BCS Practitioner Certificate in Integrating Off-the-shelf Software Solutions
Syllabus

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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 and Date	Changes Made
Version 2.5 April 2017	Standardised new template format adopted, with revised ToC. No material change to syllabus content.
Version 2.4 December 2016	Strapline regarding regulated statement has been added
Version 2.3 March 2015	Updated language requirements for additional time and use of dictionaries.
Version 2.2 September 2012	Updated the Reasonable Adjustments Requirements Included a section to cover excerpts from BCS books
Version 2.1 August 2012	Added in details of extra time for foreign language candidates
Version 2.0 August 2011	Updated ISEB to BCS logos and new strapline. Added table of contents, levels of knowledge, levels of skill and responsibility, format of the examination, change history and definition of terminology. **Technical Content Changes:** Re-emphasis of focus towards software solution integration away from procurement of package solutions. Reworked to allow for commercial off the shelf solutions (COTS) and open source software. Stronger links to operational implementation and service management. Now covers strategic issues, roles and responsibilities in software solution selection and integration, more on the role of requirements, component integration and deployment.

Introduction

Many organisations now choose to fulfil their information system requirements through purchasing and implementing off-the-shelf software solutions either commercially purchased (COTS) or open source.

This certificate provides a focus and a framework for selecting, customising and implementing these off-the-shelf software solutions and addresses the most common issues relating to the integration of these solutions within a wider systems context.

It concentrates on the COTS approach but many considerations are also applicable to open source software solutions.

A pass in this Certificate is an optional requirement of the BCS International Diploma in Systems Development, for candidates wishing to follow that certification pathway later.

Objectives

This course provides candidates with an understanding of the principles of, and practical experience of using, industry best practice involved in Systems Modelling Techniques.

Specific Learning Objectives

The candidate should be able to:

- Establish the strategic issues of an off-the-shelf approach
- Discuss the advantages and disadvantages of an off-the-shelf approach to systems development and identify typical risks associated with this approach
- Identify the different roles involved in the integration of an off-the-shelf solution
- Define a framework for effective selection of an off-the-shelf solution
- Define a framework for effective customisation and integration of an off-the-shelf solution
- Recognise the role of requirements in the selection and integration of an off-the-shelf solution and identify the different types of requirements of particular relevance to this approach
- Identify a range of issues arising from the integration of a new off-the-shelf solution with a portfolio of existing bespoke and off-the-shelf solutions and components
- Recognise the role of models in the integration of an off-the-shelf solution and be able to interpret the following models:
  - Business process model
  - System function model
  - Static data model
  - Dynamic (event) model

    - Component model
- Recognise a range of component integration strategies and their relative advantages and disadvantages
- Recognise the importance of testing in off-the-shelf solution integration and identify representative testing approaches
- Identify implementation and long-term support considerations for the selected off-the- shelf solution and its customised elements
- Determine an approach to the deployment of an off-the-shelf solution and handover of the solution to the service management function

Target Audience

This qualification is targeted at anyone who is involved in any aspect of integration of software solutions.

Course Format and Duration

Candidates can study for this certificate in two ways: by attending training courses provided by an Accredited Training Organisation or by self-study. An accredited training course will require a minimum of 21 hours of study run over a minimum of three days.

The course can be delivered a number of different ways from traditional class-room based training to online e-learning.

Eligibility for the Examination

There are no specific pre-requisites for entry to the examination; however, candidates should possess the appropriate level of knowledge to fulfil the objective shown above.

Format of the Examination

- 60 minute written 'open book', based on a business scenario, preceded by 15 minutes additional reading time
- Pass mark is 50%

The examination will be based on the syllabus in this document.

Additional time

For candidates requiring reasonable adjustments

Please refer to the reasonable adjustments policy for detailed information on how and when to apply.

For candidates whose language is not the language of the examination

If the examination is taken in a language that is not the candidate's native/official language, candidates are entitled to:

- 25% extra time
- Use their own **paper** language dictionary (whose purpose is translation between the examination language and another national language) during the examination
  Electronic versions of dictionaries will **not** be allowed into the examination room

Excerpts from BCS books

Accredited Training Organisations may include excerpts from BCS books in the course materials. If you wish to use excerpts from the books you will need a license from BCS to do this. If you are interested in taking out a licence to use BCS published material, you should contact the Head of Publishing at BCS outlining the material you wish to copy and the use to which it will be put.

Guidelines for Accredited Training Organisations

Each major subject heading in this syllabus is assigned an allocated time. The purpose of this is two-fold: first, to give both guidance on the relative proportion of time to be allocated to each section of an accredited course and an approximate minimum time for the teaching of each section; second, to guide the proportion of questions in the exam. Accredited Training Organisations may spend more time than is indicated and candidates may spend more time again in reading and research. Courses do not have to follow the same order as the syllabus. Courses may be run as a single module or broken down into two or three smaller modules.

Note that specific laws and legal issues relating to the country(s) within which a training provider operates may be mentioned as examples and included in course material, but the examination will only test the principles

This syllabus is structured into sections relating to major subject headings and numbered with a single digit section number. Each section is allocated a minimum contact time for presentation.

Use of Calculators

No calculators or mobile technology will be allowed.

Syllabus

For each top-level area of the syllabus a percentage is identified. The percentage is the exam coverage of that area.

1. Strategic and compliance issues for use of off-the-shelf solutions (15%)

1.1 Advantages and disadvantages of the approach
1.2 Risks of the approach and customisation
1.3 Relationship of solutions to:
- Business strategy
- IT strategy
- Business processes

1.4 Legal issues, legal requirements (e.g. EU rules) and standards (e.g. IEEE 1062)

2. Roles and responsibilities in successful off-the-shelf selection and integration (10%)

2.1 Project roles
- Project sponsor
- Project manager
- Business analyst
- Systems analyst
- Solution developer
- Solution tester
- End users and managers

2.2 Architect roles
- Applications architect
- Data architect
- Infrastructure architect
- Solutions architect

2.3 Service Delivery and management roles

3. Selecting a suitable off-the-shelf solution (15%)

3.1 A framework for solution selection
3.2 The use of prototyping
3.3 Published solution requirements and matrices
3.4 Maintenance and support agreements
3.5 Licensing agreements
3.6 Negotiating and amending supply contracts
3.7 Managing the long-term relationship with the supplier

4. The role of requirements in successful off-the-shelf solution selection and integration (20%)

4.1 The role of the requirements catalogue
4.2 The role of models in the specification of requirements
- Identification of relevant business functions and significant events
- Identification of system functions and their triggers (mapping to business functions and events)

4.3 Identification of significant input and output requirements
4.4 Non-functional requirements
4.5 Technical requirements and conformance
4.6 Product design requirements
4.7 Implementation requirements
4.8 Infrastructure requirements
4.9 Supplier citizenship requirements
4.10 Integration protocol issues

5. Component and system integration issues (20%)

5.1 Data integration issues
5.2 Component integration strategies
5.3 Modelling component interfaces
5.4 Component integration and system integration testing
5.5 The role of ETL (Exact Transform Load) in off-the-shelf solution integration

6. Deployment and service management issues (20%)

6.1 Business change considerations
- Changeover strategies (parallel run, pilot, direct changeover)
- Training and documentation
- The role of the deployment plan

6.2 Technical Considerations
- Modelling the deployment schema
- Data conversion/take-on
- Software release management and release packages
- The build/installation plan and build specification
- Configuring the solution
- Software configuration management

6.3 Service Management issues
- The service transition plan
- Upgrade arrangements and management
- Site acceptance testing

Levels of Knowledge / SFIA Levels

This course will provide candidates with the levels of difficulty/knowledge skill highlighted within the following table, enabling them to develop the skills to operate at the levels of responsibility indicated.

The levels of knowledge and SFIA levels are explained in on the website www.bcs.org/levels.

The levels of knowledge will also enable candidates to develop the following levels of skill to be able to operate at the following levels of responsibility (as defined within the SFIA framework) within their workplace:

Level	Levels of Knowledge	Levels of Skill 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

Format of Examination

Type	Written examination based on a business scenario
Duration	60 minutes preceded by 15 minutes reading time. An additional 15 minutes will be allowed for candidates sitting the examination in a language that is not their native /mother tongue.
Pre-requisites	None
Supervised	Yes
Open Book	Yes (Reading materials are allowed into the examination room)
Pass Mark	50%
Calculators	Calculators cannot be used during this examination
Learning Hours	21 hours
Delivery	Paper based examination

Recommended Reading List

Title: A Guide to Software Package Evaluation and Selection
Author: Nathan Hollander
Publisher: Amacom
Publication: August 2000
ISBN: 0814405533

Title: ITIL Service Transition
Author: Shirley Lacy and Ivor Macfarlane
Publisher: TSO
Publication: May 2007
ISBN: 011331048X

Title: Configuration Management
Author: Shirley Lacy and David Norfolk
Publisher: BCS, Learning and Development Limited
Publication: June 2010
ISBN: 1906124582

Title: An Introduction to Database Systems
Author: C J Date
Publisher: Pearson Education
Publication: July 2003
ISBN: 0321189566

Title: Next Generation Application Integration
Author: David Linthicum
Publisher: Addison-Wesley
Publication: August 2003
ISBN: 0201844567

Title: IT Architecture and Middleware
Author: Chris Britton and Peter Bye
Publisher: Addison-Wesley
Publication: May 2004
ISBN: 0321246942

Title: UML 2 and the Unified Process
Author: Jim Arlow and Ila Neustadt
Publisher: Addison-Wesley
Publication: June 2005
ISBN: 0321321278