



## Higher National Unit specification

### General information for centres

**Unit title:** Stonemasonry: Circle on Circle

**Unit code:** F8PR 34

**Unit purpose:** This Unit is designed to enable the candidates to develop their knowledge, understanding and skills in circle on circle cutting. Candidates will develop their ability to prepare schedules, costing and produce templates for circle on circle work. This Unit will provide candidates with competence in the use of tools and equipment to cut radial mouldings and the ability to apply these skills in the workplace. It is also designed to enable the candidate to develop their skills and understand and use of stonemasonry terminology, techniques and practices related to radial work used in stonemasonry.

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

- 1 Produce scale drawings of featured work.
- 2 Produce a full size drawing of Circle on Circle work and templates.
- 3 Apply templates and cut stone.
- 4 Prepare a schedule of stones for costing purposes.

**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 is at the discretion of the centre. However, it is recommended that candidates have completed the Professional Development Award in Stonemasonry at SCQF level 6 or have the equivalent level of Industrial experience and prior learning.

**Core Skills:** There are opportunities to develop the Core Skills of *Communication, Numeracy, Working with Others* and *Problem Solving* all at SCQF level 5 and *Information and Communication Technology* at SCQF level 4 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. The Unit forms part of the Professional Development Award in Stonemasonry at SCQF level 7 and is aimed at candidates following a career in stonemasonry and receiving complementary industrial experience.

## General information for centres (cont)

**Assessment:** The candidate will be given the opportunity to enhance their skills and knowledge in stonemasonry by learning about advanced circle on circle work. Techniques and practices used to set out and cut circle on circle work should be integrated in the practical tasks undertaken. The principles and techniques should be explained throughout the practical activities.

This Unit is assessed on the candidates' performance of setting out and cutting circle on circle work and the ability to meet the Evidence Requirements in all Outcomes.

In order to achieve this Unit, candidates are required to present sufficient evidence that they have met all the Knowledge and/or Skills elements for each Outcome. Details of these requirements are given for each Outcome.

The assessment instruments used should follow the general guidance offered by the Scottish Qualifications Authority (SQA) assessment model and an integrative approach to assessment is encouraged. (See references at the end of support notes).

Evidence will be gathered through observation of work processes and assessment of completed work. Assessment should be carried out under controlled, supervised conditions. Candidates must achieve all of the Knowledge and/or Skills and Evidence Requirements specified for each Outcome to gain this Unit. Centres may use the instrument of assessment which they consider to be most appropriate but are advised to use the Stonemasonry Training and Assessment Programme (TAP) which has been developed centrally by SQA. Any other instruments of assessment used must be comparable to the TAP and have been through prior verification.

Accurate records should be made of the assessment instruments used showing how evidence is generated for each Outcome and giving marking schemes, checklists and recorded candidate feedback. Records of candidates' achievements should be retained. These records will be made available for external verification.

## **Higher National Unit specification: statement of standards**

**Unit title:** Stonemasonry: Circle on Circle

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

### **Outcome 1**

Produce scale drawings of featured work

#### **Knowledge and/or Skills**

- ◆ Drawing production
- ◆ Drawings tools and equipment

#### **Evidence Requirements**

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

- ◆ plan the sequence of work and select drawing tools and equipment
- ◆ produce drawings from a given specification and size

All the Evidence Requirements must be met and all items in the knowledge and skills covered. Evidence should be gathered through an assignment outlining the processes, techniques, health and safety and sustainability requirements related to scale drawing production. Assessment should be conducted under open-book supervised conditions.

#### **Assessment Guidelines**

In the assessment candidates will be required to complete an assignment based on drawings and specifications for an actual work project. This could be conducted as an assignment in a classroom environment lasting up to three hours.

### **Outcome 2**

Produce a full size drawing of Circle on Circle work and templates

#### **Knowledge and/or Skills**

- ◆ Setting out
- ◆ Production of working drawing
- ◆ Produce templates

## Higher National Unit specification: statement of standards (cont)

**Unit title:** Stonemasonry: Circle on Circle

### Evidence Requirements

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

- ◆ extract details and dimensions to produce a full sized scale drawing
- ◆ select and use tools and equipment for template production
- ◆ cut templates in accordance with the drawing

All the Evidence Requirements must be met and all items in the knowledge and skills covered. Evidence should be gathered through an assignment outlining the processes, techniques, health and safety and sustainability requirements related to scale drawing production and template production.

Evidence will be gathered through observation of work processes and assessment of the completed work. Assessment should be carried out under controlled, supervised conditions. In order to achieve this Outcome, candidates are required to present sufficient evidence that they have met all the Knowledge and/or Skills elements.

### Assessment Guidelines

In the assessment candidates will be required to complete an assignment based on drawings and template production for an actual work project. This could be conducted as an assignment in a classroom environment lasting up to three hours.

### Outcome 3

Apply templates and cut stone

#### Knowledge and/or Skills

- ◆ Apply templates
- ◆ Cut circle on circle stone

Evidence Requirements Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ cut stone to specification
- ◆ prepare stone to specified finish
- ◆ follow current safe working practices
- ◆ minimise the waste of materials throughout practical work
- ◆ work to specified tolerances identified in the specification

The following will assist the assessor in the judging the candidates performance against the Evidence Requirements.

Apply templates and scribe outlines on stone	± 1mm
Face templates cut to shape	± 1mm
Reverse template profile cut to	± 1mm

## **Higher National Unit specification: statement of standards (cont)**

### **Unit title:** Stonemasonry: Circle on Circle

Evidence will be gathered through observation of work processes and assessment of the completed work. Assessment should be carried out under controlled, supervised conditions. In order to achieve this Outcome, candidates are required to present sufficient evidence that they have met all the Knowledge and/or Skills elements. An assessor observation checklist should be completed to ensure that the candidate has met the required specification and tolerances and this observation checklist should be retained as evidence.

### **Assessment Guidelines**

This Outcome is assessed on the candidates' actual performance of setting out and cutting circle on circle work to a given specification and required tolerances.

Candidates should be provided with drawings and specifications for the practical task. Assessment should be carried out in a suitable workshop environment. Timing for this assessment should be determined prior to commencement. An observation checklist should be completed to ensure the candidate has evidenced all the knowledge and skills included in this Outcome to the specifications and tolerances required.

### **Outcome 4**

Prepare a schedule of stones for costing purposes

### **Knowledge and/or Skills**

- ◆ Schedule of stones
- ◆ Numerical solutions
- ◆ Calculations
- ◆ Volumes, mass, radii

### **Evidence Requirements**

Evidence Requirements Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ prepare s schedule of stones
- ◆ calculate the volume and mass of stones
- ◆ calculate the radius of large spans
- ◆ calculate the volume of spheres
- ◆ calculate costs from a schedule

All the Evidence Requirements must be met and all items in the knowledge and skills covered. Evidence should be gathered through an assignment on production of a stone schedule using volume, mass, radius, and costing. Assessment should be conducted under closed-book supervised conditions.

### **Assessment Guidelines**

In the assessment candidates will be required to complete an assignment based on calculations and specifications for an actual work project. This could be conducted as an assignment in a classroom environment lasting up to two hours.

## Administrative Information

**Unit code:** F8PR 34

**Unit title:** Stonemasonry: Circle on Circle

**Superclass category:** TG

**Original date of publication:** August 2010

**Version:** 01

### History of changes:

Version	Description of change	Date

**Source:** SQA

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## **Higher National Unit specification: support notes**

### **Unit title: Stonemasonry: Circle on Circle**

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 has been developed as a mandatory Unit in the Professional Development Award in Stonemasonry at SCQF level 7 and may be delivered in a sequence suitable to individual candidates and centres.

This Unit is designed to enable the candidate to develop their knowledge, understanding and skills relevant to circle on circle work and stone schedules.

Candidates following a career in stonemasonry and with current industrial experience will benefit from undertaking this Unit.

The knowledge and skills for this Unit should be incorporated with modern methods of setting out and cutting circle on circle work. Terminology commonly associated with stonemasonry should also be used throughout this Unit.

It is vitally important that candidates gain an understanding and knowledge of the sequencing of operations with regard to setting out cutting circle on circle work.

Current Health and Safety, sustainability and waste management issues should be fully emphasised throughout the delivery of this Unit.

Working to specified tolerances and methods of checking completed work should be demonstrated and undertaken by the candidate.

The candidate successfully completing this Unit should achieve a level of competence of someone who, from time to time may be expected to carry out stonecutting to circle on circle work. The adoption of safe working practices area adopted throughout this Unit.

### **Guidance on the delivery and assessment of this Unit**

The principles and methods of setting out and cutting circle on circle work should be demonstrated to the candidate before summative assessment takes place.

The differing constraints candidates could encounter on site with various construction methods with regard to setting out and cutting circle on circle work should be fully explained.

Health and Safety and Sustainability are integral and key to the Construction Industry therefore throughout the Unit emphasis will be placed where appropriate on the application of Health and Safety and Sustainability. Safety working practices should be looked at in accordance with current safety codes of practice and regulations. Sustainability should include reference to criteria affecting sustainability, impact of not implementing sustainability on the environment and the legislation promoting sustainability.

Working tolerances should be explained as being the minimum standard which will be accepted and candidates should be encouraged to evaluate their own work.

## Higher National Unit specification: support notes (cont)

**Unit title:** Stonemasonry: Circle on Circle

### *Opportunities for developing Core Skills*

*Communication* skills at SCQF level 5 may be developed by the completion of the assignment for Outcome 4. Candidates are required to produce a stone schedule outlining the processes, techniques, health and safety and sustainability requirements related to circle on circle work.

*Working with Others* at SCQF level 5 could be developed when working in pairs when producing outcome 1. Candidates can agree responsibilities and provide support and information to each other during the assessments. After assessment, they should be encouraged to consider how effectively they supported each other.

*Information and Communication Technology* at SCQF level 4 may be developed by the candidates' carrying out individual research of modern and traditional circle on circle work, health and safety legislation and sustainability relating to the task.

*Problem Solving* at SCQF level 5 could be developed as candidates compare and contrast modern and traditional circle and circle work. Candidates will need to take account of a range of factors in order to work efficiently and safely, such as the choice of tools, appropriate materials, safety issues, safety equipment and sustainability. Individual discussions with assessors will enhance the evaluation of efficient working practices.

*Numeracy* could be developed at SCQF level 5 when taking off dimensions from working drawings, measuring, calculating and setting out.

### **Open learning**

Although this Unit could be delivered by distance learning, it would require a considerable degree of planning by the centre to ensure the sufficiency and authenticity of candidate evidence. Arrangements would have to be made to ensure that:

- ◆ the practical activity in Outcome 1, 2, 3, 4 is supervised by a responsible person and clearly recorded (using an assessment checklist, or on video) for the assessor
- ◆ the assessor is, at some point, able to question the candidate on that performance (face-to-face, by telephone, online)
- ◆ the open/closed-book test for Outcomes 1, 2, 3, 4 is delivered in a supervised environment

### **Disabled candidates and/or those with additional support needs**

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website

[www.sqa.org.uk/assessmentarrangements](http://www.sqa.org.uk/assessmentarrangements)



## General information for candidates

### Unit title: Stonemasonry: Circle on Circle

This Unit is designed to develop your practical skills and knowledge of circle on circle work. You will develop your understanding of modern and traditional practices and techniques and comply with sustainability issues and current Health and Safety legislation throughout the Unit.

You will have to demonstrate the required techniques in setting out and cutting circle on circle work and demonstrate your understanding of the traditional techniques and modern techniques of setting out and cutting circle on circle work

You will learn about sustainability issues and how new materials, techniques and systems can have an impact on improving the sustainability in general and you will comply with current Health and Safety regulations and legislation throughout.

#### Outcome 1: Produce scale drawings of featured work

You will be assessed in your ability to:

- ◆ produce a full size drawing
- ◆ work in a safe manner at all times
- ◆ meet given specifications and tolerances

You will be assessed on the completion of an assignment in which you will be required to produce scale drawings.

The assessment for this Outcome will be open-book and will be carried out in a supervised environment. You will have access to your own notes that you have prepared personally for your own use. You will not be permitted to bring textbooks, handouts or other materials that you have not prepared yourself.

#### Outcome 2: Produce a full size drawing of Circle on Circle work and prepare working drawings.

You will be assessed in your ability to:

- ◆ produce a full size drawing
- ◆ work in a safe manner at all times
- ◆ meet given specifications and tolerances

The assessment for this Outcome will be open-book and will be carried out in a supervised environment. You will have access to your own notes that you have prepared personally for your own use. You will not be permitted to bring textbooks, handouts or other materials that you have not prepared yourself.

## General information for candidates (cont)

### Unit title: Stonemasonry: Circle on Circle

Outcome 3: Apply templates and cut stone.

You will be assessed in your ability to:

- ◆ apply templates
- ◆ cut circle on circle stone
- ◆ work in a safe manner at all times
- ◆ meet given specifications and tolerances

The assessment for this Outcome will be closed-book and will be carried out in a supervised environment.

Outcome 4: Prepare a schedule of stones for costing purposes.

You will be assessed in your ability to:

- ◆ calculate schedule of stones
- ◆ calculate the volume and mass of stones
- ◆ the radius of large spans
- ◆ the volume of spheres
- ◆ costs from a schedule

The assessment for this Outcome will be closed-book and will be carried out in a supervised environment.

There are opportunities to develop the Core Skills of *Communications*, *Numeracy*, *Working With Others* and *Problem Solving* all at SCQF level 5 and *Information And Communication Technology* at SCQF level 4 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.