

Draft National Unit Specification



Unit title: Practical Woodworking: Machining and Finishing (National 5)

SCQF: level 5 (6 SCQF credit points)

Unit code: to be advised

Unit outline

The general aim of this Unit is for learners to develop practical skills in using a range of common machines and power tools and in surface preparation and finishing techniques. Learners will develop their knowledge and understanding of woodworking materials and sustainability issues, as well as an appreciation of safe working practices in a workshop context. The Unit is designed to develop transferable skills in workshop practice which can be applied to a range of different situations and contexts.

Learners who complete this Unit will be able to:

- 1 Prepare for practical woodworking machining and finishing activities
- 2 Use a range of common machine and power tools
- 3 Apply a range of finishes to timber
- 4 Manufacture a timber artefact comprising four or more components with the aid of machine and power tools

This Unit is a mandatory Unit of the Practical Woodworking (National 5) 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 the *National Assessment Resource*.

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:

- ◆ Practical Woodworking (National 4) Course or relevant component Units

In terms of prior learning and experience, relevant experiences and outcomes may also provide an appropriate basis for doing this Unit. Further information on relevant experiences and outcomes will be given in the *Unit Support Notes*.

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 practical woodworking machining and finishing activities by:**
 - 1.1 Selecting woodworking machine and power tools and equipment appropriate for tasks
 - 1.2 Selecting materials and finishes appropriate for tasks
 - 1.3 Confirming that woodworking machine and power tools and equipment are in good condition and safe working order before, during and after use
 - 1.4 Adjusting tools, where necessary, following safe working practices
 - 1.4 Using correct names and terminology when referring to common woodworking tools, equipment, materials and processes
 - 1.5 Working in accordance with recognised procedures and safe working practices
 - 1.6 Explaining basic good practice in terms of sustainability for practical woodworking tasks

Outcome 2

The learner will:

- 2 Use a range of common machine and power tools by:**
 - 2.1 Checking materials supplied against a cutting list
 - 2.2 Marking out materials in accordance with working drawings and to within a tolerance of +/- 1 mm
 - 2.3 Carrying out machine and power tool operations in correct sequence and to tolerances and standards given in Evidence Requirements
 - 2.4 Using tools and equipment with precision, safely and in accordance with good practice
 - 2.5 Working in accordance with recognised procedures and safe working practices
 - 2.6 Carrying out good practice in terms of sustainability and recycling

Outcome 3

The learner will:

- 3 Apply a range of finishes to timber by:**
 - 3.1 Preparing timber surfaces in accordance with manufacturer's instructions and good practice and to a high standard
 - 3.2 Preparing and applying surface finishes in accordance with manufacturer's instructions and good practice and to a high standard, without blemish
 - 3.3 Working in accordance with recognised procedures and safe working practices

Outcome 4

The learner will:

4 Manufacture a timber artefact comprising four or more components with the aid of machine and power tools by:

- 4.1 Planning woodworking activities in terms of tools, equipment and material needs
- 4.2 Checking materials supplied against a cutting list and working drawings
- 4.3 Marking out the assembly in accordance with working drawings and to a tolerance of +/- 1 mm
- 4.3 Using a woodworking lathe (between centres) plus one other machine tool and two power tools as well as occasional use of sundry hand tools and equipment as required
- 4.4 Manufacturing the artefact such that joint gaps do not exceed 1 mm and overall sizes are within a tolerance of +/- 3 mm
- 4.5 Using tools and equipment with precision, safely and in accordance with good practice
- 4.6 Working in accordance with recognised procedures and safe working practices
- 4.7 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.

In this Unit, Evidence Requirements are as follows:

Evidence will be primarily observational. 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 tools, equipment, materials and processes
- ◆ knowledge and understanding of sustainability issues in practical woodworking
- ◆ practical skills in the use of machine and power tools
- ◆ the ability to work in accordance with recognised procedures and safe working practices

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

For all Outcomes, woodworking materials include:

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

For Outcome 2, learners must carry out a range of machine tool and power tool tasks:

- ◆ evidence is required of a minimum of two machine tool operations from the following list:
 - vertical drilling to +/- 1 mm
 - use of woodworking lathe (between centres) to a given diameter to +/- 1 mm
 - sanding to a line to +/- 1 mm
- ◆ evidence is required of a minimum of two power tool operations from the following list:
 - drilling to a given position to +/- 1 mm
 - sanding to a line to +/- 1 mm
 - fixing operations with limited damage and satisfactory torque/security

For Outcome 3, learners must produce evidence of competence in preparing and finishing to timbers and manufactured boards. Evidence is required of at least two different finishes and to both timbers and to manufactured boards. Surface preparations will include planing, sanding, stopping and filling as required, and must be to a high standard, without blemish. Surface finishes will include staining, varnishing or application of wax finish as appropriate, and will be free from blemishes. Finishes such as gloss paint that obscure the work underneath are not to be used.

For Outcome 4, learners must produce evidence of competence in manufacturing a timber artefact comprising four or more components. The working drawings for the artefact will require the use of a woodworking lathe (between centres). In addition the artefact must be

made using one other machine tool and two power tools. The artefact does not need to be finished.

The tolerances given in the Assessment Standards for woodworking tasks, joints and assemblies are indicative of the typical standard expected at National 5 level for Practical Woodworking Units. Tolerances for assemblies in this context are dependent on the size and scale of the assemblies selected. It is assumed that assemblies in this Unit are readily portable and that the tolerances given are suitable for such work and at this level.

Exemplification of assessment for this Unit is provided in the *National Assessment Resource*. 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.

1 Literacy

1.3 Listening and talking

2 Numeracy

2.2 Money, time and measurement

4 Employability, enterprise and citizenship

4.3 Working with others

5 Thinking skills

5.3 Applying

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: to be advised

History of changes

Version	Description of change	Authorised by	Date

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