

Higher National Unit Specification

General information for centres

Unit title: Model Making: Construction Techniques

Unit code: DW79 34

Unit purpose: This Unit is designed to introduce candidates to a range of practical construction skills used in professional model making.

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

- 1 Describe the processes involved in the fabrication of model making materials.
- 2 Describe the processes involved in heat forming plastics.
- 3 Describe the processes involved in model making casting techniques

Credit points and level: 1 HN Credit at SCQF level 7: (8 SCQF credit points at SCQF level 7*).

**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 will be at the discretion of the centre. It is not necessary for candidates to have had previous experience of construction techniques, however, it is recommended that candidates have a basic understanding of construction processes and terminologies. This could be demonstrated by possession of NQ Model making or other equivalent courses.

Core Skills: There are opportunities to develop the Core Skill of Communication at SCQF level 6 in this Unit, although there is no automatic certification of Core Skills or Core Skills components. Further details are provided in the support notes.

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: This Unit could be assessed by a single instrument of assessment, which would require the candidates to produce a report and respond to set questions based on a case study. It may be possible to implement two instrument of assessment: the first being a report; the second being a case study assessed under controlled conditions.

Higher National Unit specification: statement of standards

Unit title: Model Making: Construction Techniques

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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

Describe the processes involved in the fabrication of model making materials

Knowledge and/or skills

- ◆ Planning
- ◆ Measuring and marking
- ◆ Assembly
- ◆ Jointing
- ◆ Workshop/Studio Practice

Evidence Requirements

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

- ◆ explain the importance of planning in the fabrication of model making materials
- ◆ describe the factors influencing the measuring and marking of model making materials
- ◆ explain assembly considerations
- ◆ describe jointing methods with regard to material and structure type and required finish
- ◆ outline Health and Safety considerations

The description of the above must be in the form of a presentation of a minimum 500 words. This assessment would be undertaken under Open book conditions. Work produced out-with controlled conditions must be subject to authentication by the tutor.

Assessment guidelines

The assessment of this Outcome can be stand alone or combined with Outcomes 2 and 3. An observation checklist may be used to ensure the candidates have addressed all the knowledge requirements.

Higher National Unit specification: statement of standards (cont)

Unit title: Model Making: Construction Techniques

Outcome 2

Describe the processes involved in heat forming plastics

Knowledge and/or skills

- ◆ Heat bending
- ◆ Vacuum forming
- ◆ Pattern making
- ◆ Post form machining
- ◆ Workshop/Studio Practice

Evidence Requirements

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

- ◆ explain the procedures for heat bending plastics
- ◆ explain the procedures for vacuum forming plastics
- ◆ describe the factors effecting pattern making for heat and vacuum forming
- ◆ describe the factors effecting post form machining
- ◆ outline Health and Safety considerations

The description of the above must be in the form of a presentation of a minimum 500 words. This assessment would be undertaken under Open book conditions. Work produced out-with controlled conditions must be subject to authentication by the tutor.

Assessment guidelines

The assessment of this Outcome can be stand alone or combined with Outcomes 1 and 3. An observation checklist may be used to ensure the candidate has addressed all the knowledge requirements.

Outcome 3

Describe the processes involved in model making casting techniques

Knowledge and/or skills

- ◆ Types of mould
- ◆ Preparation
- ◆ Materials
- ◆ Casting
- ◆ Workshop/Studio Practice

Higher National Unit specification: statement of standards (cont)

Unit title: Model Making: Construction Techniques

Evidence Requirements

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

- ◆ describe the factors effecting the types of mould required for casting
- ◆ describe the procedures for preparing a mould
- ◆ describe the factors effecting the selection of moulding and casting materials
- ◆ describe the procedures for producing a cast
- ◆ outline Health and Safety considerations

The description of the above must be in the form of a presentation of a minimum 500 words. This assessment would be undertaken under Open book conditions. Work produced out-with controlled conditions must be subject to authentication by the tutor.

Assessment guidelines

The assessment of this Outcome can be stand alone or combined with Outcomes 2 and 3. An observation checklist may be used to ensure the candidate has addressed all the knowledge requirements.

Administrative Information

Unit code:	DW79 34
Unit title:	Model Making: Construction Techniques
Superclass category:	VF
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Higher National Unit specification: support notes

Unit title: Model Making: Construction Techniques

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 delivered as a key building block, providing the candidate with an underpinning knowledge of the construction techniques required throughout this Group Award and in the industry. Within the model making profession, there is a requirement for a high quality of construction and the capability to produce a wide variety of structures. In many instances, methods must be devised to produce the desired result. An element of exploration may be needed to develop appropriate solutions. The role of the model maker is very much that of a problem solver and their construction skills must be flexible enough to cater for the diverse range of client requirements. These may range from precise technical pre-production prototypes to more expressive, textural props or special effects. The construction must be appropriate and fit for purpose.

Corresponding to the Outcomes, the Unit will cover three main areas of model making construction:

- ◆ fabrication
- ◆ heat forming/bending
- ◆ moulding and casting

Although this Unit has been designed as an integral part of the HNC/D: 3D Design, it may possible for other design courses to deliver this Unit.

Guidance on the delivery and assessment of this Unit

This Unit is intended to give the candidate an opportunity to experience the range of construction techniques expressed in the content and context section above. The practical nature of this subject area suggests that the most appropriate delivery would be by a combination of lecture, demonstrations, discussions and workshops. Case studies would be appropriate to introduce the candidate to planning and selection of appropriate construction methods.

The sequence of delivery of the Outcomes is not critical as each topic can be covered separately, however, it may be beneficial for candidates to have an understanding of fabrication methods prior to demonstrating mould/pattern making.

There is no assessment of practical work in this Unit, but product based elements carried out within the 3D Design framework may provide suitable research for underpinning presentations.

As with all areas within professional model making, there may be many suitable construction methods that are capable of achieving a satisfactory result and the candidates should be made aware that there is room for variations and preferences. The need to keep up to date with new techniques should be highlighted. Candidates should appreciate that what they are being shown does not exhaust all possibilities and that the nature of the profession is that each new project can generate a new set of problems to which a solution must be devised.

Higher National Unit specification: support notes (cont)

Unit title: Model Making: Construction Techniques

Opportunities for developing Core Skills

Candidates will be required to demonstrate communication skills by researching, and summarising appropriate information in a 500 word presentation. Formative practice should develop skills and could be supported by self assessment checklists, including evaluation of approaches to self improvement. Access to appropriate technology is advisable.

Candidates should be encouraged to:

- ◆ research, select and analyse a range of relevant information
- ◆ collate, organise and structure information effectively
- ◆ use accurate language, register and style adapted for purpose
- ◆ signpost key points
- ◆ select and produce appropriate support materials

Open learning

It may be suitable to deliver this Unit by open learning. It may be possible for candidates to access source information and complete written work electronically.

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. For information on these, please refer to the SQA document *Guidance on Alternative Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs*, which is available on SQA's website: www.sqa.org.uk.

General information for candidates

Unit title: Model Making: Construction Techniques

This Unit is designed to introduce you to a range of practical construction skills used in professional model making.

Lectures and demonstrations will allow you to develop an understanding and knowledge of the variety of skills and techniques used in the industry and give you an insight into what you may be expected to create.

Examples will be used to demonstrate what is acceptable within the industry.

There will be opportunities to explore methods of achieving particular structures as, within the industry, you may have to devise solutions yourself, rather than working to precise directions. In order to complete this Unit satisfactorily, you must produce a presentation, (or three separate presentations) amounting to a minimum total of 1,500 words.

On successful completion of this Unit you will be able to:

- 1 Describe the processes involved in the fabrication of model making materials.
- 2 Describe the processes involved in heat forming plastics.
- 3 Describe the processes involved in model making casting techniques.