

National Unit Specification: general information

UNIT Computer Programming (Project) – Scripting Language

NUMBER D6RB 11

COURSE Not Applicable – freestanding unit

SUMMARY

Using a Scripting Language and related computer software within the context of multimedia computing.

OUTCOMES

- 1 Devise a solution to a given problem in the context of Multimedia Authoring.
- 2 Produce tested program code to implement the solution to a problem.
- 3 Compile program documentation for reference purposes.

RECOMMENDED ENTRY

Introduction to Computer Programming: Using a Scripting Language.

CREDIT VALUE

1 credit at Intermediate 2.

CORE SKILLS

Information on the automatic certification of any core skills in this unit is published in *Automatic Certification of Core Skills in National Qualifications* (SQA, 1999).

Administrative Information

Superclass: CB

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National Unit Specification: statement of standards

UNIT Computer Programming (Project) – Scripting Language

Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to the Scottish Qualifications Authority.

OUTCOME 1

Devise a solution to a given problem in the context of multimedia authoring.

Performance criteria

- a) A suitable algorithm for the problem solution is devised.
- b) The algorithm is represented using a recognised technique.

Note on range for the outcome

Problem solution: effectiveness; efficiency; documentation techniques.

Evidence requirements

Please refer to *Evidence requirements for the unit* at the end of the Statement of Standards.

OUTCOME 2

Produce tested program code to implement the solution to a problem.

Performance criteria

- a) Program code which matches the algorithm is produced.
- b) The program is tested in a manner suitable to the problem.

Note on range for the outcome

Good programming practice: modular design using structured techniques; meaningful identifiers; meaningful internal documentation.

Evidence requirements

Please refer to *Evidence requirements for the unit* at the end of the Statement of Standards.

National Unit Specification: statement of standards (cont)

UNIT Computer Programming (Project) – Scripting Language

OUTCOME 3

Compile program documentation for reference purposes.

Performance criterion

A documentation file is compiled into a specified presentation format.

Note on range for the outcome

The documentation file should consist of the following sections: a formal statement of the problem/project; the developed solution; a test strategy; appropriate test data; the program coding; a statement of all variables and content files; a test log; hard copy printouts of test runs as appropriate.

Evidence requirements

Please refer to *Evidence requirements for the unit* at the end of the Statement of Standards.

EVIDENCE REQUIREMENTS FOR THE UNIT

Outcome 1

A set of 6 short, written answer questions on the necessity for effective and efficient problem solution design, problem analysis and program structure.

A section of a documentation file which effectively demonstrates the practical application of a recognised technique.

Outcome 2

A section of a documentation file which presents the program code in such a manner that all aspects of PCs 1, 2 and 3 are clearly demonstrated.

Outcome 3

A formally presented documentation file containing all aspects outlined in the notes above.

National Unit Specification: support notes

UNIT Computer Programming (Project) – Scripting Language

This part of the unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this unit is at the discretion of the centre, the notional design length is 40 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

This unit is designed to introduce the candidate to the theory and practices involved in computer programming with a scripting language. The intention is to provide an opportunity for candidates to undertake a realistic simulation of a possible real-life task and to provide a foundation for further study at higher level. It is recommended that the project brief is designed to allow the candidate an adequate opportunity to be creative. The following information gives further clarification regarding the context in which outcomes and performance criteria are to be achieved.

Outcome 1

The use of analysis techniques to reduce the specified problem into a set of sub-problems and subsequent representation of the solution to the problem is envisaged for this outcome. The use of sequence, selection and repetition should be demonstrated appropriately within the solution.

Outcome 2

The candidate should be led through a brief revision of any language constructs appropriate to the project brief. The principles of program testing and the generation of appropriate test data with relevant “bench testing” and should be reinforced. Test logging should be an inherent part of the overall procedure.

Outcome 3

Documentation should be prepared as the project progresses with each section being seen in the context of the management of the project. Management Control, Continuity of Work, and Communication are the reasons for documentation.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Teaching and learning should be a combination of tutor centred investigation and candidate centred learning. Candidates should be encouraged to take a positive attitude towards the quality of their own work throughout this unit. The emphasis throughout the unit should be on practical application, creativity and innovation.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

The requirements for assessment of the unit are adequately described in the learning outcome statements.

National Unit Specification: support notes (cont)

UNIT Computer Programming (Project) – Scripting Language

SPECIAL NEEDS

This unit specification is intended to ensure that there are no artificial barriers to learning or assessment. Special needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering special alternative outcomes for units. For information on these, please refer to the SQA document *Guidance on Special Assessment and Certification Arrangements for Candidates with Special Needs/Candidates whose First Language is not English* (SQA, 1998).