

National Unit Specification: general information

UNIT	Product Design: Design Analysis (Higher)
NUMBER	DF4V 12
COURSE	Product Design (Higher)

SUMMARY

This Unit will enable candidates to evaluate commercial products and draw up specifications. Candidates will evaluate a commercial product. Candidates will also consider design issues when analysing a brief and drawing up a specification. The Unit is suitable for candidates with previous experience in related subjects (such as Craft and Design, Graphic Communication or Art and Design). It is also suitable as an introduction for candidates studying product design for the first time.

OUTCOMES

1. Evaluate a commercial product.
2. Establish a design specification from a brief.

RECOMMENDED ENTRY

While entry is at the discretion of the centre, candidates would normally be expected to have achieved one of the following:

- ◆ Standard Grade Craft and Design at Credit level
- ◆ Standard Grade Graphic Communication at Credit level
- ◆ Standard Grade Art and Design at Credit level
- ◆ The Unit *Product Design: Design Analysis* at Intermediate 2

Administrative Information

Superclass:	VF
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National Unit Specification: general information (cont)

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CREDIT VALUE

1 credit at Higher (6 SCQF credit points at SCQF level 6*).

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

CORE SKILLS

This Unit gives automatic certification of the following:

Core Skills components for the Unit

Critical Thinking at Higher

National Unit Specification: statement of standards

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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

Evaluate a commercial product.

Performance Criteria

- (a) Aspects to be included in the evaluation are identified and justified.
- (b) An appropriate strategy for evaluation is developed.
- (c) A comprehensive evaluation of the product is carried out.
- (d) Valid conclusions about the product are given.

Evidence Requirements

(See Evidence Requirements for the Unit at the end of the statement of standards).

OUTCOME 2

Establish a design specification from a brief.

Performance Criteria

- (a) The brief is analysed and relevant design issues are identified.
- (b) The design issues are fully researched.
- (c) A detailed specification is derived from the design issues researched.

Evidence requirements

(See Evidence Requirements for the Unit at the end of the statement of standards).

National Unit Specification: statement of standards (cont)

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EVIDENCE REQUIREMENTS FOR THE UNIT

Evidence for this Unit can be written or oral, and graphical. The evidence should be produced under supervised conditions. Candidates are required to produce a folio of work which provides evidence for all Outcomes. The evidence may consist of work produced in response to a single task or a number of smaller tasks. The evidence will be produced as a natural part of the teaching and learning process.

The type of evidence will depend on the task undertaken. The folio of work is likely to include a mixture of the following:

- ◆ text, handwritten or word-processed
- ◆ graphics, manual or computer generated
- ◆ images, from a variety of sources.

Centres must be satisfied that the evidence submitted is the work of individual candidates. Although group work may be used as a learning and teaching approach, any work which contributes to a candidate's folio for assessment must be carried out on an individual basis.

Unit achievement is determined by the use of a cut-off score. The standard to be applied is detailed in the National Assessment Bank item available for the Unit. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

National Unit Specification: support notes

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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 focuses on the initial stages of the design process: investigating problems and setting out criteria for the solution. However, it is important that these stages are set in the context of the full design process. Candidates will, therefore, have to be made aware of the complete design process and the people involved in it. Candidates will also have to be made aware of the issues which affect the design of products.

The Course content which is likely to be covered in this Unit is detailed below:

Members of a design team:	Designers, market researchers, accountants, engineers, manufacturers. Relationships between team members. Types of teams.
Problem identification:	Situation analysis, product evaluation.
Brief:	Purpose, statement of problem, target market.
Research:	Sources of recorded and non-recorded information, methods of gathering information. Analysis and presentation of researched material.
Specification:	Types and purpose of specifications: brief, product design specification, performance specification, marketing specification and technical specification. Application of researched material to produce a product design specification.
Evaluation:	Surveys, questionnaires, user trips/trials, observation, testing, test rigs, comparison to other products, comparison to specification. Application of evaluation techniques, presentation of results.
Function:	Primary and secondary functions, fitness for purpose.
Performance:	Planned obsolescence, value for money, ease of maintenance, environmental concerns. Materials and manufacturing processes may be touched on in this Unit but are likely to be covered more fully in Unit 3.
Market:	Consumer demands, social expectations, niche marketing, branding, introduction of new products.

National Unit Specification: support notes (cont)

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Aesthetics:	Factors influencing aesthetics, influences of fashion, market trends, style.
Ergonomics:	Anthropometrics, psychology, physiology.
Economics:	Costs (fixed and variable), safety (British Standards, kite marks), market opportunity, intellectual property rights (confidentiality, patents, copyrights, design rights, trademarks, registered designs), value for money. Production systems may be touched on in this Unit but are likely to be covered more fully in Unit 3.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

The context for delivery of the Unit will vary from centre to centre depending on the candidate group, centre facilities and staff expertise and interests.

Centres may choose to cover the two Outcomes with two separate tasks or to carry the same task across the two Outcomes.

For Outcome 1, it is likely that candidates will carry out a practical investigation, looking at products which are of interest to them and producing an evaluation.

For Outcome 2, candidates may wish to investigate their context, situation, task or problem of their own choice, however this will require teacher/lecturer guidance to ensure there is enough scope involved. If centres set a brief for candidates they should ensure that it is not 'too closed' but should select a context, task or problem which will leave sufficient scope for candidates to carry out research and draw up a specification.

Centres may choose to cover both Outcomes by adopting a 'reverse engineering' approach, analysing existing products and looking for ways of improving them. This must also allow candidates enough scope to fully analyse the situation and identify the problem.

Although group work may be used as a learning and teaching approach any work which contributes to a candidate's folio for assessment must be carried out on an individual basis.

The Course Arrangements give further information on teaching and learning in a Course context. It should be noted that there are areas of content in the Course which are not directly assessed within the Unit but are covered in the external Course assessment.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

This Unit gives candidates experience of design activity. Although candidates will develop their knowledge and understanding of design issues, Unit assessment is focused on the application of this knowledge and understanding.

National Unit Specification: support notes (cont)

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Candidates should gather a folio of work which will provide evidence across all the Outcomes. The standard to be applied is detailed in the National Assessment Bank item for the Unit.

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 Arrangements* (SQA, September, 2003).