

BCS Foundation Certificate in Agile Syllabus

Version 1.6
December 2016

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

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 1.6 December 2016	Strapline regarding regulated statement has been added
Version 1.5 March 2015	Updated language requirements for extra time and use of dictionaries. Standardised the trainer requirements.
Version 1.4 October 2013	Updated trainer requirements to include minimum experience.
Version 1.3 September 2013	Amended syllabus based on pilot phase feedback
Version 1.2 September 2013	Trainer pass rate added.
Version 1.1 August 2013	Name updated to Foundation Certificate in Agile. Trainer pass rate added.
Version 1.0 June 2013	Syllabus created

BCS Foundation Certificate in Agile

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Introduction

This foundation certificate is concerned with the use of Agile practices in projects, product and software development and the syllabus is designed to ensure the candidate has suitable knowledge of the core concepts of Agile practices, the Agile values and principles, across a breadth of Agile methodologies; it does not solely focus on one specific methodology.

Accredited Training Organisations are selected and verified to be providing a course that will give candidates the necessary training for the entire syllabus.

Objectives

Holders of the BCS Foundation Certificate in Agile should be able to:

- Recall the origins of Agile methods.
- Understand and apply the core values and principles of Agile methods.
- Know the difference between the defined process and the empirical processes used in Agile.
- Explain the issues identified in the traditional / waterfall approach.
- Recognise myths that are often attributed with Agile practices.
- Know the different approaches to the empirical model for improvement and change.
- Explain the business culture and the economic case required for Agile.
- Understand the implication of Agile practices on individuals, teams and businesses.
- Explain the way in which we engage customers into an Agile project.
- Know how we respond to change in an Agile project.
- Describe the common Agile roles, techniques and practices.

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 objectives shown above.

In addition, candidates should be familiar with simple multiple-choice exams. Before undertaking BCS Foundation in Agile examination, it is recommended that candidates have taken foundation training in Agile by an Accredited Training Organisation.

Target Audience

The certificate is relevant to anyone requiring an understanding of Agile as well as organisational leaders and managers wanting to understand the value of Agile practices, or those who work in an Agile environment, including software testers, developers, product owners, business analysts and Scrum Masters.

Duration and Format of the Course

Candidates can study for this certificate in two ways: by attending training courses provided by Accredited Training Organisations or by self-study. An accredited training course will require a minimum of 18 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.

Duration and Format of the Examination

The format for the examination is a one-hour multiple-choice examination. The examination is closed book i.e.no materials can be taken into the examination room. The pass mark is 26/40 (65%).

Additional time for candidates requiring Reasonable Adjustments

Candidates may request additional time if they require reasonable adjustments. Please refer to the [reasonable adjustments policy](#) for detailed information on how and when to apply.

Additional time for candidates whose native language is not that of the examination

If the examination is taken in a language that is not the candidate's native / official language then they are entitled to 25% extra time.

If the examination is taken in a language that is not the candidate's native / official language then they are entitled to 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.

Syllabus

For each top-level area of the syllabus a percentage and K level is identified. The percentage is the exam coverage of that area, and the K level identifies the maximum level of knowledge that may be examined for that area.

1. The Agile Manifesto (5%, K1)

- 1.1 4 Values
- 1.2 12 Principles

The Agile Manifesto is a set of 4 values and 12 principles that encapsulate the mind set and philosophy at the core of the Agile movement and its different methods.

2. Rationale & Benefits of Agile (30%, K3)

- 2.1 History of Agile
- 2.2 Empirical and defined processes
- 2.3 The pillars of the empirical process
- 2.4 The waterfall approach
- 2.5 The iron triangle of project constraints
- 2.6 Working with uncertainty and volatility
- 2.7 Agile myths
- 2.8 Empirical models for improvement and change
- 2.9 Business culture and Agile
- 2.10 The economic case for Agile
- 2.11 The lifecycle of product development

The Agile Manifesto was created in 2001 as an amalgamation of knowledge drawn from many different sources such as the empirical process, Lean Manufacturing and Extreme Programming to name a few. Agile is an umbrella term describing an approach to work built around transparency, inspection, adaption, collaboration and frequent releases that is ideally suited to complex and complicated working environments typical of the knowledge industry such as Information Technology.

This section will introduce the rationale behind Agile, its applicability to IT and other relevant industries. It will cover how Agile can help deliver better products compared to traditional approaches and the different models for improvement and change as well as how different business cultures may embrace or resist the introduction of Agile practices.

3. Individuals and their Interactions over Processes and Tools (5%, K3)

- 3.1** Motivated and Talented Individuals
- 3.2** Emergent design from Self-Organising Teams

Agile puts a very significant emphasis in the human dimension of work. One of its key values reinforces the preference for focus on people and how people work together to deliver improved products. This section will introduce and elaborate on why this is the case.

4. Working Systems over Comprehensive Documentation (5%, K3)

- 4.1** Satisfy the Customer with Continuous Delivery of Value
- 4.2** Deliver Working Systems Frequently
- 4.3** Working Systems as a Measure of Progress
- 4.4** Technical Excellence and Good Design

The Agile Manifesto refers to the term 'Working Software'. As Agile is not limited to software development, for the purpose of this syllabus we shall refer to 'Working Systems'. The delivery of working valuable system / product is a key measure of success for an Agile development. This section will introduce these values and elaborate on how the delivery of value will enforce the success of Agile development.

5. Customer Collaboration over Contract Negotiations (5%, K3)

- 5.1** Business People and Developers Must Work Together
- 5.2** Face-to-face Communications
- 5.3** Reflect and Adjust Regularly

Successful Agile projects need to have productive collaboration between the development team and the customer. This section will explain how business people need to engage into an Agile project, and how to maintain good communication.

6. Responding to Change over Following a Plan (5%, K3)

- 6.1** Embrace Change
- 6.2** Sustainable Pace
- 6.3** Simplicity – The Art of Maximising the Amount of Work Not Done

An advantage of Agile practice is the ability to manage changing requirements. This section will explain how changing requirements are accepted, without the development team being overworked.

7. Common Agile Roles (10%, K3)

- 7.1** The Role of the Customer
- 7.2** The Role of the Team
- 7.3** The Role of the Agile Leader
- 7.4** The Role of Stakeholders
- 7.5** The Agile Mindset

The roles of individuals in an Agile project are important to establish and understand. This section will explain the roles of Customers, Team members, Agile Leaders and Stakeholders. Explaining the generic mind-set and specific roles for differing methodologies.

8. Common Agile Techniques (15%, K3)

- 8.1** User Stories
- 8.2** Acceptance Criteria and Scenarios
- 8.3** MoSCoW Prioritisation
- 8.4** Estimation using Story Points
- 8.5** Agile quality assurance and testing

Defining the requirements in an Agile project is an emergent process. This section will examine the techniques used to create requirements as user stories, estimate and prioritise them in the Agile emergent way.

9. Common Agile Practices (10%, K3)

- 9.1** Short Feedback Loops
- 9.2** Focus on Quality
- 9.3** Emergent Documentation
- 9.4** Visual Boards
- 9.5** Team Synchronisation Meeting
- 9.6** Show and Tells
- 9.7** Retrospectives
- 9.8** Continuous Improvement

There are several practices that are required of an Agile development team to fulfil the values and principles of Agile and the empirical process. This section we go through the Agile practices used by an Agile team, such as Timeboxing, Definition of Done, Enough Design Up Front, Big Visible Charts, Reviews and Retrospectives.

10. Relevant Methods and Approaches for Agile Teams (10%, K2)

- 10.1 Scrum
- 10.2 XP
- 10.3 DSDM Atern
- 10.4 Kanban
- 10.5 Lean
- 10.6 Lean Startup

There are several established methods, frameworks and approaches sympathetic to the principles and values of the Agile Manifesto. This section briefly introduces each of these.

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 above will 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 the Examination

Type	Multiple choice, 40 Questions.
Duration	1 Hour. Candidates are entitled to an additional 15 minutes if they are sitting an examination in a language that is not their native/official language.
Pre-requisites	Accredited training is strongly recommended but is not a pre-requisite
Supervised	Yes
Open Book	No
Pass Mark	26/40 (65%)
Distinction Mark	None
Calculators	Calculators cannot be used during this examination
Delivery	Paper-based examination

Trainer Criteria

Criteria	<ul style="list-style-type: none">• Hold the Foundation Certificate in Agile• Have 10 days training experience or a train the trainer qualification.• Have a minimum of 2 years practical agile experience
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Classroom Size

Trainer to candidate ratio	1:16
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Recommended Reading List

Title: The Agile Manifesto
Author: Various Authors
Publication Date: 2001
URL: <http://Agilemanifesto.org/>

Title: Succeeding with Agile
Author: Mike Cohn
Publisher: Addison Wesley
Publication Date: November 2009
ISBN: 0321579364

Title: The DSDM Atern Handbook
Author: DSDM Consortium
Publisher: DSDM Consortium
Publication Date: July 2008
ISBN: 0-9544832-2-7
URL: <http://www.dsdm.org/dsdm-atern/atern>

Title: The Lean Startup
Author: Eric Ries
Publisher: Portfolio penguin
Publication Date: 2011
ISBN: 0670921602

Title: Balancing Agility and Discipline
Author: Barry Boehm and Richard Turner
Publisher: Addison Wesley
Publication Date: August 2003
ISBN: 0321186125

Title: An Agile Adoption and Transformation Survival Guide
Author: Michael Sahota
Publisher: InfoQ
Publication Date: 2012
ISBN: 978-1-1-5-73572-1
URL: <http://www.infoq.com/minibooks/Agile-adoption-transformation>

Title: The Scrum Primer
Author: Pete Deemer, Gabrielle Benefield, Craig Larman, Bas Vodde
Publisher: InfoQ
Publication Date: December 2009
URL: http://www.infoq.com/minibooks/Scrum_Primer

Title: The Scrum Guide
Author: Jeff Sutherland & Ken Schwaber
Publisher: Scrum.org
URL: <http://www.scrum.org/Scrum-Guides>

Title: Kanban: Successful Evolutionary Change for Your Technology Business
Author: David J Anderson
Publication Date: April 2010
ISBN: 0984521402

Title: Lean Software Development: An Agile Toolkit
Author: Mary Poppendieck, Tom Poppendieck
Publisher: Addison Wesley
Publication Date: May 2003
ISBN: 0321150783

Title: Agile Project Management using Scrum
Author: Ken Schwaber
Publisher: Microsoft Press
Publication Date: March 2004
ISBN: 073561993X

Title: Extreme Programming Explained: Embrace Change (2nd Edition)
Author: Kent Beck / Cynthia Andres
Publisher: Addison Wesley
Publication Date: Nov 2004
ISBN: 978-0321278654

Title: Kanban and Scrum - making the most of both
Author: Henrik Kniberg and Mattias Skarin
Publisher: InfoQ
Publication Date: December 2009
ISBN: 978-0-557-13832-6
URL: <http://www.infoq.com/minibooks/kanban-scrum-minibook>

Additional Reading List

Title: The Culture Game: Tools for the Agile Manager
Author: Daniel Mezick
Publisher: InfoQ
Publication Date: October 2012
ISBN:
URL: <http://www.infoq.com/minibooks/Mezick-Culture-game>

Title: The Mythical Man Month (2nd Edition)
Author: Frederick P Brooks
Publisher: Addison Wesley
Publication Date: August 1995
ISBN: 0201835959

Title: Scrum and XP from the Trenches
Author: Henrik Kniberg
Publisher: InfoQ
Publication Date: June 2007
ISBN: 978-1-4303-2264-1
URL: <http://www.infoq.com/minibooks/scrum-xp-from-the-trenches>

Title: Leading Change
Author: John P Kotter
Publisher: Harvard Business School Press
Publication Date: November 2012
ISBN: 1422186431