

BCS PRACTITIONER AWARD IN **SOLUTION ARCHITECTURE**

SYLLABUS

This professional certification is not regulated by the following United Kingdom Regulators - Ofqual, Qualifications Wales, CCEA or SQA.



CONTENTS

INTRODUCTION	04
LEARNING OUTCOMES	04
QUALIFICATION SUITABILITY	05
TRAINER CRITERIA	05
SFIA LEVELS	06
SYLLABUS	08
EXAMINATION FORMAT	16
QUESTION WEIGHTING	17
RECOMMENDED READING	18
USING BCS BOOKS	19
DOCUMENT CHANGE HISTORY	19



INTRODUCTION AND OVERVIEW

INTRODUCTION

What is architecture? Architecture doesn't just involve technology, infrastructure and software, but focuses on reducing cost and managing risk to the organisation.

Solution architects create and utilise a blueprint for a holistic solution that tackles a business need, problem or opportunity, ensuring that this solution aligns with the organisation's strategy and minimises any potential negative impacts.

The Practitioner Award in Solution Architecture will give candidates an in-depth understanding of the role of solution architecture, including the activities undertaken by solution architects, implementing appropriate constraints, constraints and the requirements, in addition to governance, decision making and artefacts. It will also explore how the role of solution architecture fits in with the other architecture domains.

LEARNING OBJECTIVES

Upon completion of this award, candidates will be able to demonstrate a practical understanding of:

- The general values of architecture.
- The key activities undertaken by a solution architect.
- Activities undertaken by solution architects.
- How artefacts are used in business contexts.
- How solution architecture interacts with people and processes.
- Governance and decision-making processes.



QUALIFICATION SUITABILITY AND OVERVIEW

Centres must ensure that learners have the potential and opportunity to gain the qualification successfully. Candidates will need to have passed the BCS Foundation Certificate in Architecture Concepts and Domains and a good standard of written English and Maths.

This qualification is suitable for candidates who are looking to progress their career within a solution architecture role. It can be taken in

combination with other Practitioner Awards and the Practitioner Certificate in Enterprise and Solution Architecture.

Candidates can study for this certificate by attending a training course provided by a BCS accredited Training Provider or through self-study.

TOTAL QUALIFICATION TIME	GUIDED LEARNING HOURS	INDEPENDENT LEARNING	ASSESSMENT TIME
17 hours	15 hours	2 hours	30 minutes



TRAINER CRITERIA



It is recommended that to deliver this certification effectively, trainers should possess:

- The BCS Practitioner Award in Solution Architecture.
- A minimum of 2 years' training experience or 1 year with a recognised qualification.
- A minimum of 3 years' practical experience in the area of IT architecture.

SFIA LEVELS

This award provides candidates with the level of knowledge highlighted within the table, enabling them to develop the skills to operate successfully at the levels of responsibility indicated.

LEVEL	LEVELS OF KNOWLEDGE	LEVELS OF SKILLS AND RESPONSIBILITY (SFIA)
K7		Set strategy, inspire and mobilise
K6	Evaluate	Initiate and influence
K5	Synthesise	Ensure and advise
K4	Analyse	Enable
K3	Apply	Apply
K2	Understand	Assist
K1	Remember	Follow

This syllabus has been linked to the SFIA knowledge skills and behaviours required at level 4 for an individual working in solution architecture. For further information regarding the SFIA Levels please visit: <https://www.bcs.org/it-careers/sfiaplus-it-skills-framework/>

SFIAPLUS

This syllabus has been linked to the SFIA knowledge skills and behaviours required at level 4 for an individual working in solution architecture.

ARCH4KSB01

Acquiring a proper understanding of a problem or situation by breaking it down systematically into its component parts and identifying the relationships between these parts. Selecting the appropriate method/tool to resolve the problem and reflecting critically on the result, so that what is learnt is identified and assimilated.

ARCH4KSB08

Determining a course of action by breaking it down into smaller steps and by planning and resourcing each of these, making allowance for potential problems and escalating if necessary.

ARCH4KSB13

Understanding the needs of the internal or external customer and keeping these in mind when taking actions or making decisions.

ARCH4KSB19

Understanding the needs, objectives and constraints of those in other disciplines and functions.

ARCH4KSB22

Establishing relationships, contributing to an open culture and maintaining contacts with people from a variety of backgrounds and disciplines. Effective, approachable and sensitive communicator in different communities and cultures. Ability to adapt style and approach to meet the needs of different audiences.

ARCH4KSB24

Working collaboratively with others to achieve a common goal.

ARCH4KSC52

The principles and application of cloud/ virtualisation (including ownership, responsibilities and security implications). Use of tools and systems to manage virtualised environments.



SYLLABUS

1. GENERAL VALUES AND FRAMEWORKS OF ARCHITECTURE (10%) K3

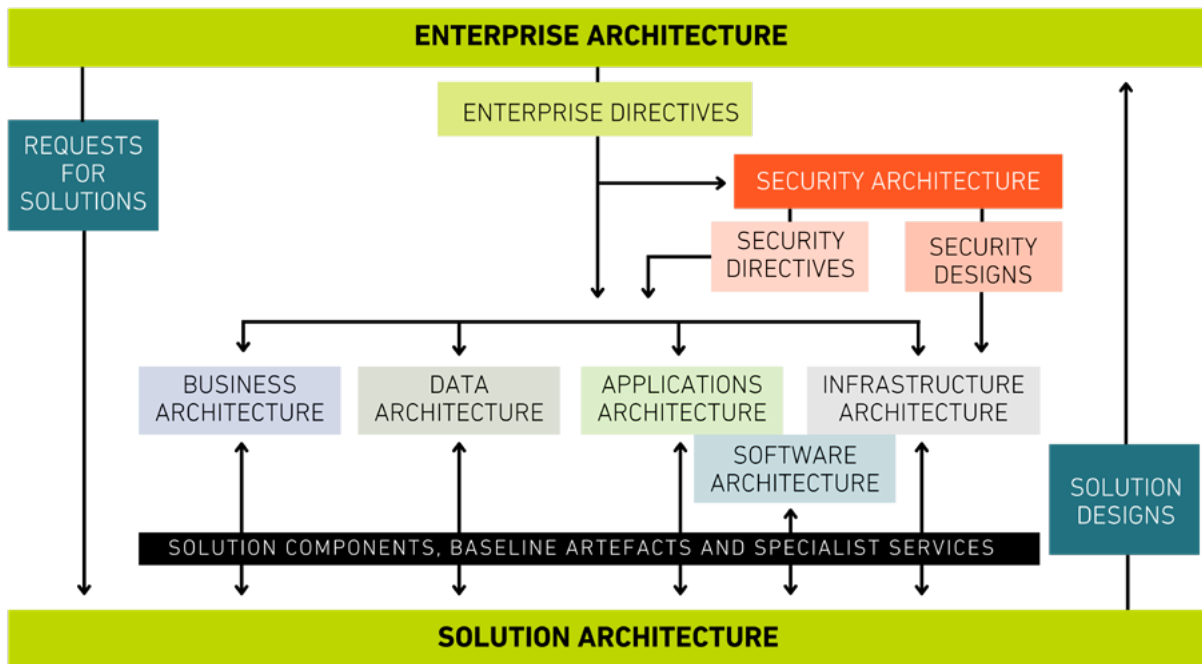
1.1 Describe the relationship between architectural domains and the business.

Indicative content

- a. Guiding values of architecture:
 - Bridge the gap between tech and business.
 - Contribute to identifying the current state and target state.
 - Align change to business requirements.
- b. The structure of architecture.

Guidance

The candidate should be able to explain the actions undertaken in architecture are centred around business strategy. They should be able to identify how guiding values positively impact the relationship between technology, business, and other architectural domains.



1.2 Analyse the use of architectural frameworks.

Indicative content

- a. TOGAF (The Open Group Architecture Framework).
- b. Zachman (The Zachman Framework).

Guidance

The candidate should be able to clearly explain and analyse the use of the TOGAF and Zachman frameworks in business contexts. This includes describing the structure, applications, benefits and drawbacks.



2. SOLUTION ARCHITECTURE DEFINITIONS, VALUES AND ARTEFACTS (20%) K4

2.1 Define the role of solutions architect.

Indicative content

- a. The definition of solution architecture: “Solution architecture is a discipline concerned with the production and management of a blueprint for a comprehensive solution, that addresses a business need, problem or opportunity, and integrates with the business, in alignment with its strategy, while minimising negative impacts”.

Guidance

The candidate should be able to define the role of a solution architect (including the associated tasks and responsibilities). They should also be able to explain where solution architecture sits in relation to other domains.

2.2 Identify solution architecture values in specific contexts.

Indicative content

- a. Guiding values of solution architecture
- Achieve business objectives through specific solutions to specific opportunities.
 - Ensure solutions are compatible with the strategies defined by the enterprise architecture.
 - Balance the solution and business needs while minimising technical debt.

Guidance

The candidate should be able to identify the values of solution architecture and how they inform an organisation’s approach to developing solutions to challenges and opportunities.

2.3 Describe key artefacts used in solution architecture.

Indicative content

- a. Blueprint (current state and target state).
b. Levels of abstraction (conceptual, logical, physical).
c. Component diagram.
d. Activity diagram.
e. Gap analysis.

Guidance

The candidate should be able to describe key artefacts used in solution architecture and explain how they are used to contribute towards creating effective solutions.

3. A CRITICAL APPROACH (25%) K4

3.1 Analyse how blueprinting is used in specific contexts.

Indicative content

- a. Current state and target state.
- b. When to use blueprints.
- c. How they help achieve target solutions.
- d. Benefits and drawbacks.

Guidance

The candidate should be able to explain how blueprints are used in a variety of specific contexts. This includes understanding how blueprints are used for different audiences and solutions. They should also be able to explain the limitations of high-level models.

3.2 Analyse how component diagrams are used in specific contexts.

Indicative content

- a. When to use component diagrams.
- b. What makes an effective component diagram.
- c. Levels of abstraction (conceptual, logical, physical).

Guidance

The candidate should be able to analyse how component diagrams are used in a variety of specific contexts. This includes understanding they are used for different audiences and solutions.

3.3 Analyse how activity diagrams are used in specific contexts.

Indicative content

- a. When to use activity diagrams.
- b. What an activity diagram captures.
- c. Who uses an activity diagram.

Guidance

The candidate should be able to analyse how activity diagrams are used in a variety of specific contexts. This includes understanding how they are used for different audiences and solutions.

3.4 Apply gap analysis to the design process.

Indicative content

- a. The purpose of gap analysis.
- b. The method of preparing gap analysis.

Guidance

The candidate should be able to review the design process using a gap analysis. This requires an understanding how to prepare a gap analysis and its purpose. They should be able to use and review the grid, table and graph methods, gap models and gap reports.



4. PEOPLE AND PROCESSES (25%) K4

4.1 Analyse how the design authority influences solutions development.

Indicative content

- a. Types of design authority (business/technical).
- b. The role of the solution architect.
- c. Decision makers.

Guidance

The candidate should be able to explain how a design authority is established and identify the main decision makers. They should also be able to explain how the solution architect interacts with the design authority and how they are influenced by the decision makers.

4.2 Analyse how solution architecture interacts with other stakeholders.

Indicative content

- a. Business stakeholders.
- b. Business teams.
- c. Enterprise architecture.
- d. Informal relationship building.
- e. Capturing views.

Guidance

The candidate should be able to examine how solution architecture influences the activities of other stakeholders within an organisation. This includes understanding the different types of stakeholders (e.g. technical/non-technical) and how there may be conflicting views. They should also be able to identify appropriate approaches to interacting with stakeholders at different levels of the organisation.

5. GOVERNANCE (20%) K4

5.1 Analyse how solution architecture interacts with governance.

Indicative content

- a. Compliance across solution lifecycle.
- b. Internal/external.
- c. Industry regulations.

Guidance

The candidate should be able to understand the requirements for remaining compliant throughout the solution development lifecycle. This includes adhering to both internal and external regulations, policies and standards.

5.2 Analyse architecture governance and decisions.

Indicative content

- a. Decision records.
- b. Architects Review Board.
- c. Business Design Authority.
- d. Solution Architecture Board on Technical Design Authority.
- e. Compliance reviews.
- f. Granting exemptions.
- g. External and internal legislation.

Guidance

The candidate should be able to examine decision making and lead on running the authorities and local boards. They should be able to escalate matters to the Architects Review Board and enterprise authorities.

EXAMINATION FORMAT

This award is assessed by completing an invigilated online exam that candidates will only be able to access at the date and time they are registered to attend.

Adjustments and/or additional time can be requested in line with the [BCS reasonable adjustments policy](#) for candidates with a disability or other special considerations, including English as a second language.

TYPE

20 MULTIPLE CHOICE AND
MULTIPLE RESPONSE
QUESTIONS

DURATION

30 MINUTES

SUPERVISED

YES
THIS AWARD WILL BE
SUPERVISED

OPEN BOOK

NO
(NO MATERIALS CAN
BE TAKEN INTO THE
EXAMINATION ROOM)

PASSMARK

65%
13/20

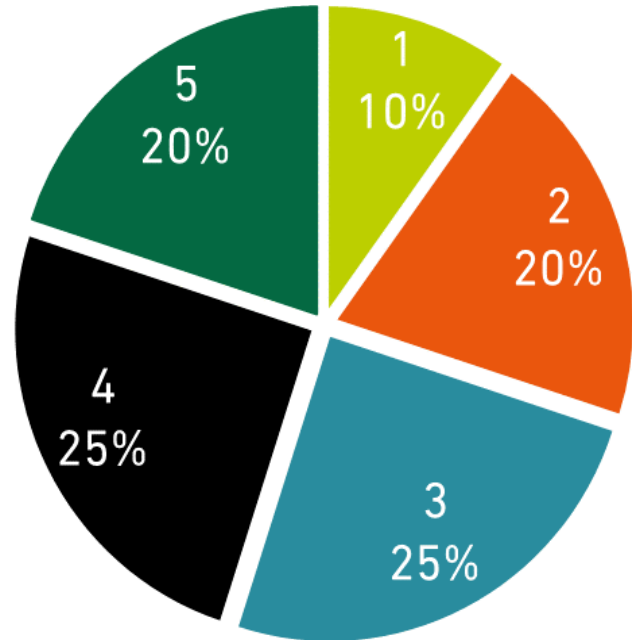
DELIVERY

DIGITAL

QUESTION WEIGHTING

Each primary subject heading in this syllabus is assigned a percentage weighting. The purpose of this is:

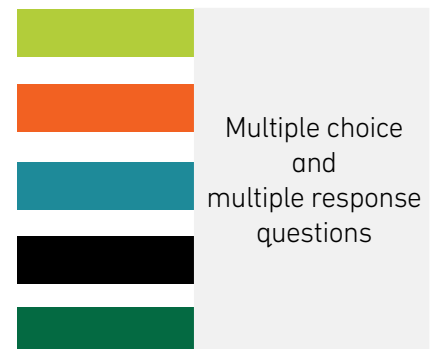
- Guidance on the proportion of content allocated to each topic area of an accredited course.
- Guidance on the proportion of questions in the exam.



Syllabus Area

- 1** General Values and Frameworks of Architecture
- 2** Solution Architecture: Definitions, Values, and Artefacts
- 3** A Critical Approach
- 4** People and Processes
- 5** Governance

Question Type



RECOMMENDED READING

The following titles are suggested reading for anyone undertaking this award. Candidates should be encouraged to explore other available sources.

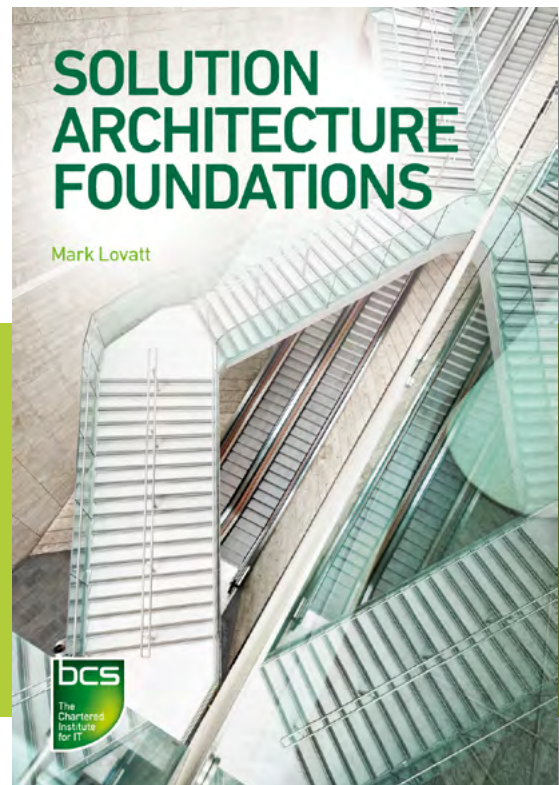
TITLE: Solution Architecture Foundations

AUTHOR: Mark Lovatt

PUBLISHER: BCS

PUBLICATION DATE: 2021

ISBN: 978-1-78017-5676



USING BCS BOOKS

Accredited Training Organisations may include excerpts from BCS books in the course materials. If you wish to use quotes from the books, you will need a license from BCS. To request an appointment, please get in touch with the Head of Publishing at BCS outlining, the material you wish to copy and the use to which it will be put.



DOCUMENT CHANGE HISTORY

Any changes made to the syllabus shall be clearly documented with a change history log. This shall include the latest version number, date of the amendment and changes made. The purpose is to identify quickly what changes have been made.

VERSION NUMBER	CHANGES MADE
Version 1.0	Document created.

For further information please contact:

BCS

The Chartered Institute for IT

3 Newbridge Square

Swindon

SN1 1BY

T +44 (0)1793 417 417

www.bcs.org

© 2023 Reserved. BCS, The Chartered Institute for IT
All rights reserved. No part of this material protected
by this copyright may be reproduced or utilised in
any form, or by any means, electronic or mechanical,
including photocopying, recording, or by any
information storage and retrieval system without
prior authorisation and credit to BCS, The Chartered
Institute for IT.

Although BCS, The Chartered Institute for IT has used
reasonable endeavours in compiling the document
it does not guarantee nor shall it be responsible for
reliance upon the contents of the document and shall
not be liable for any false, inaccurate or incomplete
information. Any reliance placed upon the contents
by the reader is at the reader's sole risk and BCS, The
Chartered Institute for IT shall not be liable for any
consequences of such reliance.

