BCS EXIN Practitioner Certificate in Agile Scrum Master Syllabus

V1.2 May 2020

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

Change History

This log provides a single point of reference, where a summary of any changes is recorded, to include the date of the amendment and a summary of the changes made.

Version Number	Changes Made
Version 1.2 May 2020	Update to the Training Criteria.
Version 1.1 Jan 2020	Adjustment to weighing of Topics 1 and 2, with removal of topic 1.4 Applying Agile principles to IT Service Management.
Version 1.0 July 2019	Finalised.
Version 0.1 March 2019	BCS Formatted syllabus created.

Contents

Introduction

The Scrum Master is responsible for ensuring Scrum is understood and enacted. Scrum Masters do this by facilitating the Scrum Team in adhering to Scrum theory, practices, and rules.

In order to do this, the Scrum Master role struggles with the apparent contradiction of the Scrum Master as both a servant-leader to the team and also someone with no authority. The Scrum Master is responsible for maximising the throughput of the team and for assisting team members in adopting and using Scrum. A successful Scrum Master influences others, both on the team and outside it. The Scrum Master helps those outside the Scrum Team understand which interactions with the Scrum Team are helpful and which aren't.

Summary

EXIN Agile Scrum Master is a certification that looks to confirm both skills and knowledge of the Agile framework and Scrum methodology.

Agile Scrum is about working together to successfully reach a goal. Agile methodologies are popular approaches in software development and are increasingly being used in other areas. Scrum practices include establishing cross-functional and self-managed teams, producing a working deliverable at the end of each iteration or Sprint. This certification focuses on adopting Agile or Scrum in the workplace and taking on the role of Scrum Master.

The BCS EXIN Practitioner certificate in Agile Scrum Master certification is part of the Agile Scrum qualification program.
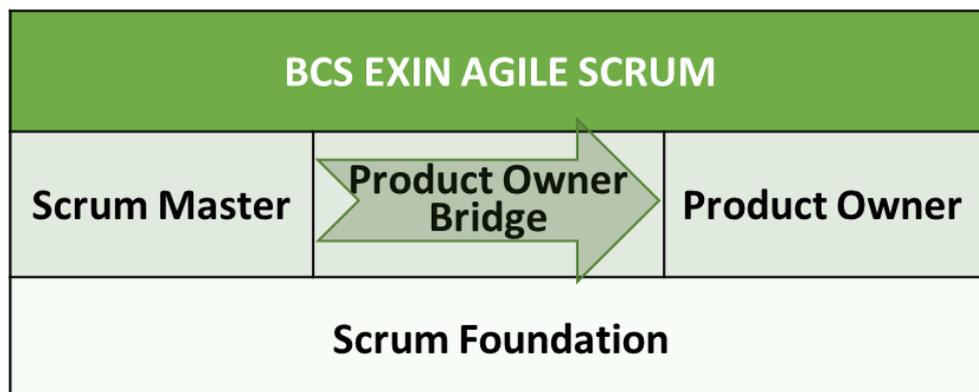
Target Audience

The Agile way of thinking is best known in the field of software development, but the principles are increasingly being applied in other types of projects. Scrum is the most used Agile methodology and is suitable for all professionals looking to keep their knowledge up to date with the latest developments in the fields of IT and Project Management, particularly those leading or participating in projects. In particular, the certification is suitable for professionals working in an Agile context and who have the ambition to facilitate a Scrum team by assuming the role of a Scrum Master.

Levels of Knowledge / SFIA Levels

This syllabus will provide candidates with the levels of difficulty highlighted within the following table, also enabling them to develop the skills to operate at the highlighted level of responsibility (as defined within the SFIA framework) within their workplace. The levels of knowledge and SFIA levels are further explained on the website.

Level	Levels of Knowledge	Levels of Skill and Responsibility (SFIA)
7		Set strategy, inspire and mobilise
6	Evaluate	Initiate and influence
5	Synthesise	Ensure and advise
4	Analyse	Enable
3	Apply	Apply
2	Understand	Assist
1	Remember	Follow

Learning Outcomes

Candidates should be able to demonstrate the ability to understand and explain Agile concepts in the following areas:

1. The Agile way of thinking;
2. Scrum Master role;
3. Agile Estimating, Planning, Monitoring and Control;
4. Complex projects;
5. Adopting Agile.

Course Format and Duration

Candidates can choose to study for this certificate from one of two ways: by either attending a training course provided by a BCS Accredited Training Organisation, or by self-study.

BCS recommends that for full coverage of the syllabus to be achieved, training courses leading to the certificate should normally run for a minimum 16 hours. This number includes group assignments, exam preparation, and short coffee breaks. Not included are: homework, practical assignments, the exam session and lunch breaks. The recommended number of hours for the Practical Assignments is a maximum of 8. The Practical Assignments can be completed outside of the training. They may also be included in the training if the training duration is extended.

Candidates should spend about 120 hours on self-study, depending on existing knowledge.

Examination Format and Duration

Type	40 Multiple choice questions
Duration	90 Minutes
Supervised	Yes
Open Book	No
Pass Mark	65%
Calculators	No
Delivery	Digital or Paper-based

Eligibility for the Examination

Attendance at an accredited BCS EXIN Agile Scrum Master training course is mandatory.

Knowledge of Scrum terminology, for instance through the BCS EXIN Agile Scrum Foundation exam, is strongly recommended. This syllabus is freely available on the website www.bcs.org.

Additional Time

For Candidates Requiring Reasonable Adjustments Due to a Disability

Please refer to the reasonable adjustments policy for 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, then they 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.

Guidelines for Accredited Training Organisations

Each major subject heading in this syllabus is assigned an allocated percentage of study time. The purpose of this is:
1) Guidance on the proportion of time allocated to each section of an accredited course.
2) Guidance on the proportion of questions in the exam.

Courses do not have to follow the same order as the syllabus and additional exercises may be included, if they add value to the training course.

Syllabus Weighting

Syllabus Learning Objectives	Weight
1. Agile way of thinking	**10%**
1.1 Agile concepts	5%
1.2 Continuously improving the process	2.5%
1.3 Other Agile frameworks	2.5%
2. Scrum Master role	**27.5%**
2.1 Responsibilities and commitment	10%
2.2 Coaching the team and mediating	10%
2.3 Other roles (Product Owner, Development Team)	7.5%
3. Agile Estimating, Planning, Monitoring and Control	**32.5%**
3.1 Writing and maintaining the Product and Sprint Backlog	7.5%
3.2 Agile Planning	5%
3.3 Agile Estimation	10%
3.4 Tracking and communicating progress	7.5%
3.5 Staying in control	2.5%
4. Complex projects	**12.5%**

	4.1 Scaling Agile projects	5%
	4.2 Suitability of Agile for different types of projects	5%
	4.3 Agile administration in tooling and tool integration	2.5%
5. Adopting Agile		**17.5%**
	5.1 Introducing Agile	7.5%
	5.2 Self-organisation	5%
	5.3 Agile requirements and proper environment	5%
	Total	**100%**

Trainer Criteria

The following criterion apply:

- Hold a BCS EXIN Practitioner Certificate in Agile Scrum Master;
- Have 10 days training experience or a train the trainer qualification.
- Have a minimum of 3 years practical Agile experience

Candidate Ratio

Trainers may instruct up to 15 candidates.

Invigilators may supervise up to 25 candidates.

Syllabus

Learning Objectives

1. Agile Way of Thinking – 10%

1.1. Agile concepts
   The candidate can…
   - 1.1.1   Explain the Agile way of thinking
   - 1.1.2   Explain how Agility brings predictability and flexibility

1.2 Continuously improving the process
   The candidate can…
   - 1.2.1   Explain how to use continuous improvement

1.3 Other Agile frameworks
   The candidate can…
   - 1.3.1   Differentiate other Agile frameworks and methodologies: Crystal, Extreme Programming (XP), DSDM, LeSS, SAFe and Kanban

2. Scrum Master role – 27.5%

2.1 Responsibilities and commitment
   The candidate can…
   - 2.1.1   Explain which tasks and responsibilities belong to the Scrum Master role
   - 2.1.2   Explain which solutions are suitable for solving problems
   - 2.1.3   Explain which tools to use to facilitate the team

2.2 Coaching the team and mediating
   The candidate can…
   - 2.2.1   Explain how to manage cultural diversity conflict
   - 2.2.2   Explain how to coach and challenge the team
   - 2.2.3   explain the importance of training

2.3 Other roles (Product Owner, Development Team)
   The candidate can…
   - 2.3.1   Explain all roles within the Scrum framework

3. Agile Estimating, Planning, Monitoring and Control – 32.5%%

3.1 Writing and maintaining the Product and Sprint Backlog
    The candidate can…
        3.1.1   Explain why a good Definition of Done is so important
        3.1.2   Create and recognise good User Stories
        3.1.3   Explain how to maintain the Product Backlog and how to add Product Backlog Items

3.2 Agile Planning
    The candidate can…
        3.2.1   Explain iterative planning in all the planning moments: Roadmap, Release and Sprint Planning
        3.2.2   Explain the role of the Scrum Master in all the planning moments: Roadmap, Release and Sprint Planning

3.3 Agile Estimation
    The candidate can…
        3.3.1   Explain when and how to estimate using Story Points, Ideal Hours and Ideal Days
        3.3.2   Explain how to guide a planning session, with and without Planning Poker
        3.3.3   Recognise errors in estimation
        3.3.4   Explain how to calculate the ROI (Return on Investment)

3.4 Tracking and communicating progress
    The candidate can…
        3.4.1   Identify impediments, deviations, roadblocks and other obstacles that influence the progress positively and negatively
        3.4.2   Explain how to create Information Radiators, how to interpret them and how to act on the results
        3.4.3   Explain commonly used tracking methods (Burn-Down Chart, Velocity…)

3.5 Staying in control
    The candidate can…
        3.5.1   Explain how to manage issues, bugs and informing people outside of the team

4. Complex projects – 12.5%

4.1 Scaling Agile projects
    The candidate can…
        4.1.1   Explain how to use the Product Backlog in a scaled environment
        4.1.2   Explain how to scale to larger teams using Scrum-of-Scrums

4.2 Suitability of Agile for different types of projects
    The candidate can…
        4.2.1   Explain in which cases it is not possible to use Agile
        4.2.2   Identify the limits of a Scrum Team

4.3 Agile administration in tooling and tool integration
    The candidate can…
        4.3.1   Explain which tools can help a team to use or adopt Agile and thereby
                 increase the quality of the development process

5. Adopting Agile – 17.5%

5.1 Introducing Agile
    The candidate can…
        5.1.1   Explain which project management activities are important to include in the
                 transition plan
        5.1.2   Explain which milestones are important in the transition
        5.1.3   Explain how to deal with resistance to change

5.2 Self-organisation
    The candidate can…
        5.2.1   Explain what self-organisation means and how project management is shared
        5.2.2   Explain what it means to have a cross-functional team

5.3 Agile requirements and proper environment
    The candidate can…
        5.3.1   Explain what changes in culture need to be made before adopting Agile
        5.3.2   Explain what physical changes need to be made before adopting Agile

List of Basic Concepts

This chapter contains the terms with which candidates should be familiar.

Please note that knowledge of these terms alone does not suffice for the exam; the candidate must understand the concepts and be able to provide examples.

ADAPT (Awareness, Desire, Ability, Promote and Transfer)

Affinity estimation

Agile Manifesto

Burn-Down (bar) chart

champion sceptic

coach

collocated team

commitment

conserver

customer

Daily Scrum

Definition of Done

diehard

distributed team

Enterprise Transition Community (ETC)

Epic User Story

escaped defect

estimation

follower

Gantt chart

Ideal Hours / Ideal Days

Improvement Community (IC)

increment

information radiator

Internal Coaching

Internal Rate of Return (IRR)

MoSCoW

Net Present Value (NPV)

originator

Other Agile Frameworks:
- Crystal
- Extreme Programming (XP)
- DSDM
- LeSS
- SAFe
- KanBan

pair programming

planning

Planning Poker

pragmatist

Product Backlog

Product Backlog item

Product Owner

refactoring

Release Burn-Down (bar) chart

Release Burn-Up

Release Planning

resistance

Return on Investment (ROI)

saboteur

Scrum

Scrum Master

Scrum-of-Scrums

sceptic

splitting teams

Sprint

Sprint Backlog

Sprint Backlog item

Sprint Planning

Sprint Retrospective

Sprint Review

Story Point

task board

team

Test-driven development

time-box/time-boxing

User Story

Velocity of the team

Waste

Waterfall

workspace

Recommended Reading List

The knowledge required for the exam is covered in the following literature:

A.   Cohn, Mike
Succeeding with Agile: Software Development Using Scrum
Pearson Education (2009)
http://www.amazon.com/Succeeding-Agile-Software-Development-Using/dp/0321579364

B.   Cohn, Mike
Agile Estimating and Planning
Prentice Hall (2005)
http://www.amazon.com/Agile-Estimating-Planning-Mike-Cohn/dp/0131479415

C.   Schwaber, Ken & Sutherland, Jeff
The Scrum Guide™ - The definitive guide to Scrum: The Rules of the Game
Scrum.Org and Scrum Inc. (latest version)
http://www.scrumguides.org/docs/scrumguide/v1/Scrum-Guide-US.pdf

D.   http://www.scaledagileframework.com/

E   EXIN
Agile Methodologies
EXIN (2019)
Free download at https://www.exin.com

Additional literature

Additional literature is for reference and depth of knowledge only.

F.   Schwaber, Ken
Agile Project Management with Scrum (Developer Best Practices)
Microsoft Press (2004)
http://www.amazon.com/Agile-Project-Management-Developer-Practices/dp/073561993X

Reading Matrix

Exam requirement		Exam specification	Reference
1. Agile Way of Thinking			
	1.1	Agile Concepts	
	1.1.1	Explain the Agile way of thinking	A, Chapter 2
	1.1.2	Explain how Agility brings predictability and flexibility	A, Chapter 5, 14, 15 C
	1.2	Continuously Improving the Process	
	1.2.1	Explain how to use continuous improvement	A, Chapter 4, 7 C
	1.3	Other Agile Frameworks	
	1.3.1	Differentiate other Agile frameworks and methodologies: Crystal, Extreme Programming (XP), DSDM, LeSS, SAFe and Kanban	E
2. Scrum Master Role			
	2.1	Responsibilities and Commitment	
	2.1.1	Explain which tasks and responsibilities belong to the Scrum Master role	A, Chapter 7
	2.1.2	Explain which solutions are suitable for solving problems	A, Chapter 6, 7, 17
	2.1.3	Explain which tools to use to facilitate the team	A, Chapter 7, 20
	2.2	Coaching the Team and Mediating	
	2.2.1	Explain how to manage cultural diversity	A, Chapter 18
	2.2.2	Explain how to coach and challenge the team	A, Chapter 3, 18
	2.2.3	Explain the importance of training	A, Chapter 6, 7, 11
	2.3	Other Roles (Product Owner, Development Team)	
	2.3.1	Explain all roles within the Scrum framework	A, Chapter 7, 10, 11 C

		3. Agile Estimating, Planning, Monitoring and Control	
	3.1	Writing and Maintaining the Product and Sprint Backlog	
	3.1.1	Explain why a good Definition of Done is so important	A, Chapter 14 C
	3.1.2	Create and recognize good User Stories	A, Chapter 12, 13 B, Chapter 12
	3.1.3	Explain how to maintain the Product Backlog and how to add Product Backlog Items	A, Chapter 13
	3.2	Agile Planning	
	3.2.1	Explain iterative planning in all the planning moments: Roadmap, Release and Sprint Planning	B, Chapter 3, 13, 17
	3.2.2	Explain the role of the Scrum Master in all the planning moments: Roadmap, Release and Sprint Planning	B, Chapter 15 C
	3.3	Agile Estimation	
	3.3.1	Explain when and how to estimate using Story Points, Ideal Hours and Ideal Days	B, Chapter 4, 5, 8 ,14
	3.3.2	Explain how to guide a planning session, with and without Planning Poker	B, Chapter 6, 14 C
	3.3.3	Recognize errors in estimation	B, Chapter 1, 7 and 16
	3.3.4	Explain how to calculate the ROI (Return on Investment)	B, Chapter 10
	3.4	Tracking and Communicating Progress	
	3.4.1	Identify impediments, deviations, roadblocks and other obstacles that influence the progress positively and negatively	B, Chapter 19
	3.4.2	Explain how to create information radiators, how to interpret them and how to act on the results	B, Chapter 19, 20
	3.4.3	Explain commonly used tracking methods (Burn-Down chart, Velocity, …)	B, Chapter 19
	3.5	Staying in Control	
	3.5.1	Explain how to manage issues, bugs and informing people outside of the team	B, Chapter 14, 20

		4. Complex Projects	
	4.1	Scaling Agile Projects	
	4.1.1	Explain how to use the Product Backlog in a scaled environment	A, Chapter 17
	4.1.2	Explain how to scale to larger teams using Scrum-of-Scrums	A, Chapter 17
	4.2	Suitability of Agile for Different Types of Projects	
	4.2.1	Explain in which cases it is not possible to use Agile	A, Chapter 15, 17 C
	4.2.2	Identify the limits of a Scrum Team	A, Chapter 10, 17 C
	4.3	Agile Administration in Tooling and Tool Integration	
	4.3.1	Explain which tools can help a team to use or adopt Agile and thereby increase the quality of the development process	A, Chapter 2, 3, 18
5. Adopting Agile			
	5.1	Introducing Agile	
	5.1.1	Explain which project management activities are important to include in the transition plan	A, Chapter 2, 5, 8
	5.1.2	Explain which milestones are important in the transition	A, Chapter 2, 3
	5.1.3	Explain how to deal with resistance to change	A, Chapter 6
	5.2	Self-Organization	
	5.2.1	Explain what self-organization means and how project management is shared	A, Chapter 10
	5.2.2	Explain what it means to have a cross-functional team	A, Chapter 10, 11 B, Chapter 6
	5.3	Agile Requirements and Proper Environment	
	5.3.1	Explain what changes in culture need to be made before adopting Agile	A, Chapter 1 B, Chapter 3
	5.3.2	Explain what physical changes need to be made before adopting Agile	A, Chapter 9, 18, 20