

Higher National Unit Specification

General information for centres

Unit title: Product Design: Project

Unit code: F0ML 35

Unit purpose: This Unit is designed to develop the candidate's ability to use the design process in a logical and systematic manner in the design of a product. Candidates will work through the process to develop a satisfactory design solution that fulfils the requirements of the design brief. Candidates will work to deadlines.

On completion of the Unit the candidate should be able to:

- 1 Effectively interpret and analyse a complex brief.
- 2 Undertake and present research.
- 3 Create and present product design concepts.
- 4 Produce and evaluate a developed design solution.

Credit points and level: 2 HN Credits at SCQF level 8: (16 SCQF credit points at SCQF level 8*)

**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.*

Recommended prior knowledge and skills: Access to this Unit is at the discretion of the centre. It would be beneficial if candidates had prior knowledge of the design process. This may be evidenced by the possession of HNC Units in 3D Design eg DV5W 35 *Art and Design Project*, CV5T 34 *Art and Design: Creative Process* or relevant experience.

Core Skills: There are opportunities to develop the Core Skills of Problem Solving, Communication, Working with Others and Numeracy at level 6 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

Context for delivery: If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

Assessment: The Unit should be assessed using continuous assessment of the product evidence generated during the Unit. All Outcomes could be assessed individually or at a single assessment event in a combined assessment. This would take place on conclusion of the Unit.

For Outcome 1 the required information will be presented in any suitable form — written/oral and/or digital.

General information for centres (cont)

For Outcome 2 evidence should be presented as sketch models, development boards or equivalent that shows a creative response to the given brief and research generated in Outcome 2.

For Outcome 3 evidence should be presented as sketch models, development boards or equivalent that shows a creative response to the given brief and research generated in Outcome 2.

For Outcome 4 the final presentation should include both written/orally presented evaluations and model and visual representations.

Higher National Unit specification: statement of standards

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The sections of the Unit stating the Outcomes, knowledge and/or skills, and Evidence Requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Effectively interpret and analyse a complex brief

Knowledge and/or skills

- ◆ Key requirements of design brief
- ◆ Interpretation
- ◆ Analysis
- ◆ Time management
- ◆ Presentation

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can, with reference to a complex brief:

- ◆ identify the requirements of the design task as described in the brief
- ◆ identify two and three-dimensional design elements
- ◆ produce a delivery plan that includes realistic timescales for research, development and final production

The required information will be presented in any suitable form — written/oral and/or digital.

Candidates could present the timescale and delivery plan for their project in a diagrammatic form. This Outcome could be assessed individually or at a single assessment event in a combined assessment with Outcomes 2, 3 and 4.

Assessment guidelines

The evidence may include annotated sketchbook/log book of personal notes, diagrams, drawing outlining initial responses to the brief and initial research materials.

Higher National Unit specification: statement of standards (cont)

Unit title: Product Design: Project

Outcome 2

Undertake and present research

Knowledge and/or skills

- ◆ Research techniques
- ◆ Analysis
- ◆ Problem solving
- ◆ Presentation

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ carry out research using primary and secondary research sources
- ◆ explore a minimum of three different sources of evidence
- ◆ organise and collate research in a systematic manner

Evidence should be presented in the form of an annotated sketchbook or equivalent.

Evidence produced should contain annotations and visuals and equate to a minimum of 10 x A4 sheets.

Assessment guidelines

This Outcome could be assessed individually or at a single assessment event in a combined assessment with Outcomes 1, 3 and 4.

Evidence should be produced using either visual/written/electronic formats, or a combination of these.

Outcome 3

Create and present product design concepts

Knowledge and/or skills

- ◆ Design process
- ◆ Design concepts
- ◆ Production materials/methods
- ◆ Selection of final design concepts
- ◆ Presentation

Higher National Unit specification: statement of standards (cont)

Unit title: Product Design: Project

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ select solutions for final development
- ◆ develop creative and complex design solutions in 2D and 3D format
- ◆ use materials and equipment appropriately
- ◆ Select appropriate production materials and methods
- ◆ Critically analyse and reflect upon their design solutions
- ◆ Demonstrate effective time management

Evidence should be presented as sketch models, development boards or equivalent that shows a creative response to the given brief and research generated in Outcome 2.

Candidates should present a minimum of 2 x A3 development boards and a minimum of 2 sketch models for assessment.

Assessment guidelines

This Outcome could be assessed individually or at a single assessment event in a combined assessment with Outcomes 1, 2 and 4

Outcome 4

Produce and evaluate a developed product design solution

Knowledge and/or skills

- ◆ Presentation
- ◆ Critical analysis and reflection
- ◆ Evaluation

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can, produce and construct professionally finished design solutions:

- ◆ produce and construct professionally finished design solutions that meet all requirements of the brief
- ◆ present well realised and finished 3D model and visual solutions
- ◆ present finished design solutions
- ◆ evaluate final product design

The final presentation should include both written/orally presented evaluations and model and visual representations.

Higher National Unit specification: statement of standards (cont)

Unit title: Product Design: Project

Assessment guidelines

This Outcome could be assessed individually or at a single assessment event in a combined assessment with Outcomes 1, 2 and 3.

Evaluation and presentation could be assessed through an oral/digital presentation of 3 minutes or through a written report of a minimum 500 words that includes visual references to the final solutions,.

Candidates may include evaluation of solutions in relation to the creativity, complexity, construction, aesthetics, context and purpose of their final solution.

Administrative Information

Unit code: F0ML 35
Unit title: Product Design: Project
Superclass category: VF
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Version	Description of change	Date

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Higher National Unit specification: support notes

Unit title: Product Design: Project

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 80 hours.

Guidance on the content and context for this Unit

The purpose of this Unit is to enable candidates to develop and extend existing research skills to be able to effectively undertake a product design project. The Unit is also intended to develop candidates visual and evaluation skills.

Candidates will prepare and complete a creative and complex product design task.

This Unit provides a platform for the candidate to explore the different mediums of research available to them and find ways to implement that research and integrate it into the design process; Candidates will also develop skills of critical analysis and reflection.

Guidance on the delivery and assessment of this Unit

This Unit has been developed as part of the HND 3D Design Award. It is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

Opportunities may be taken to link or integrate with other aspects of the course and a thematic approach adopted for both delivery and assessment.

It is recommended that Outcomes 1,2,3,4 be taught in sequence.

Outcome 1

Candidates should identify key areas of the brief and record them in their own words for clarity. An outline should be produced detailing aims and objectives to be achieved to successfully complete the design task. The time management plan may be diagrammatic but must identify the key time targets for each stage of the design process and should take into account the roles of others involved in the realisation of the project.

Outcome 2

Candidates should be encouraged to seek references and research materials from a variety of sources.

Candidates may work individually or in small groups to facilitate research.

Candidates should be encouraged to verify gathered information by use of a secondary source if available and to check the authenticity of data. All research material must be organised, collated and annotated in a professional and systematic manner.

Higher National Unit specification: support notes (cont)

Unit title: Product Design: Project

Outcome 3

Candidates should be encouraged to explore a wide range of responses to the brief. Experimentation and development of a range of approaches is key to this Outcome. At this stage candidates should not be trying to find a conclusive final solution but should be encouraged to take an experimental approach to achieving a solution. At all times candidates should show that they have analysed their ideas and reflected upon their effectiveness before taking concepts to the next stage of the design process.

The selection of stimuli should be carefully considered and candidates should be able to explain how such stimuli would relate to the project brief.

This is a practical assignment where candidates can demonstrate their working knowledge of creative approaches and responses to a given brief. The Tutor could identify stimuli that incorporate both 2D and 3D source materials.

A minimum of two concepts should be sought at this stage. Sketch models produced by candidates could relate to one of the concepts or be a series of developmental models related to one of the concepts.

It may be useful to record 2D and 3D responses by photographic or digital means for assessment purposes.

Outcome 4

The final solution should be selected, produced, presented and evaluated. Where a large-scale piece is envisaged then a scale model should be produced. Presentation and evaluation could take the form of a critique, and exhibition, installation or audio/visual presentation. The form that the final presentation will take should be made clear to candidates from the outset of the Unit.

Throughout the Unit each candidate should keep an annotated sketchbook, workbook or folder of worksheets detailing concepts and subsequently generated ideas. 3D evidence should be generated and recorded, in the form of sketch models and/or a final model. Photographic evidence of sketch models could be included in sketchbooks and/or on presentation boards.

When assessing the final solution, consideration should be given to the whole creative process rather than focusing solely on the quality of final presentation.

Opportunities for developing Core Skills

Elements of the Core Skill of Problem Solving should be naturally developed and enhanced as candidates undertake the practical work for the Unit. Candidates have to produce a developed design solution to a specific brief. This will require that they analyse, select and justify media, methods and equipment. Researching and assessing the importance of all factors impacting on the interpretation of a brief including budget and time considerations will involve a high level of critical thinking and negotiating. Applying and demonstrating knowledge and understanding in the production of 2D and 3D models will necessarily require accuracy and skill. A detailed critical analysis of process and product is assessed. Candidates may benefit from group discussion and personal interviews to reinforce analytical and evaluative approaches to working practice.

Higher National Unit specification: support notes (cont)

Unit title: Product Design: Project

There may be opportunities to enhance co-operative communication skills in working with other people as information is gathered for the brief. Candidates could be encouraged to:

- ◆ negotiate the nature and scope of goals, roles and responsibilities of all involved in the project work taking account of all resources including strengths and weaknesses of individuals
- ◆ negotiate rules for effective project management
- ◆ use working methods consistent with available resources
- ◆ fulfil their agreed roles and responsibilities

Accuracy in the ability to calculate, apply and present graphic data underpins the competencies developed in the Unit. Candidates could be provided with formative opportunities to enhance skills in the interpretation of numerical, statistical and graphic data in practical contexts. The creative use of appropriate technology and relevant software could enhance applied numerical and graphical skills. The emphasis of formative work should be on Technology and Numeracy as tools to be used and applied efficiently and creatively in design solutions.

Candidates should be advised to ensure that they present materials effectively and to professional standards. Centre designed checklists for self assessment may be helpful to communication skills development. Written work should be technically accurate and presented for impact. Oral work should demonstrate the use of effective verbal and non-verbal techniques, including the ability to provide confident, knowledgeable responses to detailed questions.

Open learning

Due to the practical nature of this Unit, delivery by Open learning is not recommended.

For further information and advice please refer to the SQA document Assessment and Quality Assurance for Open and Distance Learning which is available on SQA's website: www.sqa.org.uk.

Candidates with disabilities and/or additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering alternative Outcomes for Units. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* (www.sqa.org.uk).

General information for candidates

Unit title: Product Design: Project

This Unit will give you experience of research techniques and sources available and how use and implement them logically in the design process. You will work through the design process to realise a final product design solution.

For **Outcome 1** you will analyse a complex brief and identify the processes to achieve the production of a final solution to the brief. You will also produce a delivery plan that includes realistic timescales for research, development and final production.

For **Outcome 2** you will find sources of information and carry out research. You will then organise and collate research in a systematic manner.

For **Outcome 3** you will generate concepts and ideas for your final product design, firstly as drawings and then in 3D format as models and/or 3D digital models. You will critically reflect upon your developments and be able to give sound reasons for choosing a concept to develop to finished presentation.

For **Outcome 4** you will present, clearly communicate and evaluate your final solution to the product design brief.