



Higher National Unit specification

General information for centres

Unit title: Carpentry and Joinery: Site Measuring and Setting Out Procedures

Unit code: F8P8 34

Unit purpose: This Unit is designed to enable candidates to develop knowledge, understanding and skills of recording site measurements, setting out and recording levels on projects with the aid of suitable levelling equipment. The Unit will give practical skills and competence in taking, recording site measurements and the use of suitable levelling equipment. The candidate will also develop knowledge of how to recognise and apply all current legislation and health and safety regulations associated with site measuring and setting out procedures.

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

- 1 Accurately take and record site measurements.
- 2 Accurately set out site projects.
- 3 Demonstrate knowledge and understanding of setting out site projects.

Credit points and level: 0.5 HN credit at SCQF level 7: (4 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 will be at the discretion of the centre. It would be beneficial if candidates have successfully completed the Professional Development Award (PDA) in Carpentry and Joinery at SCQF level 6 (G9AR 46) or have the equivalent level of industrial experience and prior learning.

Core Skills: There are opportunities to develop the Core Skills of *Problem Solving*, *Communication* and *Working with Others* at SCQF level 5 and *Information and Communication Technology* and *Numeracy* 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. This Unit was developed as part of the Professional Development Award in Carpentry and Joinery at SCQF level 7 and is aimed at candidates following a career in Carpentry and Joinery and receiving complementary industrial experience.

General information for centres (cont)

Assessment: This Unit is assessed on the candidate's knowledge and actual performance of site measuring and setting out. The Unit will be achieved when the candidate presents sufficient evidence of the Knowledge and/or Skills and Evidence Requirements as specified for each of the Outcomes.

It would be possible to combine assessment of Outcomes 1 and 2, or to break this assessment down into separate assessment events that assess each Outcome separately. The assessment instrument used should follow the assessment guidelines specified for each of the Outcomes. Centres may use the instruments of assessment which they consider to be most appropriate but are advised to use the Carpentry and Joinery Training and Assessment Programme (TAP) SCQF level 7 which has been developed centrally by SQA. Any other instruments of assessment used must be comparable to the TAP 7.

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

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.

Outcome 1

Accurately take and record site measurements

Knowledge and/or Skills

- ◆ Interpretation of specifications and workshop drawings
- ◆ Access considerations
- ◆ Measuring and levelling equipment
- ◆ Measuring sequence and procedures
- ◆ Identifying appropriate allowances
- ◆ Factors affecting installation of joinery components
- ◆ Sustainability considerations
- ◆ Current Health and Safety legislation

Evidence Requirements

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

- ◆ examine, evaluate and record access considerations prior to taking site measurements for the manufacture of joinery components
- ◆ accurately take and record site measurements with appropriate allowances for the installation of joinery components clearly emphasised
- ◆ explain the need to check for plumb and level, stating two factors affecting installation of the measured work

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. Evidence must be gathered under controlled, supervised conditions with candidates working in pairs to carry out all activities.

Assessment Guidelines

The assessment could be in the form of a practical exercise where the candidate will be given a brief to outline the scope and considerations necessary to record access considerations, take and record site measurements and check for plumb and level, stating two factors affecting installation of the measured work. It would be possible to combine Outcome 1 with Outcome 2.

Higher National Unit specification: statement of standards (cont)

Unit title: Carpentry and Joinery: Site Measuring and Setting Out Procedures

Outcome 2

Accurately set out site projects

Knowledge and/or Skills

- ◆ Interpretation of specifications and workshop drawings
- ◆ Setting out methods and procedures
- ◆ Measuring, setting out and levelling equipment
- ◆ Principles of levelling
- ◆ Transferring levels
- ◆ Use of datum's
- ◆ Structural components
- ◆ Sustainability considerations

Evidence Requirements

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

- ◆ set out the position of the main structural components of a project
- ◆ set out a foundation form incorporating right angles
- ◆ transfer a minimum of four level positions over a minimum distance of 10 metres using a water level and check these levels using an optical level

Summary of standards:

Positioning structural components	± 5mm
Setting out foundation:	
perimeter lines	± 6mm
Diagonal lengths maximum difference per metre run	± 4mm
Level per metre run	± 2mm
Transferring levels to vertical	± 1mm

The evidence will be gathered under supervised conditions. 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

The candidate will provide sufficient practical performance evidence necessary to accurately set out site projects in accordance with the Evidence Requirements. Candidates should be provided with a brief, drawings and specifications for the practical tasks and assessment should be carried out in a suitable site project environment. It would be possible to combine Outcome 2 with Outcome 1.

Higher National Unit specification: statement of standards (cont)

Unit title: Carpentry and Joinery: Site Measuring and Setting Out Procedures

Outcome 3

Demonstrate knowledge and understanding of setting out site projects

Knowledge and/or Skills

- ◆ Interpretation of specifications and workshop drawings
- ◆ Setting out methods and procedures
- ◆ Proportional sketching
- ◆ Measuring, setting out and levelling equipment
- ◆ Principles of levelling
- ◆ Transferring levels
- ◆ Use of datum's
- ◆ Structural components
- ◆ Current Health and Safety legislation
- ◆ Sustainability considerations

Evidence Requirements

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

- ◆ explain with the aid of sketches two principles of levelling
- ◆ explain two methods of setting out right angles
- ◆ explain the use of datum's for internal joinery work
- ◆ state the purpose of bench marks and temporary bench marks

The evidence will be gathered under closed-book, supervised conditions.

Assessment Guidelines

Restricted response questions could be used to test the understanding and application of knowledge, with regard to setting out site projects in line with the Evidence Requirements.

Administrative Information

Unit code	F8P8 34
Unit title:	Carpentry and Joinery: Site Measuring and Setting Out Procedures
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: Carpentry and Joinery: Site Measuring and Setting Out Procedures

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

This Unit was developed as a mandatory part of the Professional Development Award in Carpentry and Joinery at SCQF level 7 and is aimed at candidates following a career in Carpentry and Joinery and receiving complementary industrial experience.

This Unit is intended to equip candidates with all necessary underpinning knowledge and skills related to measuring and setting out sites in relation to joinery components.

In Outcome 1 using previously gained competences the candidate could be guided on the practical methods and tasks associated with examining and evaluating access considerations. Candidates would then take and record site measurements with appropriate allowances made for the installation of joinery components. The Outcome is tailored to allow for the measurement of a range of work and could include doors, windows, stairs, fitments, screens, partitions, roofs, temporary works, formwork, or any other suitable provision. Visual aids, exemplars, DVD's, learning packs, working drawings and photographs along with a brief to outline the scope and considerations could be used to enhance the learning process.

In Outcome 2 candidates could be introduced to setting out and transferring of levels. Teaching staff could conduct a simulated exercise related to the brief, which could include the demonstration and use of appropriate measuring and levelling equipment. The use of the optical level in the Outcome should be restricted to transferring levels from a given level without the need for bookings. Projects could include roofing, foundations, temporary work, formwork, and internal joinery work such as datum's to door, window openings or dados. Visual aids, exemplars, DVD's, learning packs, working drawings and photographs along with a brief to outline the scope and considerations could be used to enhance the learning process.

In Outcome 3 candidates will be guided to use the previously gained knowledge in Outcomes 1 and 2 to explain the principles of levelling, methods of setting out right angles and the use of datum's and the purpose of bench marks. Exemplar drawings, learning packs, visual aids could be used to enhance the learning process.

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. Safe 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. Emphasis should be placed on appropriate areas such as waste management and effective sourcing and use of materials.

Where feasible, centres should also incorporate modern methods of measuring and setting out procedures and equipment used in industry. Candidates should be made aware of current industry practice and emerging practice or technology which may become conventional in the future.

Higher National Unit specification: support notes (cont)

Unit title: Carpentry and Joinery: Site Measuring and Setting Out Procedures

GUIDANCE ON THE DELIVERY AND ASSESSMENT OF THIS UNIT

As part of the Professional Development Award (PDA) in Carpentry and Joinery at SCQF level 7, this Unit may be delivered in a sequence suitable to individual candidates and centres. When completing this Unit as part of the PDA it is recommended that, where possible, opportunity is taken to integrate aspects of Constructional Technical Communication Skills (DW4D 34).

This Unit could be delivered through a series of lectures and formative theory and practical demonstrations/examples which will involve the candidate carrying out the activities outlined in the Outcomes. Candidates should be encouraged to use visual evidence from the internet, textbooks and notes which illustrate site measurement and setting out procedures.

Outcome 1 could be delivered with the candidates working in pairs to take measurements, however they must work individually to generate the relevant evidence required. A project brief and checklist outlining the work to be undertaken could be used to record the Performance Criteria.

In Outcome 2 candidates will work in pairs but will individually record practical evidence complemented by the lecturer's guidance and instruction to accurately set out site projects in a safe and organised manner. It may be possible to combine Outcome 2 with Outcome 1. A project brief and checklist outlining the work to be undertaken could be used to record the Performance Criteria.

Outcome 3 shall be closed-book. Restricted response questions could be used to test the understanding and application of knowledge, with regard to setting out site projects in line with the Evidence Requirements.

If feasible, site visits or information about modern and potential future methods of site measurement and setting out procedures would be beneficial. This approach could be used to enhance the candidate's experience and understanding of how their skills and knowledge might be applied in real industry situations.

Centres may use the instruments of assessment which they consider to be the most appropriate but are advised to use the Carpentry and Joinery Training and Assessment (TAP) at SCQF level 7 which has been developed centrally by SQA. Any other instruments of assessment used must be comparable to the TAP 7.

Opportunities for developing Core Skills

There are opportunities to develop the Core Skill of *Problem Solving* at SCQF level 5. 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 and the use of role play will enhance the evaluation of efficient working practices.

Higher National Unit specification: support notes (cont)

Unit title: Carpentry and Joinery: Site Measuring and Setting Out Procedures

There are opportunities to develop the Core Skill of *Communication* at SCQF level 5 throughout this Unit by the candidates describing various aspects of site measurement and setting out procedures. Candidates will interpret specifications, workshop drawings and the workshop rod, effectively communicating component sizes and joint details required for product manufacture. As candidates complete practical tasks, they should be expected to communicate with others using the correct terminology, tone and style suited to the workplace.

There are opportunities to develop the Core Skill of *Working with Others* at SCQF level 5, particularly during practical assessments for Outcomes 1 and 2 which could be carried out in pairs. Candidates can agree responsibilities and provide support and information to each other during the practical group activities.

There are opportunities to develop the Core Skill of *Information and Communication Technology* at SCQF level 4 in Outcome 3 where the candidates will be encouraged to access information through internet research. They could also be encouraged to word process responses for formative assessments and could use digital images as part of their evidence.

There are opportunities to develop the Core Skill of *Numeracy* at SCQF level 4 through the interpretation of information from 3 dimensional working drawings and the practical use of calculation and measuring scales.

Open learning

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

- ◆ candidates have access to a suitable workshop with suitable equipment and tools
- ◆ health and safety considerations are fully taken into account
- ◆ the practical activities are supervised by a responsible person and clearly recorded (using an assessment checklist for the assessor)
- ◆ the assessor is, at some point, able to question the candidate on that performance
- ◆ assessment is carried out under the stated conditions

For information on open learning arrangements, please refer to the SQA guide *Assessment and Quality Assurance of Open and Distance Learning* (www.sqa.org.uk)

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

General information for candidates

Unit title: Carpentry and Joinery: Site Measuring and Setting Out Procedures

This Unit has been designed to further your career in the construction industry by developing your competence and improving your knowledge of site measuring and setting out. It has been written as part of the Professional Development Award (PDA) in Carpentry and Joinery at SCQF level 7, and is for experienced crafts persons working as carpenters and joiners.

On completion of this Unit you will be expected to have received all necessary underpinning knowledge and skills related to site measurement and setting out procedures.

In Outcome 1 you will be asked to carry out a practical exercise. This will include accurately taking and recording site measurements. You will be assessed against how well you carry out this work in accordance with a project brief and checklist outlining the work to be undertaken.

In Outcome 2 you will be asked to carry out a practical exercise. This will include setting out and transferring levels. You will be assessed against how well you carry out this work in accordance with a project brief and checklist outlining the work to be undertaken. You may find your assessor has combined Outcomes 1 and 2 for one larger practical assessment.

In Outcome 3 you will be asked to complete restricted response questions to test your knowledge and understanding of setting out site projects.

On successful completion of this Unit you should be able to accurately take and record site measurements, set out site projects and demonstrate your knowledge and understanding of setting out site projects. You will also learn about current building regulations and health and safety legislation associated with site measurement and setting out procedures.

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

If you successfully complete this Unit and the full PDA at SCQF level 7, you will not only have advanced your craft skills, but will also automatically receive some credit for your achievement of the PDA if you progress on to the HNC Construction.