

National Unit Specification: general information

UNIT Construction Crafts: One Brick Walling (Intermediate 2)

CODE DX0L 11

COURSE Construction Crafts (Intermediate 2)

SUMMARY

This Unit is a mandatory Unit in the *Intermediate 2 Construction Crafts Course* and is designed to be taken as part of this Course.

This Unit is suitable for candidates with no previous brickwork experience and may also provide progression for candidates who have successfully completed the *Intermediate 1 Construction Crafts Course* or Units.

The Unit is based on practical workshop activities such as selecting and maintaining tools, measuring and setting out brickwork and building short lengths of one-brick walls. Candidates will learn how walls of one brick thick are bonded. They will have to carry out practical work employing at least one of the standard one-brick bonds. These are more complex than those involved with half-brick walling.

Candidates studying this Unit will also develop safe working practices and general skills and attitudes which will enhance employability.

Candidates who achieve this Unit should feel confident in widening their experience in brickwork by taking other Intermediate 2 Units in this trade area.

OUTCOMES

- 1 Select, use and maintain basic bricklaying tools and equipment.
- 2 Measure and set out one brick walls.
- 3 Build one brick walls.

Administrative Information

Superclass: TG

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National Unit Specification: general information (cont)

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RECOMMENDED ENTRY

While entry is at the discretion of the centre, it would be beneficial for candidates to have attained the following Unit or equivalent:

- ◆ *Intermediate 1 Construction Crafts: Half-Brick Walling Unit*
- ◆ *Intermediate 1 Construction Crafts: Brickwork Techniques Unit*

CREDIT VALUE

1 credit at Intermediate 2 (6 SCQF credit points at SCQF level 5*).

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

OUTCOME 2

Measure and set out one-brick thick walls.

Performance Criteria

- (a) Walls are measured accurately and to the prescribed tolerance.
- (b) Walls are marked and set out correctly.
- (c) Bonds are set out correctly.
- (d) Levels at both ends are established correctly.
- (e) Health and safety requirements are complied with during all activities.

OUTCOME 3

Build one-brick walls.

Performance Criteria

- (a) Walls are built in accordance with given working drawings.
- (b) Walls are built to the prescribed standards and tolerances.
- (c) Surplus materials are returned to store in accordance with good practice.
- (d) Health and safety requirements are complied with during all activities.
- (e) A quality check is carried out on the finished work against prescribed standards and tolerances.

National Unit Specification: statement of standards

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EVIDENCE REQUIREMENTS FOR THIS UNIT

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

Performance evidence will be supported by an assessor observation 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 and equipment for particular tasks
- ◆ using tools and equipment in a correct and safe manner, using them solely for the purpose for which they are designed
- ◆ cleaning, maintaining and storing tools and equipment correctly after use
- ◆ measuring out accurately, setting out the shape of the walls, setting out the correct bond and establishing levels at ends of the walls
- ◆ building **two** basic one-brick thick walls (of minimum height **six** courses) to stated standards and tolerances, working from information on given drawings and employing **two** from the following brick bonds: English Bond, Flemish Bond, English Garden Wall Bond and Flemish Garden Wall Bond
- ◆ returning surplus materials to store in accordance with good practice
- ◆ candidates carrying out a quality check on their own work before submitting for final assessment
- ◆ candidates maintaining a clean and tidy workplace and adhering to health and safety requirements throughout all activities

The NAB item for this Unit provides an assessor observation checklist and details of the practical assignment which exemplify the national standard. 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 40 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

The content in this Unit covers practical brickwork activities at an introductory level. The candidate is required to develop the ability to select and use tools and equipment correctly and safely. It is therefore important that the learning takes place in a supervised workshop/site environment. Standard and site-specific safe working practices must be learned and it is important that candidates adhere to these at all times.

During the process of practical work the candidate will become accustomed to the use of brickwork terms and will be able to demonstrate knowledge and understanding of these terms in everyday practice. This will help discussions of technical matters with tutors.

The main content of the Unit will be learning the preparatory skills required in measuring, setting out and building small-scale, one-brick walls. Candidates should be taught good working practices at each stage and should learn how to carry out quality checks on their own work throughout the task and on completion.

There are a number of standard brickwork bonds that can be employed in one-brick walling. Candidates should be shown a number of these, including: English Bond, Flemish Bond, English Garden Wall Bond and Flemish Garden Wall Bond. Candidates should be given opportunity to practice building walls using each of these brick bonds which are, by nature, more complex than simple half-brick thick 'stretcher' bond.

Candidates should be encouraged to use and develop techniques suited to their own physical strength and abilities. This might include the use of small trowels to spread mortar and the use of light weight bricks (for example, London Brick (LBC) commons).

Outcome 1 requires the candidate to select tools, and to use, clean and maintain them correctly. Materials used will almost exclusively be common bricks and an appropriate mortar. It is recommended that a lime/sand mortar is employed to facilitate the reuse of materials. The bricklayers' trowel will be the prime tool that candidates will use to build the walls, but they should also learn how to use builders' line and other small tools where appropriate.

Outcome 2 entails skills in measuring and setting out for subsequent building of brick walls. This task requires the reading of drawings, use of tape measures, chalk and, where appropriate, setsquare. This task requires the calculating of the lengths of walls and transferring this information to the workshop floor. Candidates must be made aware of the tolerances that will be acceptable for this task and will be allowed to practise particular skills until they have become competent in them to the standards required.

National Unit Specification: support notes (cont)

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Outcome 3 requires the candidate to build short lengths of one-brick wall. Care will be taken in the application of mortar to beds and joints and the dimensions of the beds and joints. Care must be taken to keep the wall face clean of mortar. Candidates will learn how to point the brickwork beds and joints to provide a finished face to a brick wall.

The overall wall must in each case be built to given standards and tolerances. Candidates will, themselves, carry out a quality check on their walls against the tolerances given.

In addition to the vocational content of this Unit, candidates should be encouraged to develop the general skills and attitudes that are valued by construction employers. These employability skills should be taught as an integral part of the Unit. Opportunities will arise in various practical contexts to discuss the value of, for example: time-keeping; working co-operatively and working in small teams; planning for practical activities; thorough preparation; taking advice; showing appreciation of health and safety issues and maintaining a clean, tidy and organised workplace.

Candidates should learn about waste minimisation and sustainability. In a practical way they can contribute to this by careful use of materials and by promptly returning surplus materials to the store.

Relevant aspects of current health and safety legislation, current COSHH (Control of Substances Hazardous to Health) Regulations and any systems of work relevant to the workshop/workplace should be explained to candidates. It is important that the legislation is adhered to as part of the work of this Unit. Candidates should be encouraged to be clean, presentable and appropriately dressed for the workshop. The wearing of Personal Protective Equipment (PPE) including protective clothing when required should be emphasised.

If candidates are taking this Unit as part of the *Intermediate 2 Construction Crafts Course* they may be required to carry out basic risk assessments for brickwork activities or workspaces.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Experiential learning is the main approach recommended for this Unit. This involves learning through practical experiences and activities. Candidates should experience actual or simulated workplace conditions and should be encouraged to perform tasks and conduct themselves in a manner appropriate to the workplace.

Experiential learning also involves reflecting on experiences/activities, identifying not just strengths but also areas for improvement. It is important to encourage candidates throughout this brickwork Unit to evaluate their own work and progress. They should be encouraged to seek advice and set themselves goals, building both confidence and competence in undertaking tasks.

Candidates undertaking this Unit at Intermediate 2 with little or no prior experience of practical brickwork may benefit from extra practice in dry bonding exercises. They may also benefit from tutoring in one particular aspect of basic half-brick walling — the return corner. This exercise will permit them to move with confidence to the comparatively more complex work found in one-brick walls, and in particular, for example, the one-brick thick return corner.

National Unit Specification: support notes (cont)

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Candidates will be helped to evaluate their practical brickwork skills by learning how to use checklists. These will detail measurable standards and tolerances to which the candidate should compare his/her own brickwork exercises. Candidates should learn how to use a gauge rod in checking brick courses against tolerance. The construction industry is very keen on producing work that is 'right first time' and quality checks are an inherent part of the work in the industry. Candidates can be encouraged to approach their work with care and build in a checking process as part of good practice.

Candidates will also require constructive feedback on peripheral aspects of the brickwork task such as the transporting of tools and materials to the workspace, the planning and setting out of the work area and use of the trowel and other tools. Often such feedback is best delivered on a one-to-one basis.

Responsible, safe behaviours in the workplace can be demonstrated and practised as part of the essential work for routine example: candidates will learn that a build-up of brick debris around the workspace could be a tripping hazard (this may be particularly applicable for one-brick walling exercises as opposed to half-brick walling exercises because potentially twice the amount of debris could be left lying around). They will learn how to use hand tools and equipment in a safe manner and how to clean and maintain them. The daily routine in the workplace will include maintaining a clean and tidy workspace. The candidates should learn that they have a certain routine to follow as far as health and safety is concerned.

Opportunities for developing aspects of Core Skills should be incorporated where they arise naturally in the learning and teaching process. In this Unit, candidates will make calculations in setting out brickwork and in estimating the amount of brickwork materials required for particular exercises. They will also calculate lengths, heights and thicknesses in brick walls, and check work against prescribed tolerances. These are good opportunities for developing aspects of Numeracy.

Candidates will read instructions for work activities, including annotations on drawings and specifications of materials. They will also take part in discussions with peers and tutors regarding work activities, materials, and use of tools, workshop protocol and the interpretation of drawings. These activities present opportunities for developing aspects of Communication.

Where this Unit is taken alongside the *Intermediate 2 Construction Crafts: Employability Skills Unit*, candidates will have additional opportunities to develop an awareness of the general employability skills and attitudes which employers value. Integrated activities 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 to learning. Candidates should seek the views of tutors/supervisors and will identify areas for improvement. They should take responsibility for action plans. These activities will all add value to the candidate's experience and help to enhance employability.

Outcome 1 should be integrated with Outcomes 2 and 3. Candidates can naturally select, use and maintain hand tools, equipment and materials when carrying out practical brickwork tasks. Where it is possible to do so, underpinning knowledge should be integrated with practical activities in the workshop or project area. Nevertheless, underpinning knowledge is not assessed separately in this Unit. Applied knowledge is assessed by observation as candidates complete each practical task.

National Unit Specification: support notes (cont)

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GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

It is expected that candidates will be given as much practice as possible in bricklaying techniques, prior to being set the assessment tasks. This is important when candidates are working on walls of one brick thick or more because the candidates must be confident and competent in dealing with brick bonding significantly different to that encountered in half-brick walling. In particular, candidates need to practise one-brick exercises dealing with English bond, English Garden Wall bond, Flemish bond and Flemish Garden Wall bond. The Evidence Requirements for the Unit detail the quality and quantity of brickwork to be produced for the Unit assessment.

The NAB item contains brickwork exercises and assessor observation checklists.

The NAB requires that brickwork exercises be completed to prescribed standards and tolerances. Tolerances required by the NAB are significantly less stringent than those required by National Occupational Standards. Nevertheless, the use of tolerances in this way introduces candidates to the kind of quality regime they will experience if and when they pursue a career as a bricklayer in the construction industry.

Assessors are required to check the quality of candidates' work against prescribed standards and tolerances. Candidates themselves are required to carry out a quality check on their brickwork against these same standards. It is recommended that candidates be allowed to carry out their own quality check **prior** to the assessor's check. It is further recommended that centers allow sufficient time in assessment sessions to permit this checking of practical work by both candidate and assessor. This is important because it is unlikely, in most centers, that brickwork models can be retained from one workshop session to the next.

Assessor observation checklists and other assessment records should be maintained and kept up to date to keep track of candidate progress and to provide evidence for internal and external moderation purposes. The NAB for this Unit provides an assessor observation checklist.

Centres may develop their own instruments of assessment but these must be of a comparable standard to the NAB. Pre-moderation of own instruments of assessment by SQA is strongly recommended.

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).