



BCS LEVEL 5 DIPLOMA IN IT

IT PROJECT MANAGEMENT

SYLLABUS



September 2021 v3.0

This is a United Kingdom government regulated qualification which is administered and approved by one or more of the following: Ofqual, Qualifications Wales, CCEA Regulation or SQA.

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Introduction

The second stage within the BCS three-stage Higher Education Qualification programme, the Level 5 Diploma enables candidates who have already achieved the Level 4 Certificate in IT to progress to higher levels of knowledge and competency.

This internationally-recognised qualification introduces you to the business-related aspects of the IT industry, developing your technological expertise while also considering the potential challenges of the day-to-day running of an organisation, such as legal obligations and intellectual property.

Our modules have been created in-line with the latest developments in the industry, giving you a competitive edge in the IT job market. You will have the opportunity to learn about object-oriented programming, user experience, systems analysis and design, as well as to build upon knowledge and skills developed during the Level 4 Certificate.

To successfully achieve the qualification, candidates need to complete:

- One core module
- Three optional modules
- One Professional Project in IT

Candidates who wish to progress onto the next stage will need to complete the Project at end of the Level 6 Professional Graduate Diploma in IT.

IT Project Management Optional Module

The IT Project Management module is an optional module that forms part of the Level 5 Diploma in IT – the second stage within the BCS three-stage Higher Education Qualification programme.

Candidates will explore the stages of project development and will have the opportunity to learn to use project management tools, such as Gantt charts. They will also discover how deploying the appropriate team management skills can lead to a successful outcome. Finally, candidates will become familiar with factors that may pose as risks to the project, and quality standards that can be applied.

Qualification Suitability and Overview

Candidates must have achieved the Certificate in IT or have an appropriate exemption to be entered for the Diploma in IT. Candidates can study for this diploma by attending a training course provided by a BCS accredited Training Provider or through self-study, although it is strongly recommended that all candidates register with an approved centre. Studying with an approved centre will deliver significant benefits.

Candidates are required to become a member of BCS, The Chartered Institute for IT, to sit and be awarded the qualifications. Candidates may apply for a four-year student membership that will support them throughout their studies.

The Level 5 Diploma is suitable for professionals wishing to gain a formal IT qualification, and this module may be particularly relevant for candidates interested in career opportunities such as computer systems design, information services, or consulting.

Total Qualification Time (Certificate)	Guided Learning Hours (Module)	Assessment Time (Exam)
1086 hours	225 hours	Two hours

SFIA Levels

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

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

SFIA Plus

This syllabus has been linked to the SFIA knowledge skills and behaviours required at Level 5.

PRMG4:

Defines, documents and carries out small projects or sub-projects (typically less than six months, with limited budget, limited interdependency with other projects, and no significant strategic impact), alone or with a small team, actively participating in all phases. Identifies, assesses and manages risks to the success of the project. Applies appropriate project management methods and tools whether predictive (plan-driven) approaches or adaptive (iterative/agile) approaches. Agrees project approach with stakeholders, and prepares realistic plans (including quality, risk and communications plans) and tracks activities against the project schedule, managing stakeholder involvement as appropriate. Monitors costs, timescales and resources used, and takes action where these deviate from agreed tolerances. Ensures that own projects are formally closed and, where appropriate, subsequently reviewed, and that lessons learned are recorded.

DLMG5:

Defines systems development projects which support the organisation's objectives and plans. Selects, adopts and adapts appropriate systems development methods, tools and techniques selecting appropriately from predictive (plan-driven) approaches or adaptive (iterative/agile) approaches. Ensures that senior management is both aware of and able to provide the required resources. Facilitates availability and optimum utilisation of resources. Monitors and reports on the progress of development projects, ensuring that projects are carried out in accordance with agreed architectures, standards, methods and procedures (including secure software development). Develops road maps to communicate future development activity.

Further detail around the SFIA Levels can be found at www.bcs.org/levels.

Learning Outcomes

Upon completion of this module, candidates will be able to:

- Explain the stages in the system development lifecycle and the activities that are carried out to implement an IT application.
- Apply basic project planning techniques.
- Demonstrate an understanding of steps needed to build and maintain effective development teams.
- Explain the procedures needed to monitor, control and report upon an IT development project.
- Discuss and where appropriate apply the principles of project risk management.
- Explain the ways in which appropriate quality attributes of the products of an IT development project can be assessed and assured.

Syllabus

1. Fundamentals of project management

Learners will be able to:

1.1 Describe what is meant by feasibility and how to establish a business case.

Indicative content

- a. Making a case for a system.

Guidance

Candidates will be expected to describe the feasibility process, giving examples and considering advantages and/or disadvantages of various systems, such as cost implications.

1.2 Explain requirements elicitation.

Indicative content

- a. Analysis and verification
- b. Purpose and methods

Guidance

Candidates should be able to explain how requirements are obtained through analysis.

1.3 Describe how to establish project objectives.

Indicative content

- a. Goals
- b. Measures of success

Guidance

Candidates will be expected to describe the setting of objectives, considering case studies.

1.4 Explain the stages of development for a project.

Indicative content

- a. Requirements elicitation
- b. Requirements analysis
- c. Design of software, hardware and networks
- d. System building (including software coding) and integration
- e. Verification and validation
- f. Installation
- g. Adapting the development life cycle to projects where off-the-shelf packages are to be installed

Guidance

Candidates will be expected to consider case studies or generic knowledge of the development stages.

1.5 Explain the criteria for building or buying software applications.

Indicative content

- a. Cost
- b. User requirements
- c. Time scale

Guidance

Candidates will need to consider the cost of the full software lifecycle, from design to implementation, bearing in mind the requirements of the end user and the impact that changing needs can have on cost.

1.6 Explain different project management approaches.

Indicative content

- a. Project management using a lightweight or agile approach
- b. Incremental approaches (i.e. delivering functionality to the users in small steps)
- c. Iterative approaches (i.e. presenting a series of versions of the same software component for user evaluation)

Guidance

Candidates will be expected to consider case studies or generic knowledge of the development stages.

1.7 Describe potential installation issues.

Indicative content

- a. Methods of going live
- b. Resources
- c. Launch plan

Guidance

Candidates should be able to plan for a 'go-live' that contains contingencies for any potential issues.

1.8 Explain project closure and post-project activities.

Indicative content

- a. Quality assurance
- b. Gathering feedback
- c. Reviewing the success (or otherwise) of a project
- d. Releasing resources
- e. Cancelling contracts

Guidance

Candidates should be able to explain various factors involved in closing a project, including those in the indicative content. This will relate to a case study, rather than a project candidates have completed themselves.

1.9 Explain selection and acquisition.

Indicative content

- a. Implementing off-the-shelf applications
- b. Implementing customised off-the-shelf applications

Guidance

Candidates should be able to describe alternative approaches to developing or acquiring applications, including when and how to make changes to off-the-shelf products.

1.10 Describe a variety of project support activities.

Indicative content

- a. Configuration management
- b. Change control

Guidance

Candidates should have an appreciation for various project support activities in different contexts, working out appropriate strategies for various projects.

2. Planning and resourcing

Learners will be able to:

2.1 Describe work breakdown structures.

Indicative content

- a. Product breakdown structure (PBS)
- b. Work breakdown structure (WBS)

Guidance

Candidates will need to be able to describe the differences between these two approaches.

2.2 Demonstrate diagramming methods and the differences between them.

Indicative content

- a. Activity on node
- b. Network analysis
- c. Critical path analysis
- d. Gantt chart
- e. Precedence analysis

Guidance

Candidates should have an appreciation for several different diagramming methods, as well as advantages, disadvantages and suitability of each.

2.3 Explain resource allocation.

Indicative content

- a. Identifying resource types
- b. Resolving resource clashes

Guidance

Candidates should have an understanding of planning for resources and resolving any conflicts that occur during the process.

2.4 Explain agile approach to planning.

Indicative content

- a. Use of time-boxing
- b. Product and sprint backlogs
- c. Prioritisation of increments (e.g. using MoSCoW rules)

Guidance

Candidates will need to explain and describe adaptable approaches to planning, depending on the type of project and its requirements.

2.5 Describe and analyse methods for estimating techniques.

Indicative content

- a. Parametric/algorithmic models (based on the identification of size drivers and associated productivity rates)
- b. Expert judgment
- c. Analogy
- d. Top-down and bottom-up

Guidance

Candidates should be able to both describe and analyse the principles and methods for estimating, including advantages and disadvantages of various approaches, and relative accuracy of different estimating techniques.

3. People and organisation

Learners will be able to:

3.1 Explain team building theory and practice.

Indicative content

- a. Belbin's team roles
- b. Tuckman Jensen stages of team evolution:
 - i. Forming
 - ii. Storming
 - iii. Norming
 - iv. Performing

Guidance

Candidates should be able to explain the structures and responsibilities of team-building, both in theory and in practice.

3.2 Explain how to staff a project.

Indicative content

- a. Appropriate skill sets
- b. How and where to obtain skilled personnel

Guidance

Candidates should be able to explain how to identify the relevant skills for a project and how to fill these roles in their team.

3.3 Describe management styles.

Indicative content

- a. Appropriate management styles for development projects

Guidance

Candidates should be aware of different management styles and their suitability for various projects.

3.4 Describe team management.

Indicative content

- a. Motivation
- b. Retention

Guidance

Candidates should be able to describe ways of managing a team, including motivating staff through providing targets or different tasks.

3.5 Describe the role of the project manager.

Indicative content

- a. Responsibilities
- b. Skills

Guidance

Candidates should be able to list and describe the skills a project manager needs in order to be effective.

3.6 Describe the role of the project manager.

Indicative content

- a. Stakeholders within the project team, including users
- b. Stakeholders outside the project team

Guidance

Candidates should be aware of how to deal with various stakeholders, for whom the project is being developed, including the ability to manage expectations and exercise diplomacy.

3.7 Describe the way a project is organised.

Indicative content

- a. Roles of project boards (or steering committees)
- b. User and developer representatives
- c. Project managers
- d. Team leaders
- e. Suppliers
- f. Programme and project support
- g. Project assurance

Guidance

Candidates should be able to describe not only different parts of the project team and their responsibilities, but also the wider project community.

4. Monitoring and reports

Learners will be able to:

4.1 Explain what to monitor during project progress, how and why.

Indicative content

- a. Key project metrics related to:
 - i. Time and progress
 - ii. Costs
 - iii. Scope and size of functionality
 - iv. Quality

Guidance

Candidates should be able to give examples of key metrics, including (but not limited to) planned and actual activity duration, planned and actual effort, other costs, lines of code, function points, and number of error reports.

4.2 Explain what to monitor during project progress, how and why.

Indicative content

- a. Stages of the project control lifecycle
- b. Project control through monitoring (comparing actual and planned progress)

Guidance

Candidates should have an understanding of how the project control lifecycle can look different in different projects, and what to look for at each stage. A key aspect here is the comparison of actual and planned progress.

4.3 Analyse the use of different types of reports.

Indicative content

Guidance

- a. Exception, progress (or checkpoint), management (e.g. highlight reports)
- b. Whom to report to and how to report
- c. The reporting hierarchy

Candidates should be able to describe different types of reports and understand how to keep stakeholders up-to-date with project progress.

4.4 Explain how to monitor project finances.

Indicative content

Guidance

- a. Monitoring and controlling project finances

Candidates should be aware of budget control and how to check that the project is being delivered on-budget.

4.5 Describe earned value analysis.

Indicative content

Guidance

- a. Planned and earned value
- b. Actual costs
- c. Cost and schedule performance indicators, including their graphical representation

Candidates will be expected to depict performance indicators on a graph.

4.6 Explain the impact of project deviations.

Indicative content

Guidance

- a. Assessing implications for and impact on the project

Candidates should be able to show an awareness of the implications of deviating from a project plan.

5. Risk

Learners will be able to:

5.1 Explain types of risk.

Indicative content

- a. Identifying risks
- b. Risk checklist

Guidance

Candidates should be able to demonstrate understanding of the numerous risks which could affect a project.

5.2 Describe how to prioritise risks.

Indicative content

- a. Assessment of likelihood and impact of risk
- b. Qualitative and quantitative methods of assessing risk exposure

Guidance

Candidates should be able to assess the severity of various risks and their implications for a project.

5.3 Explain risk management tactics.

Indicative content

- a. Risk avoidance
- b. Risk transfer
- c. Risk reduction
- d. Risk mitigation and contingency planning
- e. Cost benefit of analysis and risk reductions
- f. Risk registers

Guidance

Candidates should be able to describe methods of avoiding or mitigating against risks.

6. Quality

Learners will be able to:

6.1 Describe product quality and software quality.

Indicative content

- a. Quality of an IT product
- b. Quality of the software that is used in it

Guidance

Candidates should be able to demonstrate an understanding of quality assurance processes and procedures as part of product quality and distinguish these from software quality control processes, e.g. ISO 25000.

6.2 Explain ISO 9001.

Indicative content

- a. Quality management systems (QMS)
- b. Principles
- c. Features

Guidance

Candidates should be able to describe the purpose and basic features of the ISO 9001 QMS. They should be able to explain the limitations of ISO 9001 as a quality benchmark for acceptable product quality.

6.3 Explain system quality specifications.

Indicative content

- a. Overview of ISO 25000

Guidance

Candidates should be able to define quality models for software product evaluation, as defined by ISO 25000.

6.4 Describe process and product quality approaches.

Indicative content

- a. Capability maturity models (CMM)

Guidance

Candidates should show an understanding of the approaches used in Software Engineering Institute (SEI) CMM models and describe the appropriate levels of the CMM hierarchy..

6.5 Explain quality assurance control.

Indicative content

- a. Project audit
- b. Quality audit

Guidance

Candidates should be able to describe quality assurance control as procedures that are separated from the project team procedures for quality. They should be able to explain principles of separating responsibility, as well as to describe methods used to verify that the quality plan processes have been successfully carried out.

6.6 Explain methods of enhancing quality.

Indicative content

- a. Different types of testing
- b. Inspections
- c. Reviews
- d. Standards

Guidance

Candidates should show an understanding of a variety of testing methods and how to use them. They should also be able to demonstrate how to use inspections and carry out reviews against defined standards.

6.7 Explain management tools.

Indicative content

- a. Management and control of testing

Guidance

Candidates should be able to describe a basic quality management system (QMS), as well as a project quality plan and its typical contents, and the reporting structures and documentation used.

Examination Format

This module is assessed through completion of an invigilated written exam.

Type	Four written questions from a choice of six, each with equal marks
Duration	Two hours
Supervised	Yes
Open Book	No (no materials can be taken into the examination room)
Passmark	10/25 (40%)
Delivery	Paper format only

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.

Question Weighting

Candidates will choose four questions from a choice of six. All questions are equally weighted and worth 25 marks.

Recommended Reading

Primary texts

Title: Software Project Management (5th edition)
Author: B. Hughes and M. Cotterell
Publisher: McGraw-Hill Higher Education
Date: 2009
ISBN: 928-0-07712-279-9

Title: Project Management for IT-related Projects
Author: B. Hughes
Publisher: BCS Publications
Date: 2012
ISBN: 978-1-78017-118-0

Additional texts

Title: Essentials of Project Management
Author: D. Lock
Publisher: Gower
Date: 2014
ISBN: 978-1-47244-254-3

Title: An Introduction to Project Management (4th edition)
Author: K. Schwalbe
Publisher: Schwalbe Publishing
Date: 2013
ISBN: 978-0-98280-033-1

Title: Effective Project Management: Traditional, Agile, Extreme (7th edition)
Author: R. Wysocki
Publisher: Wiley
Date: 2014
ISBN: 978-1-118-72916-8

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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 July 2021	Document Creation

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