



National Unit Specification: general information

UNIT Carpentry and Joinery: Craft Projects (SCQF level 6)

CODE F6NJ 12

SUMMARY

This Unit is suitable for candidates working towards the Modern Apprenticeship in Carpentry and Joinery and will develop the candidates craft skills. The Unit will introduce the candidate to specific craft projects that will test the candidate on their ability to perform craft skills that have been developed over the period of their training. The Unit should therefore be delivered towards the end of the training programme.

OUTCOMES

- 1 Demonstrate knowledge and understanding of legislative requirements for specific craft projects.
- 2 Plan specific craft projects from a given specification.
- 3 Produce a cutting list and workshop rod for specific craft projects.
- 4 Calculate materials costs for specific craft projects.
- 5 Complete craft projects to given specification.

RECOMMENDED ENTRY

While entry is at the discretion of the centre, candidates undertaking the Professional Development Award in Carpentry and Joinery at SCQF level 6 must meet the requirements of the Modern Apprentices which include being employed in the relevant craft industry.

CREDIT VALUE

2 credits at SCQF level 6 (12 credit points at SCQF level 6*).

**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.*

Administrative Information

Superclass: TG

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National Unit Specification: general information (cont)

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CORE SKILLS

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

Opportunities for developing aspects of the following Core Skills are highlighted in the Support Notes of this Unit.

- ◆ *Problem Solving* at SCQF level 4
- ◆ *Working with Others* at SCQF level 4
- ◆ *Information and Communication Technology* at SCQF level 3
- ◆ *Numeracy* at SCQF level 4
- ◆ *Communication* at SCQF level 4

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

Demonstrate knowledge and understanding of legislative requirements for specific craft projects.

Performance Criteria

- (a) Correctly state the statutory instruments governing specific operations.
- (b) Correctly identify employer's and employees responsibilities regarding specific operations.
- (c) Correctly extract regulations from statutory instruments affecting the manner in which work should be carried out for specific operations.

OUTCOME 2

Plan specific craft projects from a given specification.

Performance Criteria

- (a) Correctly interpret and extract technical information used in planning craft projects.
- (b) Propose a feasible sequence of operations for the work.
- (c) Select appropriate and sufficient tools and equipment to complete the work.
- (d) Correctly describe organisational efficiency and safety considerations.

OUTCOME 3

Produce a cutting list and workshop rod for specific craft projects.

Performance Criteria

- (a) Correctly calculate quantity and types of materials and components for craft projects.
- (b) Compile an accurate and legible cutting list of materials components allowing for wastage.
- (c) Produce an accurate workshop rod for the manufacture of the craft projects.

OUTCOME 4

Calculate materials costs for specific craft projects.

Performance Criteria

- (a) Correctly extract quantities of required materials.
- (b) Correctly cost materials allowing for wastage.

National Unit Specification: statement of standards (cont)

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OUTCOME 5

Complete craft projects to given specification.

Performance Criteria

- (a) Set out and manufacture a gallows bracket.
- (b) Set out and manufacture the hipped end of a pitched roof from a roof jig.
- (c) Set out and complete a door rig with door, associated finishings and ironmongery.
- (d) Comply with current health and safety regulations in all activities.

EVIDENCE REQUIREMENTS FOR THIS UNIT

Evidence is required to demonstrate that the candidates have achieved this Unit to the standard specified in all the Outcomes and Performance Criteria. All working practices must be in line with relevant and current Health and Safety legislation and regulations. A Risk Assessment and Method Statement must be completed **prior** to any practical activities taking place.

Written and/or oral evidence is required which demonstrates that the candidate has achieved Outcomes 1, 2, 3 and 4 to the standard specified in the Performance Criteria. Candidates must produce written and graphical evidence of the planning required for the successful completion of the craft projects. Product evidence is required for Outcome 3 in the form of a complete, accurate cutting list and workshop rod. Assessment will be under supervised closed-book conditions.

Outcome 5

Product and performance evidence is required to record candidate achievement in Outcome 5 to the standard specified, supplemented with an assessor observation checklist. Candidates must work towards the following standards.

Project 1: The gallows bracket project will be timed activity of no more than 15 hours. In addition candidates must produce a cutting list and achieve 18 of the standards from the following list:

- ◆ Rod within 1 mm
- ◆ Overall height of frame 800 mm within 2 mm
- ◆ Overall width of top rail 410 mm within 2 mm
- ◆ Position of top rail from end of stile 75 mm within 2 mm
- ◆ Position of transom 275 mm from underside of top rail within 2 mm
- ◆ Position of brace 50mm from end of top rail and 120 mm from end of stile within 2 mm
- ◆ Top rail square to stile within 2 mm across 410 mm
- ◆ Frame free from twist within 3 mm
- ◆ Joints fixed as indicated on drawing. tight fitting and secure, no gaps 50% not exceeding 0.1 mm
- ◆ Joints handed as drawing
- ◆ Moulded ends of stile: chamfer 20 mm x 20 mm and ovolo 40 mm x 25 mm within 1 mm of sizes and planed flat across moulding

National Unit Specification: statement of standards (cont)

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- ◆ Surface after cleaning off: (i) No plane marks (ii) Thickness of frame 70 mm-1 mm (iii) All joints flush no hollows exceeding 1 mm (two out of three acceptable)
- ◆ Architrave joints (i) internal joints scribed and no gaps exceeding 1mm (ii) external joints mitred no gaps exceeding 0.5 mm or overlapping extreme ends
- ◆ Architrave returned ends — mouldings returned across 50 mm width and 18mm thickness; within 2 mm of true shape in each case
- ◆ Length of architrave: inclined architrave 200 mm long; top architrave 225 mm fro stile both to within 2 mm
- ◆ Architrave secured by nailing (i) architrave securely fixed with no movement; (ii) no bruising (iii) nails punched below surface (two out of three acceptable)
- ◆ Door handed as drawing
- ◆ Door hung minimum 1mm and maximum 3 mm clearance gap on all four edges
- ◆ Butts recessed neatly, no gaps around leaves exceeding 1 mm
- ◆ Edges of door all arises removed
- ◆ Position of butts 45 mm from top and bottom to within 1 mm
- ◆ Door operates freely, no binding
- ◆ Door stop securely fixed, no gaps at corner exceeding 0.5 mm

Project 2: The traditional cut roof project will be a timed activity of no more than 15 hours. In addition the candidate must produce a cutting list and achieve 10 of the standards from the following list:

- ◆ Common rafters cut and fixed to position
- ◆ Lateral + or – 3 mm, three out of three
- ◆ Plumb cut + or – 2 mm, two out of three
- ◆ Birds mouth + or – 2 mm, two out of three
- ◆ Jack rafters cut and fixed to position
- ◆ Lateral + or -3 mm, three out of four
- ◆ Plumb cut + or – 2 mm, three out of four
- ◆ Birds mouth + or- 2 mm, three out of four
- ◆ Edge cut + or – 2 mm, three out of four
- ◆ Hip rafters cut and fixed to position
- ◆ To line head and sole + or – 4 mm
- ◆ Plumb cut + or – 3 mm
- ◆ Birds mouth + or – 3 mm
- ◆ Edge cut + or – 2 mm
- ◆ Bridle joints + or = 3 mm, three out of four

National Unit Specification: statement of standards (cont)

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Project 3: The door rig project will be a timed activity of no more than 16 hours. In addition the candidate must produce a cutting list and achieve 10 of the standards from the following list:

- ◆ Door hung within 2 mm to 4m clearance
- ◆ Door hung flush with frame within 0 to 2mm
- ◆ Hinges positioned within 2 mm
- ◆ Hinges neatly recessed and fixed
- ◆ Mortice lock positioned within 2 mm
- ◆ Mortice lock neatly fitted and operating smoothly
- ◆ Sheet material scribed tightly no gaps exceeding 1 mm
- ◆ Sheet material cut out within the cover plate at the electrical outlets and at door facings
- ◆ Base blocks manufactured and fitted
- ◆ Facings fitted all round within 2 mm
- ◆ Facings mitres fitted within 1 mm
- ◆ Skirtings fitted no gaps within 1 mm

These Evidence Requirements will be met by the completion of the Carpentry and Joinery Training and Assessment Programme (TAP) that provides detailed assessment material for this Unit.

National Unit Specification: support notes

UNIT Carpentry and Joinery: Craft Projects (SCQF level 6)

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 80 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

This Unit has been developed as a mandatory Unit in the Professional Development Award in Carpentry and Joinery at SCQF level 6, which is a mandatory component of the Modern Apprenticeship in Carpentry and Joinery.

The Unit will be offered to candidates from the construction and related services industries. The skills and knowledge and understanding are transferable within different working environments but the Unit is primarily aimed at candidates whose normal place of work would be a site, workshop or similar environment.

The successful completion of this Unit will provide candidates with the required underpinning knowledge and skills relating to specific craft projects. The Unit will also test the candidate's ability to work to timed programmed work. The candidate will be expected to be conversant with all of the terminology and legislation relevant to the project. The candidate will also be expected to cost the projects and will also have to produce a written of plan of the projects, and the step by step procedure for their completion.

There would be opportunity to integrate aspects of this Unit with others in the Carpentry and Joinery PDA, eg *Carpentry and Joinery: Woodworking Machine Skills*, *Carpentry and Joinery: Woodworking Power Tool Skills* and *Construction Studies and Procedures* at SCQF level 6. It should be delivered as part of a structured programme of training and orientated to the context of the candidate's work and area of responsibility.

Outcome 1

All current and relevant statutory instruments should be discussed and where appropriate be used by the candidate in the planning of the craft projects. Health and Safety at Work should be considered at all times, as should (at the time of writing this Unit): Management of Health and Safety at Work Regulations, The Construction Design and Management Regulations, The Manual Handling Operations Regulations, Provision and Use of Work Equipment Regulations, Personal Protective Equipment at Work Regulations, The Control of Substances Hazardous to Health Regulations and The Construction (Working Places Regulations).

Outcome 2

This Outcome will encourage the candidate to plan the craft projects with the proper sequence of operations, the tools and equipment required. As part of their feasible sequence of operations, candidates should prepare a time sheet for the project.

National Unit Specification: support notes (cont)

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Outcome 3

From a working drawing and specification the candidate will be expected to produce a materials list that can be used for two costing exercise in Outcome 4. In addition a detailed workshop rod will be produced.

Outcome 4

Simple arithmetical estimating and costing of materials for the craft projects should be attempted by the candidates.

Outcome 5

Three craft projects are required from the candidates. The first two should have estimated costs attached to their projects. The candidates will be encouraged to complete the projects to within an agreed time.

All activity should comply with current health and safety and building regulations. At the time of writing these include HSW (Health and SAFETY AT Work etc) Act; COSHH (Control of Substances Hazardous to Health) Regulations; PUWER (Provision and Use of Work Equipment Regulations).

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

The following information may be helpful with regard to specific Outcomes.

Outcome 1

Classroom, library, internet led approaches would be suitable to research the various appropriate legislation relevant to the craft projects.

Outcome 2

Classroom / workshop based activity that may involve some computer based planning work. The lecturer will deliver classroom based lessons to reinforce the need for good planning and will look at good practice for the candidates to learn from. Proper sequencing of operations will also be discussed.

Outcome 3

Classroom/workshop based activity. Working from detailed drawings and specifications, candidates will hone their ability of producing workshop rods and materials lists. This can be gained from class activities prior to completing the requirements for the craft projects.

Outcome 4

Classroom, library and internet approaches would be suitable for the compilation of materials costs. A variety of suppliers could be researched for suitable prices and an appropriate cost estimated.

National Unit Specification: support notes (cont)

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Outcome 5

This is a practical workshop based Outcome with the candidates working to complete timed projects to detailed specifications.

Where appropriate, opportunities should be taken throughout delivery of this Unit to meet the requirements of the generic Units of the Training and Assessment Programme including:

- ◆ Conform to Efficient Working Practices
- ◆ Conform to General Workplace Safety
- ◆ Move and Handle Resources
- ◆ Confirm Work Activities and Resources for the Work
- ◆ Develop and Maintain Good Working Relationships
- ◆ Confirm the Occupational Method of Work

The candidate should be given the opportunity to further develop their skills through visual aids, electronic presentations, DVDs, e-learning, reference books, classroom exercises and group discussions. The function of each component should be thoroughly demonstrated and practised by each candidate through elevations, sections, plans and detailed drawings. Construction methods should be demonstrated and attempted by candidates in order to show good techniques in measuring, drawing (including workshop rods), marking out, plumbing, levelling and nailing and fixing of components from manufacture to fitting. This teaching approach should ensure the candidate is acquiring the underpinning knowledge and skills required for the Unit.

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

There are opportunities to develop aspects of the Core Skill of *Problem Solving* at SCQF level 4. 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.

There are opportunities for candidates to develop the Core Skill of *Working with Others* at SCQF level 4. Candidates can agree responsibilities and provide support and information to each other during the practical group activities.

Opportunities also arise for candidates to develop the Core Skill of *Information and Communication Technology* at SCQF level 3 by researching, use of spreadsheets for cutting lists, e-learning and e-assessment.

Numeracy skills at SCQF level 4 could be developed through the interpretation of information from 3 dimensional working drawings and the practical use of calculation and measuring scales.

Candidates will have the opportunity to develop *Communication* skills at SCQF level 4 through out practical tasks, as they should be expected to communicate with others using the correct terminology, tone and style suited to the workplace.

National Unit Specification: support notes (cont)

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GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Sections 9 and 10 of the Carpentry and Joinery Training and Assessment Programme (TAP) provide detailed assessment material for this Unit. It is 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 through prior verification. It is expected that candidates will be given as much practise as possible, prior to being set assessment tasks.

A suitable method of assessing Outcomes 1 and 2 would be through a question paper and conducted under controlled, supervised conditions.

Candidates will be required to produce a cutting list and workshop rod to meet the requirements of Outcome 3.

A suitable method of assessing Outcome 4 would be through a costing assignment conducted under controlled, supervised conditions.

Evidence will be gathered for Outcome 5 through observation that the candidates have met the given standards and tolerances during all the practical activity. An assessor observation checklist can be used to record this evidence. Assessment should be conducted under controlled, supervised conditions.

Opportunities for the use of 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 e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

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