



National 4
Unit
Specification



Practical Woodworking: Machining and Finishing (National 4)

SCQF: level 4 (6 SCQF credit points)

Unit code: H25X 74

Unit outline

The general aim of this Unit is for learners to develop practical skills in using a range of common woodworking machine and power tools and in a variety of simple surface preparation and finishing techniques. Learners will also develop their knowledge and understanding of woodworking materials, recycling and sustainability issues, as well as an appreciation of safe working practices in a workshop environment.

Learners who complete this Unit will be able to:

- 1 Prepare for, and use, a range of practical woodworking machining and finishing techniques
- 2 Apply a range of finishes to timber and manufactured board
- 3 Assemble a woodworking product comprising four or more components with the aid of machine and power tools

This Unit is a mandatory Unit of the National 4 Practical Woodworking Course and is also available as a free-standing Unit. The Unit Specification should be read in conjunction with the *Unit Support Notes*, which provides advice and guidance on delivery, assessment approaches and development of skills for learning, skills for life and skills for work. Exemplification of the standards in this Unit is given in *Unit Assessment Support*.

The *Added Value Unit Specification* for the National 4 Practical Woodworking Course gives further mandatory information on Course coverage for learners taking this Unit as part of the National 4 Practical Woodworking Course.

Recommended entry

Entry to this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- ◆ National 3 Practical Craft Skills Course or relevant Units
- ◆ National 3 Design and Technology Course or relevant Units

In terms of prior learning and experience, relevant experiences and outcomes may also provide an appropriate basis for doing this Unit.

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. For further information, please refer to the *Unit Support Notes*.

Standards

Outcomes and assessment standards

Outcome 1

The learner will:

- 1 Prepare for, and use, a range of practical woodworking machining and finishing techniques by:**
 - 1.1 Selecting, with guidance, woodworking machine and power tools and equipment appropriate for tasks
 - 1.2 Confirming that woodworking machine and power tools and equipment are in good condition and safe working order before, during and after use
 - 1.3 Carrying out, with guidance, machine and power tool operations, safely and correctly, in correct sequence and to specified tolerances and standards
 - 1.4 Using correct names and terminology when referring to woodworking tools, machines, equipment, materials, processes and finishes

Outcome 2

The learner will:

- 2 Apply a range of finishes to timber and manufactured board by:**
 - 2.1 Selecting, with guidance, materials and finishes appropriate for tasks
 - 2.2 Preparing surfaces, with guidance, in accordance with manufacturer's instructions and good practice and to a competent standard
 - 2.3 Preparing and applying surface finishes, with guidance, in accordance with manufacturer's instructions and good practice and free from significant blemish

Outcome 3

The learner will:

- 3 Assemble a woodworking product comprising four or more components with the aid of machine and power tools by:**
 - 3.1 Checking, with guidance, materials supplied against a cutting list and working drawings
 - 3.2 Marking out the component parts, with guidance, in accordance with working drawings and within specified tolerance
 - 3.3 Assembling the component parts, with guidance, such that joint gaps and overall sizes are within specified tolerance
 - 3.4 Working in accordance with recognised procedures and safe working practices
 - 3.5 Carrying out good practice in terms of sustainability and recycling

Evidence Requirements for the Unit

Assessors should use their professional judgement, subject knowledge and experience, and understanding of their learners, to determine the most appropriate ways to generate evidence and the conditions and contexts in which they are used.

Evidence may be presented for individual Outcomes or it may be gathered for the Unit as a whole through combining assessment in one single activity. If the latter approach is used, it must be clear how the evidence covers each Outcome.

For this Unit, learners will be required to provide evidence of:

- ◆ knowledge and understanding of practical woodworking machine and power tools, equipment, materials, processes and finishes
- ◆ practical skills in the use of machine and power tools
- ◆ knowledge and understanding of sustainability issues and good practice in recycling in practical woodworking activities and environments
- ◆ the ability to work in accordance with recognised procedures and safe working practices

For all Outcomes, woodworking materials include:

- ◆ a variety of common softwoods and hardwoods, as available
- ◆ a variety of manufactured boards, as available
- ◆ adhesives and sundry fixings

For Outcome 1, woodworking machine and power tools and equipment includes those for turning, drilling, cutting, sanding, shaping and fixing.

For Outcome 1, learners must carry out a range of machine and power tool tasks. Evidence is required of a minimum of two machine tool operations from the following list:

- ◆ vertical drilling to $\pm 2\text{mm}$
- ◆ use of woodworking lathe (between centres) to a given diameter to $\pm 2\text{mm}$
- ◆ sanding to a line to $\pm 2\text{mm}$

Evidence is also required of a minimum of two power tool operations from the following list:

- ◆ drilling to a given position to $\pm 2\text{mm}$
- ◆ sanding to a line to $\pm 2\text{mm}$
- ◆ fixing operations with limited damage and satisfactory torque/security

For Outcome 2, learners must produce evidence of competence in preparing and finishing timbers and manufactured boards. Evidence is required of two or more different finishes and to both timbers and manufactured boards. Surface preparations will include planing, sanding, stopping and filling as required, and must be to a reasonably competent standard without significant blemish or mark. Surface finishes will include staining, varnishing or application of wax finish as appropriate, and will be free from significant blemishes.

For Outcome 3 learners must produce evidence of competence in making a woodworked product by assembling four or more components. The product will require the use of a woodworking lathe (between centres), plus one other machine tool and two power tools, as well as sundry hand tools as required. The product does not need to be finished.

It is assumed that products in this Unit are readily portable. The specified tolerances referred to in the Assessment Standards are:

Operation	Tolerance
Marking out	±2mm
Planing or similar	±2mm
Joint gaps not to exceed	±2mm
Completed product - overall sizes within	±5mm

Learners at National 4 level are expected to require a reasonable level of guidance and support throughout practical activities.

Exemplification of assessment is provided in *Unit Assessment Support*. Advice and guidance on possible approaches to assessment is provided in the *Unit Support Notes*.

Development of skills for learning, skills for life and skills for work

It is expected that learners will develop broad, generic skills through this Unit. The skills that learners will be expected to improve on and develop through the Unit are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and drawn from the main skills areas listed below. These must be built into the Unit where there are appropriate opportunities.

2 Numeracy

2.2 Money, time and measurement

4 Employability, enterprise and citizenship

4.3 Working with others

5 Thinking skills

5.2 Understanding

5.5 Creating

Amplification of these is given in SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work*. The level of these skills should be at the same SCQF level of the Unit and be consistent with the SCQF level descriptor. Further information on building in skills for learning, skills for life and skills for work is given in the *Unit Support Notes*.

Administrative information

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Superclass: WK

History of changes to National Unit Specification

Version	Description of change	Authorised by	Date

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