

National Unit Specification: general information

UNIT Construction Crafts: Brickwork Techniques (Intermediate 1)

CODE DM81 10

COURSE Construction Crafts (Intermediate 1)

SUMMARY

This Unit is suitable for candidates with no previous brickwork experience. The Unit is based on practical workshop activities such as setting out the working area, selecting and preparing tools and materials and building straight lengths of half brick wall. Candidates will also learn basic employment/industrial disciplines such as good timekeeping, reliability and co-operating with others in the workplace.

The Unit is an optional Unit in the Intermediate 1 Construction Crafts Course but can also be taken as a free-standing Unit. Candidates who achieve this Unit should feel confident about progressing to further Units in brickwork at Intermediate 1 or Intermediate 2 levels.

OUTCOMES

- 1 Select, use and maintain basic bricklaying tools and equipment.
- 2 Set up mortar boards and stack bricks.
- 3 Build a racked back half brick pyramid.
- 4 Build a straight length of half brick walling.

RECOMMENDED ENTRY

Entry is at the discretion of the centre.

Administrative Information

Superclass: TG

Publication date: April 2007

Source: Scottish Qualifications Authority

Version: 02

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CREDIT VALUE

0.5 credit at Intermediate 1 (3 SCQF credit points at SCQF level 4*).

**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.*

CORE SKILLS

There is no automatic certification of Core Skills in this Unit.

Opportunities for developing aspects of Core Skills are highlighted in *Guidance on Learning and Teaching Approaches for this Unit*.

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 the Scottish Qualifications Authority.

OUTCOME 1

Select, use and maintain basic bricklaying tools and equipment.

Performance Criteria

- (a) The selection of tools and equipment is appropriate for the work to be done.
- (b) The tools are used in the correct manner.
- (c) The tools are used solely for the purpose which they are intended.
- (d) The tools are cleaned, maintained and stored correctly.
- (e) Health and safety requirements are complied with during all activities.

OUTCOME 2

Set up mortar boards and stack bricks.

Performance Criteria

- (a) Mortar boards are positioned correctly for work activities.
- (b) Bricks are located correctly and in accordance with good practice.
- (c) Bricks are stacked securely.
- (d) Health and safety requirements are complied with during all activities.

OUTCOME 3

Build a raked back half brick pyramid.

Performance Criteria

- (a) The wall is built to the working drawing.
- (b) The wall is built to the prescribed standards and tolerances.
- (c) A quality check is carried out on the finished work against the prescribed standards and tolerances.
- (d) Health and safety requirements are complied with during all activities.

National Unit Specification: statement of standards (cont)

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OUTCOME 4

Build a straight length of half brick walling.

Performance Criteria

- (a) The wall is built to the working drawing.
- (b) The wall is built to the prescribed standards and tolerances.
- (c) A quality check is carried out on the finished work against the prescribed standards and tolerances.
- (d) Health and safety requirements are complied with during all activities.

EVIDENCE REQUIREMENTS FOR THIS UNIT

Performance evidence and additional evidence is required to show that all Outcomes and Performance Criteria have been achieved.

Performance evidence will be supported by an assessor checklist. This evidence will be generated from an integrated assignment consisting of practical activities carried out in supervised workshop conditions. The evidence may be gathered at different points throughout the Unit. The practical activities will cover:

- ◆ choosing the correct tools required, using them in a correct and safe manner, using them solely for the purpose for which they are designed, and cleaning and storing them after use
- ◆ transporting and stacking bricks to the correct location in relation to where the wall is to be built
- ◆ setting up the mortar board(s) and placing the mortar on them
- ◆ measuring and setting out the wall, dry bonding the first course and establishing the levels of the two end bricks of the wall
- ◆ building the walls conforming to the working drawings:
 - a racked back half brick pyramid (minimum five bricks long at base)
 - a straight length of half brick wall (including a racking back and a stopped end with these two features built eight to twelve brick lengths away from each other such that a builders' line is required to be used.)
 - the walls will be built to within the stated tolerances
- ◆ candidates carrying out a quality check on their own work and completing a given checklist which will then be submitted for confirmation and checking to the assessor
- ◆ candidates maintaining a clean and tidy workplace at all times, and adhering to health and safety requirements throughout all activities
- ◆ candidates clearing up the workplace at the end of each working session

The National Assessment Bank (NAB) item for this Unit provides a candidate/assessor checklist and details of the practical assignment which exemplify the national standards Centres wishing to develop their own assessments should refer to the NAB to ensure a comparable standard.

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 20 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

The content of this Unit covers practical bricklaying activities at an introductory level. The main focus of the Unit is workshop/site based and therefore candidates must be taught to comply with safe working practices at all times.

During the process of practical work the candidate will become accustomed to the use of basic brickwork terms and therefore will develop a knowledge and understanding of these terms. The main content of the Unit will be acquiring the skills and knowledge to measure, set out and build half brick thick walls in stretcher bond.

Candidates will be taught good working practices at each stage and should be shown how to check their own work using prescribed checklists.

Candidates should be encouraged to use and develop techniques suited to their own physical strength and abilities, eg use of small trowels to spread mortar, use of light weight bricks eg LBC commons.

In addition to the vocational content, candidates should be encouraged to focus on the general industrial disciplines and attitudes which employers value. These should be taught as an integral part of the Unit, typically as follows: the candidate should be on time, be dressed appropriately with suitable personal protective equipment (PPE) including protective clothing when required prior to commencing work, check the tools that are going to be used and have organised the workplace and materials prior to commencing work. Thereafter the candidate should learn to work in a conscientious manner at all times.

Relevant aspects of current health and safety legislation and any local regulations or systems of work should be explained and adhered to as part of the work of this Unit.

Employability Skills

On completion of this Unit the candidate will have had opportunities to develop the following employability skills:

- ◆ timekeeping
- ◆ attendance
- ◆ following instructions
- ◆ taking advice and dealing with constructive feedback
- ◆ maintaining a tidy work area
- ◆ working co-operatively with others
- ◆ planning and preparation*
- ◆ checking quality of own work*
- ◆ positive attitude to learning
- ◆ review and self-evaluation
- ◆ awareness of health and safety issues*
- ◆ interpretation of graphic information*

National Unit Specification: support notes (cont)

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Achievement in a number of these employability skills (those marked with an asterisk) will be clearly identified as a result of the evidence generated through the assessment activities for this Unit. There are opportunities to develop the remaining skills.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Experiential and hands on learning is the main approach recommended for this Unit. This involves learning through practical experiences and activities. Candidates should experience workplace conditions and industrial type disciplines and should be encouraged to perform tasks and conduct themselves in a manner appropriate to the workplace. Visiting construction sites is to be encouraged as a learning experience.

Experiential learning also involves reflecting on experiences/activities, identifying strengths and areas for improvement. It is important to encourage candidates throughout the Unit to evaluate their own work and progress. They should be encouraged to ask questions and set themselves goals to build competence and confidence in understanding tasks.

In this Unit there are many opportunities to develop an understanding of the realities of work and the behaviours required of construction employees and employers. Checking standards of work against prescribed tolerances is a very useful skill and habit that candidates can develop during their work. For example, learning how to use a gauge rod in checking brick course heights would be helpful for candidates. The construction industry is very keen on producing work that is 'right first time' and regular checking of work, is an inherent part of learning a trade in the industry. Candidates can be encouraged to approach their work with care and build in checking processes as part of normal habits and working practices. Responsible, safe behaviour in the workplace can be demonstrated and practised as part of the routine essential work, eg candidates will learn that a build up of brick and mortar debris around the workplace is a hazard. They will also learn how to use hand tools and equipment in a safe manner and how to clean and maintain them. Daily routines in the workplace will include maintaining a clean and tidy workspace.

Opportunities for developing Core Skills should be incorporated where they arise naturally in the teaching and learning process. Communication skills could be developed during workshop practices while taking instructions from tutors, transmitting requests and instructions to fellow candidates. Working co-operatively with others is a skill which could be developed when team work or working in pairs is needed to move and stack materials and during 'clear-up' at the end of the working period. Instructions will be given and received on how to use tools and also how to apply health and safety requirements. All of these activities present opportunities for developing aspects of communication skills.

Practical problem solving will feature on an ongoing basis when candidates resolve issues of where and how to stack materials, sequence work activities and read and interpret drawings. These situations will provide ample opportunity for developing the ability to solve problems.

National Unit Specification: support notes (cont)

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In this Unit, aspects of Numeracy could be developed when translating the working drawings into setting out information. Candidates will also calculate lengths and heights of brick walls and check work against prescribed tolerances. These are good opportunities for developing aspects of numeracy. Working co-operatively with others will be part of many practical activities as the candidate may be required to interact with various people which could include other candidates, store persons, technicians, assessors, trades apprentices in the Course of training and visitors from industry. It is common in the construction industry to work in teams. Bricklayers work in squads more often than not. There will be many opportunities therefore, to develop the abilities, knowledge and skills required to work well with and help others.

Where this Unit is taken as part of the Construction Crafts Course, candidates will have additional opportunities to develop an awareness of the general employability skills and attitudes which construction employer's value. Integrated activities with the *Construction Crafts: Employability Skills* Unit will involve the candidate assessing his/her own performance on time-keeping, attendance, taking instructions, seeking advice, planning and preparation, working co-operatively with others and general attitude. Candidates will also seek the views of tutor/supervisors and will identify areas for improvement and take responsibility for action plans. These activities will add value to the candidate's experience and help to improve their prospects of employment in the construction industry.

Core Skills

There are opportunities to develop aspects of the Core Skills *Problem Solving* in this Unit. Candidates are required to check their own practical work against given standards and tolerances and are required to review and evaluate their work. They also plan and prepare before beginning tasks.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

It is necessary to give candidates as much practice as they need in bricklaying techniques prior to being set the assessment tasks. It would be expected for example that the brick pyramid would be built on several occasions before any assessment takes place. The National Assessment Bank for the Unit details the quality and quantity of brickwork to be produced for the Unit assessment. The tolerances set are significantly less stringent than those required by national occupational standards. They are nevertheless both worthwhile and achievable. The tolerances set introduce the candidate to the quality regime they will experience if and when they work as a tradesperson in the construction industry.

An observation checklist should be used when gathering performance evidence. The NAB item for this Unit provides an observation checklist. Centres may develop their own instruments of assessment but these must be of a comparable standard to the NAB.

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).