



National Unit specification

General information

Unit title: Stonemasonry: An Introduction (SCQF level 4)

Unit code: HA31 44

Superclass: TG

Publication date: February 2016

Source: Scottish Qualifications Authority

Version: 01

Unit purpose

This Unit is suitable for learners with no experience in the subject area and introduces learners to the Craft of Stonemasonry. Designed to develop the learner's ability to identify natural, dimensional stone building types and styles and materials methodology. Identify sources of natural stone, determine quantities and construct natural stone components with an appreciation of the environmental impact of using natural stone resources.

Throughout this Unit, learners will develop the skills to identify any potential hazards and will adhere to health and safety, sustainability and waste management regulations and legislation at all times.

Outcomes

On successful completion of the Unit the learner will be able to:

- 1 Identify a range of natural stone building types and styles.
- 2 Determine quantities and basic stonemasonry numeracy.
- 3 Identify sources of natural stone and the environmental impact of its use.
- 4 Construct natural stone components.

Credit points and level

0.5 National Unit credit at SCQF level 4: (3 SCQF credit points at SCQF level 4)

Recommended entry to the Unit

While entry is at the discretion of the centre, basic numeracy, communication and problem solving skills at SCQF level 4 would be beneficial.

National Unit specification: General information (cont)

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Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes for this Unit specification.

Achievement of this unit gives automatic certification of the following Core Skills component:

Complete Core Skill	None
Core Skill component	Critical Thinking at SCQF level 4

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.

Equality and inclusion

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

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 SQA.

Outcome 1

Identify a range of natural stone building types and styles.

Performance Criteria

- (a) Identify the range of stone building styles and techniques.
- (b) Identify the surface finishes that can be produced in stone.
- (c) Identify the common mouldings produced in stone.

Outcome 2

Determine quantities and basic stonemasonry numeracy.

Performance Criteria

- (a) Determine the volume and weight of a 6-sided block of stone.
- (b) Determine the surface area of a stone wall.
- (c) Determine the amount of stone required for a stone wall.

Outcome 3

Identify sources of natural stone and the environmental impact of its use.

Performance Criteria

- (a) Identify the range of stone types that can be used in Stonemasonry.
- (b) Identify where natural stone can be sourced.
- (c) Describe the negative and positive environmental impact of using natural stone resources.

Outcome 4

Construct natural stone components.

Performance Criteria

- (a) Measure and set out a coursed rubble stone wall.
- (b) Bond is set correctly
- (c) Wall is plumb at ends and face and level across the top.
- (d) Courses are straight.
- (e) Wall is pointed flush with lime mortar
- (f) Tools are selected and handled correctly

National Unit specification: Statement of standards (cont)

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Evidence Requirements for this Unit

Learners must adhere to relevant Health and Safety regulations and legislation relating both to working practices within the construction environment, as well as those specific to any practical task they are requested to carry out (such as emphasising the importance of selecting and using the correct PPE at all times).

Evidence is required to demonstrate that learners have achieved all Outcomes and Performance Criteria.

For Outcomes 1 and 3, written and/or oral recorded evidence is required to demonstrate the learners' knowledge of a range of natural stone building types and styles and to Identify sources of natural stone and the environmental impact of its use. Assessment will be conducted under controlled, closed-book, supervised conditions.

For Outcome 2, written evidence is required which demonstrates that the learners can work out basic stonemasonry numeracy to the standard specified in the Outcomes and Performance Criteria.

Learners will establish:

- ◆ The volume of a piece of cubed stone.
- ◆ Use a given density (kg/m^3) to establish the stones density (kg).
- ◆ Work out the area (m^2) and amount of stone required for the given dimensions of a wall.

Assessment will be conducted under controlled, closed-book, supervised conditions.

For Outcome 4, product and performance evidence supplemented by an observation checklist is required to demonstrate that learners can prepare an area and construct a stone wall to the standards specified in the Outcomes and Performance Criteria. Assessment should be conducted under controlled, supervised conditions and can be undertaken working in pairs.

At all times learners must comply with current health, safety and welfare, sustainability and waste management requirements and legislation. This includes the selection and use of appropriate personal protective equipment.



National Unit Support Notes

Unit title: Stonemasonry: An Introduction (SCQF level 4)

Unit Support Notes are offered as guidance and are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 20 hours.

Guidance on the content and context for this Unit

The content and context of this Unit is aimed at learners who are interested in pursuing a career in the craft of Stonemasonry.

Learners will be required to gain an understanding of the correct terminology and building styles used in masonry walling including Random Rubble, Square and Snecked Rubble, Coursed Rubble and Ashlar. The surface finishes that can be applied to dimensional stone by a stonemason for walling should be understood and the common mouldings that can be applied to wrought stone in the masons workshop.

Learners will also be required to gain an understanding that vernacular geology plays an important role on the built environment and that Scotland has a rich history of stone built structures. Knowledge of where stone can be sourced, what types are available including Metamorphic, Sedimentary and Igneous and the environmental impacts both positive and negative in its use, should be established.

Learners will gain a basic understanding of construction stonemasonry numeracy and will use this information to sequence, set out and construct a coursed rubble wall to the tolerances and standards set out in the relevant Performance Criteria.

The learning environment for this Unit will be a combination of classroom and workshop based learning. The knowledge element of this Unit would be taught in a classroom environment and put into practice in the workshop in conjunction with practical Outcomes.

The content of the Unit is set at an introductory level so that learners can develop basic knowledge and understanding of stonemasonry and the ability to construct a small stone wall in a construction environment and can be used as a progression pathway into a Vocational Qualification in Stonemasonry.

National Unit Support Notes (cont)

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Health and safety, sustainability and waste management are vital to working practices within the construction industry. Wherever appropriate during the delivery of this Unit, an emphasis will be placed on the correct application of health and safety, sustainability and waste management principals and processes, in accordance with current codes of practice and legislation.

This Unit does not fully comply with the following National Occupational Standard although does contain elements of:

COSVR190 — Erect basic external stonemasonry.

Guidance on approaches to delivery of this Unit

The introductory training for this Unit should take place in a separate training area independent of the productive work environment and using dedicated equipment and resources. This should cover theoretical and practical principles of using and working with stone before the learner carries out any practical application of knowledge.

For all Outcomes, delivery should be set at introductory level and note that most students may be inexperienced to workplace or hazardous environments, so Health and Safety should be strictly adhered to. Any potential hazards and risks should be conveyed to all learners/learners.

All knowledge element Outcomes can be delivered in a classroom environment with quality and up to date resources. A site visit to look at a variety of building styles and stone finishes would be beneficial but not necessary.

For all practical based activities a learner centred learning and teaching approaches are encouraged with learners actively participating in practical activities after lecturer demonstration of key construction practices and principles. Emphasis should be placed on the importance of being able to read and use a spirit level, tape measure, working too tight string line and that setting out the first course and bonding arrangements of the stone is of importance during any practical activities and assessments.

The use of natural stone can be substituted for pre-cast stone Units, should source or supply be an issue with centres.

National Unit Support Notes (cont)

Unit title: Stonemasonry: An Introduction (SCQF level 4)

Guidance on approaches to assessment of this Unit

Centres may use the method of assessment which they consider to be most appropriate but are encouraged to use the Training Assessment Programme (TAP) developed centrally by SQA. It is expected that learners will have to demonstrate current knowledge and understanding of safe working practice and risk assessment methods, etc prior to being set the assessment tasks.

Knowledge and Understanding of the processes involved in *Stonemasonry: An Introduction (SCQF level 4)* should be assessed before any practical assignments are carried out by learners. This will include assessment of a learner's ability to prepare the work area for laying modular pavement.

Practical assignments should be carried out under supervised conditions and recorded in an assessor observation/operational checklist. Assessments should confirm that a learner has the ability to safely lay modular pavement using designated machinery or equipment correctly and safely, whilst adhering to current statutory Health and Safety regulations and legislation.

Adherence to current statutory working regulations and Health and Safety procedures will be observed during the practical exercise carried out by the learner towards all Outcomes.

Detailed assessment material for this Unit will be found in the relevant Training and Assessment Programme (TAP). Centres may use the instruments of assessment which they consider to be most appropriate but are advised to use the TAP which has been developed centrally by SQA. Any other instruments of assessment used must be comparable to the TAP and have been prior verified.

Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at www.sqa.org.uk/e-assessment.

Opportunities for developing Core and other essential skills

Components of the Core Skill of *Problem Solving* at SCQF level 4, Critical Thinking and Planning and Organising, may be developed as learners undertake this Unit. Learners will need to take account of a range of factors in order to work efficiently and safely, such as the interpretation of drawings, choice of tools and appropriate materials, application of scientific principles, risk assessments, health, safety and welfare and a sustainable approach. Individual discussions with tutors may enhance the evaluation of productive work practices.

National Unit Support Notes (cont)

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There are opportunities to develop the Core Skill of *Working with Others* at SCQF level 4, particularly in Outcomes 4, as these practical assessments should ideally be carried out in pairs. Learners can agree responsibilities and provide support and information to each other during the practical group activities.

There are opportunities for learners to develop the Core Skill of *Numeracy* at SCQF level 4 could be enhanced through the knowledge evidence in the calculation of materials and equipment and measuring scales.

There are opportunities for learners to develop the Core Skill of *Communication* at SCQF level 4. As learners complete practical tasks they need to communicate effectively with others using the correct terminology, tone and style suited to the workplace.

This unit has the Critical Thinking component of Problem Solving embedded in it. This means that when learners achieve the Unit, their Core Skills profile will also be updated to show they have achieved Critical Thinking at SCQF level 4.

History of changes to Unit

Version	Description of change	Date

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General information for learners

Unit title: Stonemasonry: An Introduction (SCQF level 4)

This section will help you decide whether this is the Unit for you by explaining what the Unit is about, what you should know or be able to do before you start, what you will need to do during the Unit and opportunities for further learning and employment.

This Unit is an introduction to Stonemasonry, the craft of being able to build natural stone and work natural stone into geometric shapes typically undertaken in the Construction and Repair and Maintenance sectors.

This Unit will develop your ability to identify natural stone building types and styles and materials methodology. Identify sources of natural stone, determine quantities and construct natural stone components with an appreciation of the environmental impact of using natural stone resources.

This Unit is suitable if you wish to gain a basic understanding and knowledge of stonemasonry work through knowledge and understanding and practical tasks and assessments.

On completion of this Unit you will be able to:

- ◆ Identify a range of natural building types and styles.
- ◆ Determine quantities and basic stonemasonry numeracy.
- ◆ Identify sources of natural stone and the environmental impact of its use.
- ◆ Construct natural stone components.

Assessment is through closed-book multiple-choice questions and in the completion of practical assignments.

Elements of Core Skills; *Problem Solving, Working with Others, Numeracy and Communication* will be developed in successful completion of this Unit, but they will not be assessed or certified.

This Unit is valuable in the potential for development of employability and citizenship in the new build and repair and maintenance constructions sectors. Employers are actively seeking learners that can demonstrate relevant knowledge, understanding and competency, which can be gained in the completion of this Unit.

This unit has the Critical Thinking component of Problem Solving embedded in it. This means that when you achieve the Unit, your Core Skills profile will also be updated to show you have achieved Critical Thinking at SCQF level 4.