



National Unit specification

General information

Unit title: Develop Bench Joinery Skills (SCQF level 5)

Unit code: F1KN 11

Superclass: TG

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Source: Scottish Qualifications Authority

Version: 02

Unit purpose

This Unit is suitable for learners who have little or no experience or knowledge of craft practices in carpentry and joinery. The Unit require the learner to use and care for a basic range of tools and materials whilst undertaking skilled tasks associated with bench joinery. Learners who achieve this Unit should feel confident in progressing to more demanding higher level skills and awards in the Construction Industry when the range and level of work will be wider/more complex.

Outcomes

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

- 1 Identify a range of tools, materials and equipment.
- 2 Carry out a range of hand tool and workshop equipment operations.
- 3 Manufacture a rectangular frame.
- 4 Fit and fix a panel using sheet material and planted beads.

Credit points and level

1 National Unit credit at SCQF level 5: (6 SCQF credit points at SCQF level 5)

National Unit specification: General information (cont)

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Recommended entry to the Unit

Whilst entry is at the discretion of the centre, it would be beneficial for the learner to have attained the following of equivalent:

- ◆ an aptitude for craft skills
- ◆ some prior practical experience (eg Skills for Work Construction Craft)
- ◆ Carpentry and Joinery: An Introduction (Intermediate 1)

Core Skills

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

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

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 tools, materials and equipment.

Performance Criteria

- (a) Identify a range of hand tools.
- (b) Identify a range of materials.
- (c) Identify a range of workshop equipment.

Outcome 2

Carry out a range of hand tool and workshop equipment operations.

Performance Criteria

- (a) Accurately prepare sawn timber materials to given sizes using a range of hand tools.
- (b) Perform a range of planning operations to chamfer and bevel material to given sizes.
- (c) Perform a range of hand tool operations to house, bore and drill material to given sizes.

Outcome 3

Manufacture a rectangular frame.

Performance Criteria

- (a) Produce a workshop rod in accordance with the given specifications.
- (b) Mark face and edge on all components in accordance with recognised practice.
- (c) Mark out all frame components accurately, prior to tool application.
- (d) Manufacture a rectangular frame in accordance with the given specifications.

Outcome 4

Fit and fix a panel using sheet material and planted beads.

Performance Criteria

- (a) Fit and fix planted square profile beads to frame correctly
- (b) Cut, fit and fix sheet material panel to frame correctly.
- (c) All fixings correctly punched below surface.

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.

Written and/or oral evidence is required which demonstrates that the learner has achieved Outcome 1 to the standard specified in the Outcome and Performance Criteria. The evidence for this Outcome should be obtained under controlled, supervised conditions. The assessment will be closed-book and should last no more than 45 minutes.

The learners will be required to identify and specify the use of:

- ◆ seven from ten hand tools
- ◆ four from six different materials including natural timber and man-made timber based sheet material
- ◆ three from four items of workshop equipment

Performance evidence supplemented with an assessor observation checklist/record should be used to show that the learner has achieved Outcomes 2, 3 and 4 to the standard specified in the Outcomes and Performance Criteria. Each learner will be observed to show that they can achieve the following throughout the delivery of the Unit:

- ◆ mark out hand dressed softwood to given dimensions, convert softwood to shape and form by sawing across the grain, sawing along the grain, planing, chamfering, bevelling, housing, boring and drilling using hand tools.
- ◆ produce a workshop rod for a rectangular frame with four haunched mortice and tenons, set out all frame components from the workshop rod, form joints using hand tools throughout, assemble glued components to make a rectangular frame of minimum dimensions 0.400m wide and 0.600m high using minimum section size of 45mm x 30mm and dress off with the use of a hand plane.
- ◆ using suitable joining materials fit and fix planted beads.
- ◆ cut, fit and fix a panel of suitable material with appropriate clearance.
- ◆ complete tasks within tolerances as stated below for each Outcome.

National Unit specification: Statement of standards (cont)

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Outcome 2

Marking material to two dimensions	within 2 mm
Sawing to marks	within 3 mm
Planing to gauge lines	within 3 mm
Chamfering to size	within 2 mm face and edge
Bevelling to size	within 2 mm
Housing to width and depth	within 2 mm
Boring to position	within 2 mm
Drilling to position	within 2 mm

Outcome 3

Accuracy of rod (all dimensions)	within 3 mm
Overall height and width of frame	within 5 mm
Diagonal difference	within 8 mm
Out of wind (diagonal above plane)	within 8 mm
Joints (on surfaces)	within 2 mm
Joints (on edges)	within 2 mm
Inside edges dressed	
Faces hand dressed to flush joints and provide a surface for painting	

Satisfactory performance in the practical content of this Outcome will be based on the learner complying with current health and safety regulations during practical activities.

Outcome 4

Overall height and width of panel	within 4 mm
Out of wind (diagonal above plane)	within 8 mm
Bead Joints	within 1 mm
Bead Alignment	within 1 mm

Assessment of this Unit should be completed over a period of time and evidence should be gathered at appropriate intervals.



National Unit Support Notes

Unit title: Develop Bench Joinery Skills (SCQF level 5)

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 40 hours.

Guidance on the content and context for this Unit

This Unit has been developed as an optional Unit in the National Progression Award in Construction and can also be delivered as a freestanding Unit.

This Unit is designed to introduce the learner to skills required by craft persons working in the construction industry as carpenters and joiners. The Unit will focus on using a basic range of tools, materials, workshop equipment and to develop skills in making woodworking joints for framed components. After the learner is competent in producing good joints he/she should be introduced to making the rectangular frame. Underpinning the practical skills is the need to ensure the learner appreciates the reasons for carrying out the tasks in the manner directed and the reasons for using specific tools, materials and equipment.

Outcome 1

This Outcome requires the learner to identify tools, materials and equipment. Tools will include try square, combination square, rule, measuring tape, gauges, hammer, mallet, screwdrivers, saws, planes, chisels, brace and bits, wheel brace and drills. Materials will include softwoods, sheet material, woodscrews, nails, adhesives. Equipment will include joiner's bench, holding devices, cramps, bench hook, bench bars, winding sticks. This Outcome should inform the learner on the importance of selecting the correct tool or piece of equipment for carrying out a specific task and an awareness of using different materials to satisfy the demands being placed on them in terms of durability and strength.

Tools, materials and equipment for this Outcome will be those commonly used in a carpentry and joinery workshop.

Outcome 2

This Outcome entails the development of skills associated with bench joinery and is mainly related to hand tool skills using softwood. The learner should be made fully aware of the dangers associated with working with sharp woodworking tools and the safety requirements to be complied with.

Materials for this Outcome will be red pine or other softwood having similar working characteristics.

National Unit Support Notes (cont)

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Outcome 3

This Outcome introduces the learner to the purpose of drawing a workshop rod and its value for marking out components and checking dimensions. The importance of selecting the most appropriate face and edge of a component for jointing purposes should be emphasised as should the importance of pairing components when setting out. The correct positioning and retention of components during tool application should be emphasised. The method of assembling framed components to ensure they are square and out of wind will also be included in the process.

Material for this Outcome will be dressed red pine or other softwood having similar working characteristics.

Outcome 4

This Outcome requires the learner to select, cut, fit and fix a suitable panel material retained in position by planted beads to be fitted into the frame produced in Outcome 3.

Material for this Outcome will be dressed red pine or other softwood having similar working characteristics and a suitable sheet material.

Guidance on approaches to delivery of this Unit

The learner could be taken to the workshop and storage areas to be introduced to the range of tools, materials and equipment and be guided on their normal use. Thereafter learners will become more familiar with this range by using them during practical activities. Recognised working practices should be fully explained, demonstrated and practiced. Emphasis should be placed on ensuring the hands are kept in a safe position behind the cutting edge of sharp tools and on the need to work accurately and safely. This guidance should be established before the first component is marked out and cut. Formative assessment should inform the learner of his/her progress when emphasis should again be placed in working accurately and safely.

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 *Develop Bench Joinery Skills (SCQF level 5)* 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.

National Unit Support Notes (cont)

Unit title: Develop Bench Joinery Skills (SCQF level 5)

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

The elements of the Core Skill of *Problem Solving*, such as planning and organising and critical thinking will be developed and enhanced 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 choice of tools, appropriate materials, safety issues, safety equipment and sustainability. Individual discussions with assessors will enhance the evaluation of efficient working practices.

There are opportunities for learners to develop co-operative working skills, as they are required at all times to comply fully with health and safety requirements, which includes being aware of the safety of others, as well as themselves.

Opportunities also arise for learners to develop the Core Skill of *Information and Communication Technology (ICT)* by researching Health and Safety legislation affecting their area of work.

Numeracy skills will be naturally enhanced through the practical use of interpreting information from specifications, calculation and measuring scales required in the teaching and learning assessments for Outcomes 2 and 3.

National Unit Support Notes (cont)

Unit title: Develop Bench Joinery Skills (SCQF level 5)

Although *Communication* skills are not formally assessed, as learners complete practical tasks, they should be expected to communicate with others using the correct terminology, tone and style suited to the workplace.

History of changes to Unit

Version	Description of change	Date
02	Clarification of Standards and updated to new Unit Specification Standard.	29/04/16

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General information for learners

Unit title: Develop Bench Joinery Skills (SCQF level 5)

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 designed to introduce you to skills required by craft persons working in the construction industry as carpenters and joiners. The Unit will focus on using a basic range of tools, materials, workshop equipment and to develop skills in making woodworking joints for framed components.

You will also be provided with the knowledge to allow you to appreciate the reasons for carrying out the practical work in the manner directed and the reasons for using specific tools, materials, components and equipment.

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 will be looked at in accordance with current safety codes of practice and regulations.

There will be a series of training exercises followed by some practical task based assessment and multi choice knowledge assessment. Completion of the Unit will provide you with the basic skills necessary to enable you to progress to more complex aspects of Carpentry and Joinery which in turn will further develop your skills and knowledge.

The elements of the Core Skill of *Problem Solving*, such as planning and organising and critical thinking will be developed and enhanced 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 choice of tools, appropriate materials, safety issues, safety equipment and sustainability.

There are opportunities to develop co-operative working skills. You will also be required to comply fully with health and safety requirements which gives you opportunities to develop awareness of the safety of others.

Opportunities also arise to develop the Core Skill of *Information and Communication Technology (ICT)* by researching Health and Safety.

Numeracy skills will be naturally enhanced through the practical use of calculation and measuring scales and although *Communication* skills are not formally assessed, as you complete practical tasks, you may be expected to communicate with others using the correct terminology, tone and style suited to the workplace.