Systems and Principles Unit Syllabus

Level 3 Software testing

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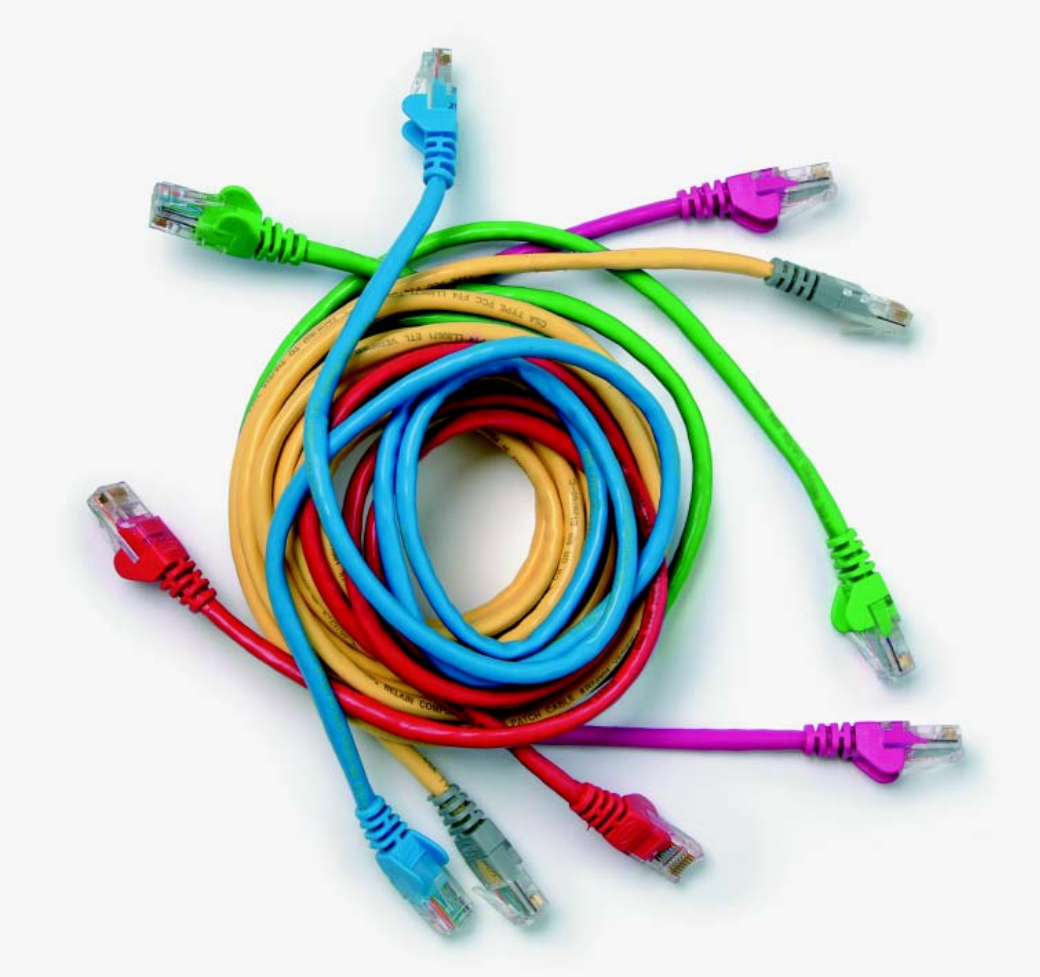

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Unit 043 Software testing

Syllabus Overview

Unit accreditation number **L/601/3511**

Credit value **9**

Rationale

This unit introduces the basics of testing strategies and techniques and their application.

Learning outcomes

There are **two** outcomes to this unit. The candidate will:

- Understand testing strategies and techniques
- Manage a test process for a software solution

Guided learning hours

It is recommended that **50** guided learning hours should be allocated for this unit. This may be on a full time or part time basis.

Connections with other qualifications

This unit contributes towards the learning outcomes and assessment criteria required for the level 3 Diploma in ICT Professional Competence.

Assessment and grading

Assessment will be by means of **a set assignment** covering practical activities and underpinning knowledge.

Unit 043 Software testing

Outcome 1 Understand testing strategies and techniques

Underpinning knowledge

The learner will be able to

1 explain the purpose and scope of
   a unit (smallest component eg module, function) testing of software
   b integration (several linked components some of which may be stubs) testing of software
   c system testing (finished system) of software
2 describe the stages of system testing including alpha, beta, and acceptance testing
3 describe how automation can be applied to software testing
4 describe and differentiate functional (black box) and structural (white box) testing.

Unit 043 Software testing
Outcome 2 Manage a test process for a software solution

Practical activities

The learner will be able to

1 develop a test plan including:
   a test specification (including functional and structural techniques)
   b test cases
   c test data and expected results
   d resources and scheduling
   e recording and checking of results (test log)
   f evaluation
2 implement a test plan
3 produce a test report that
   a specifies the presence or absence of errors
   b make proposals for rectifying errors found
   c reports on the success of the test against the original specification.

Underpinning knowledge

The learner will be able to

- list the essential features of a test plan
   a test number
   b date
   c purpose/type of test (test case)
   d test data and expected results
   e resources and scheduling
- list the essential features of a test log
   a test number
   b date
   c actual results
   d record of discrepancies between actual results and expected results
- describe the importance of designing test data to confirm a program works correctly under normal and exceptional circumstances
   a valid
   b invalid
   c boundary
- state that the test number must provide a cross reference between a test plan its corresponding test log and test output (printed, screen print or input/output file)

Unit record sheet

Use this form to track your progress through this unit.

Tick the boxes when you have covered each outcome. When they are all ticked, you are ready to be assessed.

Outcome	✓	Date
1 Understand testing strategies and techniques	☐	
2 Manage a test process for a software solution	☐	

Candidate Signature ..... **Date** .....

City & Guilds Registration Number .....

Quality nominee (if sampled) ..... **Date** .....

Assessor Signature ..... **Date** .....

External Verifier Signature (if sampled) ..... **Date** .....

Centre Name ..... **Centre Number** .....

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