BCS Higher Education Qualifications

Diploma in IT

IT Project Management Syllabus

Version 3.0

December 2016

This qualification is regulated by one or more of the following: Ofqual, Qualifications Wales, CCEA Regulation or SQA.

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1. 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 the changes made. The purpose is to identify quickly what changes have been made.

Version Number	Date	Changes Made
Version 1.0		Released
Version 2.0	March 2015	Re-formatted with syllabus numbering – no change to content
Version 3.0	Dec 2016	Regulated statement added.

2. Rationale

The project approach is more prevalent in industry today than ever before. It is therefore necessary for candidates to understand the methods and techniques used in project management early in their studies and careers.

3. Aims

- To develop an awareness of the need for project planning and management.
- To foster a professional attitude and the use of appropriate techniques and tools in the management of IT projects

4. Objectives

Upon successful completion of this module, candidates will be able to demonstrate their competence in, and their ability 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.

5. Prior Knowledge Expected

Diploma in IT
Candidates must have achieved the Certificate in IT or have an appropriate exemption to be entered for the Diploma in IT.

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.

6. Format and Duration of the Examination

Diploma in IT
The examination is a two-hour closed book examination (no materials can be taken into the examination room) based on the syllabus in this document.

Examinations are held twice a year and are undertaken in normal examination conditions with one or more duly appointed invigilators.

The pass mark is 40%.

7. Syllabus Detail

Category	Ref	Content
1.Stages of a project	1.1	Feasibility studies and the establishment of a business case for a project
	1.2	Requirements elicitation, analysis and verification: purpose and methods
	1.3	Establishing project objectives, goals and measures of success
	1.4	Stages of a development project: requirements elicitation; requirements analysis; design of software, hardware and networks; system building (including software coding) and integration; verification and validation; installation. Adapting the development life cycle to projects where off-the-shelf packages are to be installed
	1.5	Criteria for building or buying in software applications
	1.6	Project management using a lightweight or agile approach with particular reference to incremental (i.e. delivering functionality to the users in small steps) and iterative (i.e. presenting a series of versions of the same software component for user evaluation) approaches
	1.7	Installation issues, including methods of going live
	1.8	Project closure and post implementation activities
	1.9	Selection, acquisition and implementation of off-the-shelf and customised off-the-shelf applications
	1.10	Project support activities, including configuration management and change control
2.Project planning and estimating	2.1	Use of product and work breakdown structures (PBS and WBS).
	2.2	Use of (activity on node) precedence plans and network analysis;
	2.3	Critical path analysis
	2.4	Gantt charts
	2.5	Resource allocation, including the identification of resource types and the resolution of resource clashes
	2.6	Agile approaches to planning: the use of time-boxing; product and sprint backlogs; prioritisation of increments (e.g. using MoSCoW rules)
	2.7	Principles, methods, advantages and disadvantages and relative accuracy of different estimating techniques, including parametric/algorithmic models (based on the identification of size drivers and associated productivity rates), expert judgment, analogy, top-down and bottom-up

3 Human factors	3.1	Team building theory and practice, structures and responsibilities, including Belbin's team roles and Tuckman-Jensen stages of team evolution (forming, storming, norming, performing)
	3.2	How to staff a project stage with appropriate skill sets; how and where to obtain skilled personnel
	3.3	Appropriate management styles for development projects
	3.4	Team management, motivation, retention
	3.5	The role, responsibilities and skills of the project manager
	3.6	Management of relationships with the stakeholders within and outside the project team, including users.
	3.7	Project organisation: roles of project boards (or steering committees), user and developer representatives, project managers, team leaders, suppliers, programme and project support, project assurance
4 Progress monitoring, project control, and reporting	4.1.	What to monitor and why: key project metrics related to time/progress (e.g. planned and actual activity duration) costs (e.g. planned and actual effort and other costs) scope/size of functionality (e.g. lines of code, function points) and quality (e.g. number of error reports)
	4.2	Where and when to monitor; the stages of the project control lifecycle
	4.3	Project control through monitoring; use of plans in project control (comparing actual and planned progress)
	4.4	Reasons for reports: whom to report to and how to report; the reporting hierarchy
	4.5	Types of report: exception, progress (or checkpoint), management (e.g. highlight reports)
	4.6	Monitoring and control of project finances and quality
	4.7	Earned value analysis: planned and earned value, actual costs; cost and schedule performance indicators, including their graphical representation.
	4.8	Assessment of implications and impact on the project of deviations and changes to project plan
5. Risk management	5.1	Risk identification: types of risk, risk checklists
	5.2	Risk prioritisation: assessment of likelihood and impact of risk; qualitative and quantitative methods of assessing risk exposure
	5.3	Risk management tactics, including risk avoidance, risk transfer, risk reduction, risk mitigation and contingency planning
	5.4	Cost benefit analysis of planned risk reduction actions, risk reduction leverage
	5.5	Risk registers
6.Software quality management	6.1	Definition of product quality and software quality
	6.2	ISO 9001 and quality management systems: principles and features
	6.3	System quality specification and measurement, including an overview of ISO 9126
	6.4	Process and product quality approaches: capability maturity models
	6.5	Quality assurance and quality control, project audit and quality audit
	6.6	Methods of enhancing quality: the different types of testing, inspections, reviews, standards
	6.7	Management and control of testing

8. Recommended Reading List

Module Name	ISBN 10	ISBN 13
Primary Texts		
• Hughes, B and Cotterell, M (2009) *Software Project Management* (5e) MGraw-Hill Higher Education	007712279-8	928-0-07712-279-9
• Hughes, B (2012) Project Management for IT-related Projects. BCS Publications		978-1-78017-118-0
Other Texts		
• Schwalbe, K (2013) *An introduction to project management.* (4e) Schwalbe Publishing		978-0-98280-033-1
• Lock, D (2014) *Essentials of Project Management.* Gower	1472442547	978-1-47244-254-3
• Wysocki, R (2014) *Effective Project Management*: Traditional, Agile, Extreme (7e) Wiley		978-1-118-72916-8
Other Reading		

9. Contact Points

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