



Information System Design and Development (Advanced Higher) Unit

SCQF: level 7 (12 SCQF credit points)

Unit code: to be advised

Unit outline

The general aim of this Unit is for learners to develop their knowledge and understanding of how contemporary information systems are planned, developed and managed, gaining an insight into the application of processes, tools and techniques. They will develop their independent learning skills by investigating and reporting on a contemporary information system, describing its purpose, features and users, technical challenges, application of computational principles, and current areas of research and development, examining its legal and ethical implications, and evaluating its environmental, economic and social impact.

Learners who complete this Unit will be able to:

- 1 Explain how contemporary information system projects are developed and managed
- 2 Explain the implications of a contemporary information system development

This Unit is a mandatory Unit of the Advanced Higher Computing Science Course and is also available as a free-standing Unit. The Unit Specification should be read in conjunction with the *Unit Support Notes*, which provide advice and guidance on delivery, assessment approaches and development of skills for learning, skills for life and skills for work. Exemplification of the standards in this Unit is given in *Unit Assessment Support*.

The *Course Assessment Specification* for the Advanced Higher Computing Science Course gives further mandatory information on Course coverage for learners taking this Unit as part of the Advanced Higher Computing Science Course.

Recommended entry

Entry to this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- ◆ Information System Design and Development (Higher) Unit
- ◆ Higher Computing Science Course

Equality and inclusion

This Unit Specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence. For further information, please refer to the *Unit Support Notes*.

Standards

Outcomes and assessment standards

Outcome 1

The learner will:

- 1 Explain how contemporary information system projects are developed and managed by:**
 - 1.1 Explaining how HCI impacts on each stage of the project lifecycle
 - 1.2 Describing the roles of computing professionals
 - 1.3 Explaining the importance of project planning and management tools and techniques
 - 1.4 Explaining the need for testing, evaluation and maintenance processes and techniques

Outcome 2

The learner will:

- 2 Explain the implications of a contemporary information system development by:**
 - 2.1 Describing its main purpose, features, applications and users
 - 2.2 Explaining how computational principles apply
 - 2.3 Explaining related technical challenges
 - 2.4 Describing related areas of current research and development
 - 2.5 Explaining its legal and ethical implications
 - 2.6 Evaluating its environmental, economic and social impact

Evidence Requirements for the Unit

Assessors should use their professional judgement, subject knowledge and experience, and understanding of their learners, to determine the most appropriate ways to generate evidence and the conditions and contexts in which they are used.

Evidence for Outcome 1 may be oral or written.

Evidence for Outcome 2 might be based on a development from any of the following (or other) areas: computer architecture (parallel computing systems, smart devices); artificial intelligence (robotics, expert systems, vision systems); networking (cloud computing, security); or interactive systems (social media, transactional systems, games). Evidence for Outcome 2 may be presented in a variety of formats.

Exemplification of assessment is provided in *Unit Assessment Support*. Advice and guidance on possible approaches to assessment is provided in the *Unit Support Notes*.

Development of skills for learning, skills for life and skills for work

It is expected that learners will develop broad, generic skills through this Unit. The skills that learners will be expected to improve on and develop through the Unit are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and drawn from the main skills areas listed below. These must be built into the Unit where there are appropriate opportunities.

2 Numeracy

2.3 Information handling

3 Health and wellbeing

3.1 Personal learning

4 Employability, enterprise and citizenship

4.2 Information and communication technology (ICT)

5 Thinking skills

5.3 Applying

5.4 Analysing and evaluating

Amplification of these is given in SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work*. The level of these skills should be at the same SCQF level as the Unit and be consistent with the SCQF level descriptor. Further information on building in skills for learning, skills for life and skills for work is given in the *Unit Support Notes*.

Administrative information

Published: April 2013 (version 1.0)

Superclass: to be advised

History of changes to National Unit Specification

Version	Description of change	Authorised by	Date

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Note: readers are advised to check SQA's website: www.sqa.org.uk to ensure they are using the most up-to-date version of the Unit Specification.