



Higher National Unit specification

General information for centres

Unit title: Glass Flameworking: Advanced

Unit code: F1W3 35

Unit purpose: This Unit will enable the candidate to develop higher level of skills and knowledge relating to flameworking techniques. It is suitable for candidates wishing to advance to a higher level of study or employment or self-employment in the art glass field.

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

- 1 Use flame producing equipment to make and shape complex beads.
- 2 Design and make a complex flameworked artefact.

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: While access is at the discretion of the centre, candidates should possess a relevant qualification in flamework at SCQF level 6 or 7 such as F1RR 34 *Glass: Flameworking Techniques* or have prior practical experience in this field. Candidates should have prior knowledge of kiln preparation and operation procedures.

Core Skills: There are opportunities to develop the Core Skills of Problem Solving and Working with Others at SCQF level 6 in this Unit and IT at SCQF level 5, 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 assessment for this Unit will be the production of a series of beads which will illustrate the creation of different shapes and different decorative techniques. The candidate will also design and produce a flameworked artefact to meet a given brief.

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

Use flame producing equipment to make and shape complex beads

Knowledge and/or Skills

- ◆ Types of flame producing equipment
- ◆ Types of glass
- ◆ Properties of glass
- ◆ Compatibility issues
- ◆ Health and safety requirements
- ◆ Safe working practices

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and Skills by showing that they can set up a minimum of two different types of flame producing equipment and a minimum of two different types of glass which meet the requirements of the brief in terms of compatibility and properties required.

Equipment should be set up in a way which follows manufacturer's instructions and meets all health and safety requirements. Candidates should demonstrate appropriate checks on gas pressure and purging procedures and correct use of leak detection equipment.

Candidate performance should be recorded on an observation schedule which should be accompanied by a minimum of 10 questions on the use of equipment and materials.

Candidates should produce five beads in each of the following categories:

- ◆ cubes
- ◆ barrels
- ◆ cones
- ◆ bi-cones
- ◆ sculptural

Higher National Unit specification: statement of standards (cont)

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At least one of each category should contain dots, complex stringer designs, encasing, foil, frit, dichroic and pixie dust. All beads should be removed from the mandrel, well defined, blemish free and should be devoid of cracks and bead sludge residue.

Assessment Guidelines

Candidates could be asked to use two different types of flame producing equipment and use a minimum of two different types of glass to produce a number of different types of glass beads. Candidates at this stage should be encouraged to be creative in their use of combinations of shapes and patterns and could be provided with a checklist to show where each category of shape and pattern had been overtaken.

Candidates could be asked to respond to written or oral questions to test their understanding of the equipment and the health and safety requirements which have to be followed, both as part of the equipment and as part of working in a workshop environment. Evidence of safe working practices, and the set up and use of equipment should be recorded on a centre-devised checklist.

Outcome 2

Design and make a complex flameworked artefact

Knowledge and/or Skills

- ◆ Specification
- ◆ Design process
- ◆ Sketching techniques
- ◆ Materials
- ◆ Research techniques
- ◆ Flameworking skills

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and Skills by showing that they can design and make an decorative flameworked artefact within the defined specifications for the brief. The design process should involve researching and referencing source materials to show design development. This should include details of the initial idea, annotated sketches, techniques, materials and processes to be used.

The candidate should produce a completed decorative flameworked artefact that is finished to a commercial, saleable standard, is functional and is a true representation of the original submitted design.

Assessment Guidelines

Evidence of design development could be gathered into a portfolio or a 'client' presentation. Once agreed with the tutor (who in this case would act as 'client') the candidate could go ahead and create the artefact.

Administrative Information

Unit code: F1W3 35
Unit title: Glass Flameworking: Advanced
Superclass category: WF
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Higher 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 80 hours.

Guidance on the content and context for this Unit

This Unit is an optional Unit in the HNC/HND Art Glass Production Group Awards. Its purpose is to enhance the candidates knowledge and skills of flameworking techniques using a variety of glass and materials to make complex artefacts.

Candidates will be required to demonstrate an understanding of the way in which hard and soft glasses react to heat produced by different flames.

The kind of equipment, which will be used in this Unit, would include different types of flame producing equipment inclusive of conventional torches, volcano, and oxy-fuel supplies capable of delivering the heat required to melt glass.

Current legislation regarding oxy-fuel processes should be explained to the candidates. Each candidate's performance in the setting up process should be monitored using a centre devised checklist. Candidates should be encouraged not only to follow Health and Safety requirements in the workplace but also to research any specific manufacturers instructions supplied with equipment. Manufacturer's catalogues and websites could be used as a source of reference for materials and equipment. The importance of good housekeeping in the work area should be stressed throughout the Unit.

Candidates will also develop their creative skills in this Unit through producing complex glass beads. These are complex in terms of shape and pattern and will allow candidates to develop a given specification to produce a design and subsequently a finished flameworked item. This could be a bowl, a lamp or a panel.

Guidance on the delivery and assessment of this Unit

The Outcomes should be delivered in sequence and where practical exemplars of old and contemporary artefacts should be provided. Practical elements of the Unit should be demonstrated. Where possible this could be by recorded medium eg DVD or on computer.

Candidates will need to practise the various techniques required to produce complex work prior to final assessment. This may require the candidate to co-operate with others in negotiating the use of equipment and resources.

Candidates should be given the opportunity to discuss and negotiate the given brief with their tutor for Outcome 2 to help develop their skills in dealing with a 'client'. Candidates could be encouraged to negotiate the brief with the 'client' so the brief should be left sufficiently flexible to allow for the candidate to retain some flexibility in their choice of design. Overall the artefact produced should be of a commercial standard.

Higher National Unit specification: support notes (cont)

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Opportunities for developing Core Skills

Candidates develop their Problem Solving skills by determining the materials, tools and equipment, which should be used to meet the specification given. This would be developed throughout the Unit by presenting candidates with mini-briefs to work to so that they make decisions, plan their work and organise the resources needed to carry out tasks. This would also involve candidates working with others to negotiate use of equipment at certain times.

Candidates will develop their skills in Working with Others throughout this Unit as they will be required to negotiate the use of limited space and workshop equipment with other candidates and they will also be required to explore their designs and the techniques to be used with their tutor in the assessment for Outcome 2.

IT skills could be developed by encouraging candidates to:

- ◆ use recognised research techniques and
- ◆ study the working practices of living flame working artists
- ◆ research health and safety requirements of the equipment being used as well as the health and safety requirements of the workshop

This research could be done using the internet. Candidates could be encouraged to use digital images as part of their design process and to record work in progress.

Open learning

This Unit is not suitable for Open learning due to the nature of the equipment being used. Part of the vocational aspects of the Unit will be to encourage the candidate to use the workshop environment in a way which shows consideration for others and an awareness of the health and safety aspects of their actions in the workshop environment.

For further information and advice, please refer to the SQA document *Assessment and Quality Assurance for Open and Distance Learning* 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: Glass Flameworking: Advanced

In this Unit, you will explore the intricacies of flameworking techniques. You will observe through demonstrations, the reaction of different types of glass to different types of flame. This is called glass alchemy. You will learn how to make complex glass beads in a variety of shapes like cones, barrels and encased beads. You will be introduced to other materials that can be used in the manufacture of special beads. This means that you will have to learn new techniques to use in conjunction with your existing skills in flameworking.

Health and welfare in the workplace is very important as is good housekeeping. When using the flame producing equipment it is most important that at all times you maintain a high level of concentration for your safety and that of your colleagues. You will use a variety of flame producing equipment that will require expert control to maintain flames for alchemy glass.

The beads and other artefacts that you make could be used for earrings, necklaces and bracelets. You will have a fair amount of artistic licence within the brief when you are asked to design and make your final piece and your proposals will be discussed with your tutor who will act as a client.

You will be assessed by your tutor who will observe and record some of the things that you are asked to do, such as assembling flame producing equipment. It does not matter that you have done it before — it is one of these operations that must be continually assessed and checked as the safety of all around you is in your hands.

There will be times when you will be faced with problems that you must overcome to achieve the Unit. This will be an opportunity for you to reflect on previous experience, observation of demonstrations and perhaps referral to notes from other Units where you have monitored notes of the processes used.

In working through this Unit you will develop your problem solving skills, your skills in working with others and you may also develop your IT skills.