2N) Define the Security Architecture influences on Phase E KLP 21-9 (2N) Define the Security Architecture influences on Phase F KLP 21-10 (2N) Define the Security Architecture influences on Phase G KLP 21-11 (2N) Define the Security Architecture influences on Phase H
22	Using TOGAF to Define and Govern SOAs	KLP 22-1 (2N) Characteristics of SOA KLP 22-2 (2N) Explain how enterprise architecture supports SOA KLP 22-3 (2N) Explain SOA influences on the phases of the ADM
23	Architecture Principles	KLP 23.1-1 (1) Understanding the need for Architecture Principles and where they are used within the ADM KLP 23.2-1 (2) Characteristics of Architecture Principles KLP 23.3-1 (1) A standard template KLP 23.4-1 (2) Developing Architecture Principles KLP 23.4-2 (1) Criteria for quality principles KLP 23.5-1 (2) Applying Architecture Principles KLP 23.6-1 (2) Example sets of principles
24	Stakeholder Management	KLP 24-1 (2N) Why Stakeholder Management is important KLP 24-2 (2N) Developing a stakeholder approach KLP 24-3 (2N) Defining the steps in Stakeholder Management KLP 24-4 (2N) Example Stakeholder Map

Section		Key Learning Point(s)
25	Architecture Patterns	KLP 25.1-1 (1) Characteristics of Architecture Patterns KLP 25.1-2 (-) How to use Architecture Patterns KLP 25.2-1 (-) Example Architecture Patterns
26	Business Scenarios	KLP 26.1-1 (1) What a Business Scenario is and its purpose KLP 26.1-2 (1) When the Business Scenario technique is used within TOGAF KLP 26.3-1 (2) The contents of a Business Scenario KLP 26.7-1 (2) Guidelines on developing Business Scenarios KLP 26.9-1 (2) Guidelines on goals and objectives
27	Gap Analysis	KLP 27.1-1 (2) Where the Gap Analysis technique is used within TOGAF and why KLP 27.2-1 (1) The technique of Gap Analysis
28	Migration Planning Techniques	KLP 28-1 (2N) Implementation Factor Assessment and Deduction Matrix KLP 28-2 (2N) Consolidated Gaps, Solutions, and Dependencies Matrix KLP 28-3 (2N) Architecture Definition Increments Table KLP 28-4 (2N) Transition Architecture State Evolution Table KLP 28-5 (2N) Business Value Assessment Technique
29	Interoperability Requirements	KLP 29.1-1 (1N) Where the determination of interoperability is used within the ADM KLP 29.2-1 (1N) Defining interoperability KLP 29.4-1 (2N) Refining interoperability KLP 29.5-1 (2N) Determining Interoperability Requirements KLP 29.6-1 (2N) Reconciling Interoperability Requirements with potential solutions
30	Business Transformation Readiness Assessment	KLP 30.1-1 (1N) Where the Business Transformation Readiness Assessment is used within the ADM KLP 30.1-2 (1N) Characteristics of the Business Transformation enablement program KLP 30.2-1 (2N) Identify factors that influence Architecture Transformation Readiness KLP 30.3-1 (2N) Understand how to apply Architecture Maturity Models
31	Risk Management	KLP 31.1-1 (1N) Where Risk Management is used within the ADM KLP 31.1-2 (1N) Characteristics of Risk Management KLP 31.4-1 (2N) Determine requirements for Risk Assessments KLP 31.7-1 (2N) Risk monitoring and governance in Phase G
32	Capability-Based Planning	KLP 32.1-1 (1N) Characteristics of Capability-Based Planning KLP 32.4-2 (2N) Applying Capability-Based Planning in an enterprise architecture context
Part IV: Architecture Content Framework		

Section		Key Learning Point(s)
33	Introduction	KLP 33.1-1 (1N) An overview of the Architecture Content Framework including explanations of key concepts: deliverable, artifact, building block, and their relationship KLP 33.2-1 (2N) An introduction to the Content Metamodel KLP 33.3-1 (2N) The Content Framework and the TOGAF ADM
34	Content Metamodel	
34.1	Overview	
34.2	Core Metamodel Vision and Concepts	KLP 34.2-1 (2N) Describe the metamodel entities that form the core of the TOGAF Metamodel KLP 34.2-2 (2N) Identify the catalogs, matrices, and diagrams relevant to the different ADM phases
34.3	Content Metamodel in Detail	KLP 34.3.1-1 (-) Analyze the relationships between the metamodel entities in the Core Content Metamodel KLP 34.3.2-1 (-) Decide which core artefacts are needed to support each of the ADM phases for a given example/case study/scenario KLP 34.3.3-1 (-) Demonstrate how new metamodel entities are introduced into the Core Content Metamodel when all the extensions are applied KLP 34.3.3-2 (-) Justify the relationships between entities in the full metamodel
34.4	Content Metamodel Extensions	KLP 34.4-1 (-) Explain when Content Metamodel extensions should be used KLP 34.4.1-1 (-) Explain the purpose of the Governance Extension KLP 34.4.2-1 (-) Explain the purpose of the Services Extension KLP 34.4.3-1 (-) Explain the purpose of the Process Modeling Extension KLP 34.4.4-1 (-) Explain the purpose of the Data Extension KLP 34.4.5-1 (-) Explain the purpose of the Infrastructure Consolidation Extension KLP 34.4.6-1b (-) Explain the purpose of the Motivation Consolidation

Section		Key Learning Point(s)
35	Architectural Artifacts	KLP 35.1-1 (1) The basic architectural concepts surrounding artifacts – architecture, architecture description, stakeholders, concerns, view, viewpoints KLP 35.1-1 (-) The Basic Architectural Concepts surrounding artifacts – system KLP 35.1-2 (1) Provide a simple example of a view and viewpoint KLP 35.1-3 (1) Discuss the relationship between stakeholders, concerns, views, and viewpoints KLP 35.2-1 (1) Discuss and describe the view creation process KLP 35.6-1 (2) Identify artifacts associated with the Core Content Metamodel and Extensions KLP 35.6-2 (2N) What are the classes of artifacts within the TOGAF Core Content Metamodel?
36	Architecture Deliverables	KLP 36.1-1 (1) Understand and explain the purpose of this section of the document KLP 36.1-2 (2N) Understand where within the ADM each architecture deliverable is used KLP 36.2-1 (1N) Understand the purpose of each architecture deliverable KLP 36.2-2 (2N) Understand the high-level contents of each architecture deliverable
37	Building Blocks	
37.1	Overview	KLP 37.1-1 (1) What are the general characteristics of building blocks in TOGAF? KLP 37.1-2 (1) What is the relationship of building blocks to other TOGAF deliverables?
37.2	Introduction to Building Blocks	KLP 37.2-1 (1) Define what a building block is, and explain the attributes of a good building block KLP 37.2-2 (1) Explain the distinction between Architecture Building Blocks and Solution Building Blocks KLP 37.2-3 (2) What are the characteristics and specification content of Architecture Building Blocks? KLP 37.2-4 (2) What are the characteristics and specification content of Solution Building Blocks?
37.3	Building Blocks and the ADM	KLP 37.3-1 (1) Explain the use of building blocks in the ADM cycle KLP 37.3-2 (2) What are the classes of building blocks? KLP 37.3-3 (2) How do building blocks evolve as a project moves through the phases of the ADM?
Part V: Enterprise Continuum and Tools		
38	Introduction	

Section		Key Learning Point(s)
39	Enterprise Continuum	KLP 39.1-1 (1) What is the Enterprise Continuum? KLP 39.1-2 (1N) What is the relationship between the Enterprise Continuum and the Architecture Repository? KLP 39.2-1 (1) How is the Enterprise Continuum used in organizing and developing architectures? KLP 39.2-2 (1) How does the Enterprise Continuum promote re-use of architecture artifacts? KLP 39.3-1 (1) What are the constituents of the Enterprise Continuum? KLP 39.3-2 (1) What is the purpose of the Enterprise Continuum? KLP-39.4-1 (2) What assets can be managed through the Enterprise Continuum? KLP 39.4-2 (2) What types of contextual factors are managed in the Enterprise Continuum? KLP 39.4-3 (1) What is the purpose of the Architecture Continuum? KLP 39.4-4 (1) What are the stages of architecture evolution defined in the Architecture Continuum? KLP 39.4-5 (2) What is the progression of evolutionary transformation of architectures in the Architecture Continuum? KLP 39.4-6 (1) What is the purpose of the Solutions Continuum? KLP 39.4-7 (1) What are the stages of architecture evolution defined in the Solutions Continuum? KLP 39.4-8 (2) What is the progression of evolutionary transformation of solution architectures in the Solutions Continuum? KLP 39.5-1 (1) What is the relationship between the Enterprise Continuum and the TOGAF ADM? KLP 39.6-1 (2) What is the relationship between the three continua as the architecture evolves?
40	Architecture Partitioning	
40.1	Overview	KLP 40.1-1 (2N) What is Architecture Partitioning? KLP 40.1-2 (2N) What are the reasons for partitioning the enterprise architecture?
40.2	Applying Classification to Create Partitioned Architectures	KLP 40.2-1 (2N) What are the classification criteria to support partitioning of solutions? KLP 40.2-1 (2N) What are the classification criteria to support partitioning of architectures? KLP 40.2-3 (2N) What are the key Partitioning activities for the Preliminary Phase of the ADM?
40.3	Integration	KLP 40.3-1 (2N) How can the TOGAF Content Framework be used to aggregate and integrate architecture content to facilitate a coherent enterprise architecture strategy?
41	Architecture Repository	KLP 41-1 (1N) What is an Architecture Repository?

Section		Key Learning Point(s)
41.1	Overview	KLP 41.1-1 (1N) What is the relationship between the Architecture Repository and the Enterprise Repository? KLP 41.1-2 (1N) What are the classes of information that are held in an Architecture Repository?
41.2	Architecture Landscape	KLP 41.2-1 (1N) What are the three levels of the Architecture Landscape?
41.3	Reference Library	KLP 41.3-1 (1N) What types of content can be held in the Reference Library of the Architecture Repository?
41.4	Standards Information Base	KLP 41.4-1 (1) What is the Standards Information Base? KLP 41.4-2 (2N) What are the classes of standards held in the Standards Information Base? KLP 41.4-3 (2N) What is the lifecycle of standards?
41.5	Governance Log	KLP 41.5-1 (2N) What is the purpose of the Governance Log in the Architecture Repository? KLP 41.5-2 (2N) What are the types of content that can be managed in the Governance Log of an Architecture Repository?
41.6	The Enterprise Repository	KLP 41.6-1 (2N) What is the Enterprise Repository?
42	Tools for Architecture Development	
42.1	Overview	
42.2	Issues in Tool Standardization	KLP 42.2-1 (-) An understanding of high-level issues with tool standardization
Part VI: TOGAF Reference Models		
43	Foundation Architecture: Technical Reference Model	
43.1	Concepts	KLP 43.1-1 (1) What is the TOGAF Foundation Architecture? KLP 43.1-2 (1) What is the role of the Technical Reference Model in the Foundation Architecture? KLP 43.1-3 (2) What are the components of the TRM?
43.2	High-Level Breakdown	KLP 43.2-1 (2) What are the major entities in the TOGAF TRM? KLP 43.2-2 (2) What are the main architecture objectives that can be achieved by using the TRM?

Section		Key Learning Point(s)
43.3	TRM in Detail	KLP 43.3-1 (1) What is the purpose, structure, and use of the TRM? KLP 43.3-2 (2) What is the difference between a business application and an infrastructure application? KLP 43.3-3 (2) What is the Application Platform Interface? KLP 43.3-4 (2) What is the Communications Infrastructure Interface? KLP 43.3-5 (2) What is the Application Platform concept?
43.4	Application Platform – Taxonomy	KLP 43.4-1 (2) What is the Platform Services Taxonomy? KLP 43-4-2 (2) What is the Service Quality Taxonomy?
43.5	Detailed Platform Taxonomy	KLP 43.5-1 (1) For each of the detailed taxonomy categories, be able to identify examples of the services that are provided KLP 43.5-2 (2) Be able to describe how to customize the Foundation Architecture TRM to meet your organization's needs
44	Integrated Information Infrastructure Reference Model	KLP 44.1-1 (1) The basic concepts of the III-RM KLP 44.1-2 (1) Describe the relationship of the III-RM to the concept of Boundaryless Information Flow KLP 44.1-3 (2) What are the key business and technical drivers for Boundaryless Information Flow? KLP 44.1-4 (2) How does the III-RM fulfil the solutions space for Boundaryless Information Flow? KLP 44.2-1 (2) The high-level view of the III-RM KLP 44.3-1 (2) The detailed taxonomy
Part VII: Architecture Capability Framework		
45	Introduction	KLP 45-1 (1) The existence of this part and its purpose
46	Establishing an Architecture Capability	KLP 46.1-1 (1N) The approach of using the ADM to establish an Architecture Capability
47	Architecture Board	KLP 47.1-1 (1) The need for an Architecture Board KLP 47-2-1 (1) The responsibilities of an Architecture Board KLP 47.3-1 (2) Setting up an Architecture Board KLP 47.4-1 (2) Operating an Architecture Board
48	Architecture Compliance	KLP 48.1-1 (1) The need for Architecture Compliance KLP 48.2-1 (1) The meaning of Architecture Compliance KLP 48.3-1 (1) The purpose of Architecture Compliance Reviews KLP 48.4-1 (1) The Architecture Compliance Review process KLP 48.6-1 (2) How to tailor and conduct an Architecture Compliance Review
49	Architecture Contracts	KLP 49.1-1 (1) The role of Architecture Contracts KLP 49.2-1 (2) Contents of Architecture Contracts KLP 49.3-1 (2) Relationship to Architecture Governance

Section		Key Learning Point(s)
50	Architecture Governance	KLP 50.1-1 (1) What is Architecture Governance (nature, characteristics, etc.)? KLP 50.2-1 (1) The main concepts that make up an Architecture Governance framework KLP 50.3-1 (1) Why is Architecture Governance beneficial? KLP 50.3-2 (2) The key success factors for Architecture Governance in practice
51	Architecture Maturity Models	KLP 51.1-1 (2) Understanding the role of Capability Maturity Models KLP 51.2-1 (2) Understanding the evolution and adoption of CMMI KLP 51.3-1 (2) Understanding the concepts and level of the US Department of Commerce Architecture Capability Maturity Model framework KLP 51.3-2 (2) Ability to relate the levels of the ACCM to the TOGAF ADM KLP 51.4-1 (2) Awareness of the existence of other Architecture Capability Maturity Models
52	Architecture Skills Framework	KLP 52.2-1 (2) The need for the Architecture Skills Framework KLP 52.3-1 (2) Benefits of adopting the framework KLP 52.4-1 (2) Skills and categories of the framework

8. RATIONALE (INFORMATIVE)

This section contains informative rationale.

8.1 Background

The *Background* section is derived from the *Certification Policy* document and provides useful background information on the program, so this document has an element of self-containment.

8.2 Conformance Terminology

This section explains the approach taken in defining Learning Outcomes for a Candidate, and the terms used. It is explicitly stated that this approach does not mandate the structure, order, or duration of taught modules in an Accredited TOGAF Training Course (ATTC). Trainers are free to structure courses as they see fit. It is expected that accredited trainers will tailor a course to the specific audience, its experience, and needs. So, for example, some courses might be Level 1 training courses, some Level 2, some bridging (upgrade) courses for individuals who are TOGAF 8 Certified, or perhaps the course might be part of a custom training program, a component part of which is certification to TOGAF 9.

8.3 Conformance Requirements

The *Conformance Requirements* are documented as the Learning Outcomes for a Candidate. These have been organized into a set of Learning Units for the two levels of certification addressed in this document, plus the *Bridging* option for individuals who have been TOGAF 8 Certified.

A Learning Unit is a related set of Learning Outcomes related to Key Learning Points (KLPs) derived from the TOGAF 9 *body of knowledge*, where a Learning Outcome is typically a 2 to 15-minute self-contained learning object. It is expected that a Learning Unit would equate to between 30 and 90 minutes of taught learning equivalence.

The Learning Units in Level 2 require a deeper understanding than Level 1, and are phrased accordingly.

Bridging from TOGAF 8 Certified to Level 2 is intended to equate to the equivalent accumulated learning of both Level 1 and Level 2, with an additional Learning Unit on Migration.

8.4 Indicators of Compliance

This section documents that the descriptions of the measurement of attainment to the levels can be located from The Open Group certification web site.

This section also recognizes that in some markets there may be alternate Indicators of Compliance as approved by The Open Group from time to time on a case-by-case basis.

8.5 TOGAF 9 Knowledge Base

This section contains the raw definition of the *body of knowledge* for TOGAF 9. This is structured into sections. For each section of TOGAF 9, KLPs are defined together with a classification of whether a KLP should be at Level 1 or Level 2. On its own, this was not deemed suitable as the Conformance Requirements definition, hence the Learning Units have been defined which relate to the desired Learning Outcomes. The Learning Units refer to the KLPs, thus providing traceability of requirements back to TOGAF 9 itself.