

National 5 Practical Woodworking

Course code:	C862 75
Course assessment code:	X862 75
SCQF:	level 5 (24 SCQF credit points)
Valid from:	session 2017–18

The course specification provides detailed information about the course and course assessment to ensure consistent and transparent assessment year on year. It describes the structure of the course and the course assessment in terms of the skills, knowledge and understanding that are assessed.

This document is for teachers and lecturers and contains all the mandatory information you need to deliver the course.

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Course overview

The course consists of 24 SCQF credit points which includes time for preparation for course assessment. The notional length of time for a candidate to complete the course is 160 hours.

The course assessment has two components.

Component	Marks	Scaled mark	Duration
Component 1: question paper	60	30	1 hour
Component 2: practical activity	70	70	See course assessment section

Recommended entry	Progression
<p>Entry to this course is at the discretion of the centre.</p> <p>Candidates should have achieved the fourth curriculum level or the National 4 Practical Woodworking course or equivalent qualifications and/or experience prior to starting this course.</p>	<ul style="list-style-type: none">◆ other qualifications in practical technologies or related areas◆ further study, employment and/or training

Conditions of award

The grade awarded is based on the total marks achieved across all course assessment components.

Course rationale

National Courses reflect Curriculum for Excellence values, purposes and principles. They offer flexibility, provide more time for learning, more focus on skills and applying learning, and scope for personalisation and choice.

Every course provides opportunities for candidates to develop breadth, challenge and application. The focus and balance of assessment is tailored to each subject area.

The National 5 Practical Woodworking course provides a broad introduction to practical woodworking. It is largely workshop-based, combining elements of theory and practical woodworking techniques.

Candidates develop practical psychomotor skills (manual dexterity and control) in a universally popular practical craft. They are introduced to safe working practices and become proactive in matters of health and safety. They learn how to use a range of tools, equipment and materials safely and correctly.

Candidates develop skills in reading drawings and diagrams, measuring and marking out, cutting, shaping and finishing materials. They learn how to work effectively alongside others in a shared workshop environment. Course activities also provide opportunities to build self-confidence and to enhance skills in numeracy, thinking, planning, organising and communicating — these are all valuable skills for learning, for life and for work.

The course encourages candidates to become responsible and creative in their use of technologies and to develop attributes such as flexibility, enthusiasm, perseverance, reliability and confidence.

Purpose and aims

The National 5 Practical Woodworking course provides opportunities for candidates to gain a range of theoretical and practical woodworking skills relating to tools, equipment, processes and materials. They also develop skills in reading and interpreting working drawings and related documents as well as an understanding of health and safety.

The course is practical, exploratory and experiential in nature. It engages candidates with technologies, allowing them to consider the impact that practical technologies have on our environment and society.

Through this, they develop skills, knowledge and understanding of:

- ◆ woodworking techniques
- ◆ measuring and marking out timber sections and sheet materials
- ◆ safe working practices in workshop environments
- ◆ practical creativity and problem-solving skills
- ◆ sustainability issues in a practical woodworking context

Who is this course for?

This course is a broad-based qualification, suitable for learners with an interest in practical technologies. It is largely learner-centred, includes practical and experiential learning opportunities and is suitable for those wanting to progress onto further levels of study or a related career.

Course content

This course develops skills in three main areas. Each area provides opportunities for candidates to understand safe working practices, sustainability issues, and good practice in recycling within a workshop environment. Each area of study covers a different set of woodworking skills. All areas include skills and associated knowledge in measuring, marking out, cutting and jointing techniques.

The areas of study are:

Flat-frame construction

Candidates develop skills, knowledge and understanding in the use of woodworking tools and in making woodworking joints and assemblies commonly used in flat-frame joinery, involving complex features. Candidates develop their ability to read and use drawings and diagrams depicting both familiar and unfamiliar woodwork tasks.

Carcase construction

Candidates develop skills, knowledge and understanding in the use of woodworking tools and in making woodworking joints and assemblies commonly used in carcass construction, involving complex features. This may include working with manufactured board or with frames and panels. Candidates use working drawings or diagrams in both familiar and unfamiliar contexts that require some interpretation on their part.

Machining and finishing

Candidates develop skills, knowledge and understanding in using machine and power tools. Candidates also develop skills in a variety of woodworking surface preparations and finishing techniques.

Skills, knowledge and understanding

Skills, knowledge and understanding for the course

The following provides a broad overview of the subject skills, knowledge and understanding developed in the course:

- ◆ using a range of woodworking tools, equipment and materials safely and correctly for woodworking tasks with some complex features
- ◆ adjusting tools where necessary, following safe practices
- ◆ reading and interpreting drawings and diagrams in familiar and some unfamiliar contexts
- ◆ measuring and marking out timber sections and sheet materials in preparation for cutting and shaping tasks with some complex features
- ◆ practical creativity in the context of simple and familiar woodworking tasks with some complex features

- ◆ following, with autonomy, given stages of a practical problem-solving approach to woodworking tasks
- ◆ applying knowledge and understanding of safe working practices in a workshop environment
- ◆ knowledge and understanding of the properties and uses of a range of woodworking materials
- ◆ knowledge and understanding of sustainability issues in a practical woodworking context

Skills, knowledge and understanding for the course assessment

The following provides details of skills, knowledge and understanding sampled in the course assessment:

Practical activity		Question paper	
Skills	Candidates are required to demonstrate the ability to:	Knowledge and Understanding	Candidates are required to demonstrate a knowledge and understanding of:
Measuring and marking out	<p>Use the measuring and marking out tools listed below:</p> <ul style="list-style-type: none"> ◆ steel rule ◆ tape measure ◆ try-square ◆ marking gauge ◆ templates ◆ marking knife ◆ mortise gauge ◆ cutting gauge ◆ sliding bevel ◆ dovetail template ◆ outside calipers <p>With evidence of ratio dimensioning (ie 1/3 thickness, 1/2 thickness).</p>	Measuring and marking out	<p>The use of the tools and equipment listed below:</p> <ul style="list-style-type: none"> ◆ steel rule ◆ tape measure ◆ try-square ◆ marking gauge ◆ templates ◆ marking knife ◆ mortise gauge ◆ cutting gauge ◆ sliding bevel ◆ dovetail template ◆ outside calipers ◆ units of measurement ◆ ratio dimensioning (ie 1/3 thickness, 1/2 thickness)

Reading and interpreting drawings and documents	<p>Read and extract relevant information from:</p> <ul style="list-style-type: none"> ◆ working drawings, pictorial drawings, diagrams, cutting lists 	Reading and interpreting drawings and documents	<ul style="list-style-type: none"> ◆ working drawings, pictorial drawings, diagrams, cutting lists ◆ orthographic projection ◆ scale ◆ basic drawing conventions: line types outlines, centre lines, hidden detail and dimension lines ◆ reading and extracting information from working drawings: linear, radial, angular (45°) and diametric dimensions
Materials	<p>Work safely with natural and manmade materials.</p>	Materials	<p>Properties of woodworking materials listed below:</p> <ul style="list-style-type: none"> ◆ softwoods: white and red pine, cedar and larch ◆ hardwoods: ash, oak, beech, mahogany and meranti (Philippine mahogany) ◆ manufactured boards and veneered manufactured boards: chipboard, plywood, hardboard, MDF and blockboard ◆ dowel rod
Bench work	<p>Safely use tools listed below:</p> <ul style="list-style-type: none"> ◆ bench vice ◆ saws ◆ chisels ◆ mallet ◆ hammers ◆ pincers 	Bench work	<p>The safe use of the bench tools and their component parts listed below:</p> <ul style="list-style-type: none"> ◆ bench vice ◆ saws: tenon/back, coping, rip, cross-cut and panel ◆ chisels: bevel edged, mortise and firmer ◆ parts of chisels: tang, ferrule, leather washer and handle ◆ mallet

	<ul style="list-style-type: none"> ◆ planes ◆ spoke shave ◆ hand drills and braces ◆ screwdrivers ◆ sawing board/bench hook ◆ hand router ◆ bradawl ◆ nail punch 		<ul style="list-style-type: none"> ◆ hammers: cross-pein and claw ◆ pincers ◆ planes: jack, smoothing, plough, bull-nose, block, rebate and combination ◆ main parts of plane: cap iron, cutting iron, adjusting lever and adjusting nut, depth stops and fences ◆ spoke shave ◆ hand drills and braces ◆ screwdrivers: straight and cross-head ◆ sawing board/bench hook ◆ hand router ◆ bradawl ◆ nail punch
Cramping	Accurately and safely use cramping devices.	Cramping	<p>The safe use of cramping devices listed below:</p> <ul style="list-style-type: none"> ◆ cramps: sash cramp, G-cramp, mitre cramp, band cramp ◆ string and block <p>The purpose of dry cramping.</p>

Flat-frame jointing techniques	<p>Safely manufacture flat-frame joints listed below:</p> <ul style="list-style-type: none"> ◆ corner: butt, mitre, dowel, halving, bridle, haunched mortise and tenon ◆ T joints: butt, dowel, halving, bridle, stub and through mortise and tenon ◆ cross halving ◆ dovetail halving 	Flat-frame jointing techniques	<p>The construction and use of the flat-frame joints listed below:</p> <ul style="list-style-type: none"> ◆ corner: butt, mitre, dowel, halving, bridle, haunched mortise and tenon ◆ T joints: butt, dowel, halving, bridle, stub and through mortise and tenon ◆ cross halving ◆ dovetail halving <p>Selecting appropriate flat-frame joint types for given scenarios.</p>
Carcase jointing techniques	<p>Safely manufacture carcase construction joints listed below:</p> <ul style="list-style-type: none"> ◆ butt ◆ corner rebate ◆ through housing ◆ stopped housing ◆ dowel 	Carcase construction	<p>Construction and use of the carcase joints listed below:</p> <ul style="list-style-type: none"> ◆ butt ◆ corner rebate ◆ through housing ◆ stopped housing ◆ dowel <p>Selecting appropriate carcase joint types for given scenarios.</p>

<p>Mechanical fixings and adhesives</p>	<p>Safely use correct mechanical fixings:</p> <ul style="list-style-type: none"> ◆ nails ◆ proprietary flat-frame fixings ◆ proprietary carcass construction fixings ◆ knock down fixings <p>Safely use wood adhesives in a workshop environment.</p>	<p>Mechanical fixings and adhesives</p>	<p>Ironmongery listed below:</p> <ul style="list-style-type: none"> ◆ nails: round, oval, brads, panel pins ◆ screws: round/dome head, countersink, slotted, cross-head ◆ angle brackets ◆ corner blocks ◆ knock down fixings <p>Uses of wood adhesives and glues: interior and exterior.</p>
<p>Use and maintenance of machine and power tools</p>	<p>Safely use the machines and power tools listed below:</p> <p>Machines:</p> <ul style="list-style-type: none"> ◆ woodturning lathe ◆ belt sander ◆ disc sander ◆ pedestal/pillar drill ◆ mortise machine <p>Power tools:</p> <ul style="list-style-type: none"> ◆ drills ◆ sanders ◆ cordless screwdrivers ◆ jig saw 	<p>Safe use of machines and power tools</p>	<p>Safe working practice for operating the machines, tools and processes listed below and, where indicated, the component parts:</p> <p>Machine tools:</p> <ul style="list-style-type: none"> ◆ woodturning lathe: face plate and between centre turning ◆ lathe tools: forked/butterfly centre, dead centre, revolving centre, gouge, scraper, parting chisel and skew chisel ◆ parts of the lathe: bed, tailstock, tool rest, headstock ◆ preparing a blank for turning ◆ belt sander ◆ disc sander ◆ pedestal/pillar drill ◆ drill bits: twist, countersink rose, flat and Forstner ◆ mortise machine: setting depth, checking cutting chisel/drill, positioning and securing work piece

			<p>Power tools:</p> <ul style="list-style-type: none"> ◆ drills: corded and cordless ◆ sanders: orbital and belt ◆ cordless screwdrivers ◆ jig saw <p>Tool care and maintenance:</p> <ul style="list-style-type: none"> ◆ reporting faults ◆ inspecting cables, tool holding and guards ◆ dust extraction
<p>Surface preparation and finishing</p>	<p>Carry out preparation to natural wood and manmade boards before applying a finish.</p> <p>Apply finishes to natural wood and manmade boards.</p>	<p>Surface preparation and finishing</p>	<p>The wood preparation techniques listed below:</p> <ul style="list-style-type: none"> ◆ use of planes ◆ sanding ◆ abrasive types: glass and garnet ◆ abrasive grades: fine, medium and coarse ◆ scraping ◆ stopping ◆ filling <p>Techniques required to prepare for, and apply, the finishes listed below:</p> <ul style="list-style-type: none"> ◆ varnish ◆ stain ◆ wax ◆ oil: Danish, linseed and vegetable

<p>Care and maintenance of tools and machinery, and safe working practices</p>	<p>Complete a log book detailing evidence of good and safe working practices covering the following:</p> <ul style="list-style-type: none"> ◆ care and maintenance of tools and equipment ◆ reporting faults and fault reporting systems ◆ general condition before, during and after use ◆ position and condition of guards ◆ position and security of cutting tools on machine tools ◆ use of personal protective equipment ◆ setting a plane ◆ honing a chisel ◆ honing a plane iron 	<p>Safe working practices</p>	<p>Good practices and safe systems for general workshop and individual activities when manufacturing a wood product.</p> <p>Personal protective equipment: apron, gloves, safety goggles, safety specs, visors, dust protection.</p>
<p>Sustainability and recycling</p>	<p>Understand and follow workshop recycling practices and processes.</p>	<p>Sustainability and recycling</p>	<p>Best practice in selecting materials that are appropriate for a specific use.</p> <p>Understand and follow workshop recycling practices and processes.</p>

Skills, knowledge and understanding included in the course are appropriate to the SCQF level of the course. The SCQF level descriptors give further information on characteristics and expected performance at each SCQF level (www.scqf.org.uk).

Skills for learning, skills for life and skills for work

This course helps candidates to develop broad, generic skills. These skills are based on [SQA's Skills Framework: Skills for Learning, Skills for Life and Skills for Work](#) and draw from the following main skills areas:

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

These skills must be built into the course where there are appropriate opportunities and the level should be appropriate to the level of the course.

Further information on building in skills for learning, skills for life and skills for work is given in the course support notes.

Course assessment

Course assessment is based on the information provided in this document.

The course assessment meets the key purposes and aims of the course by addressing:

- ◆ breadth — drawing on knowledge and skills from across the course
- ◆ challenge — requiring greater depth or extension of knowledge and/or skills
- ◆ application — requiring application of knowledge and/or skills in practical or theoretical contexts as appropriate

This enables candidates to:

- ◆ apply skills, knowledge and understanding developed in the course to manufacture a finished product in wood to a given standard
- ◆ demonstrate practical creativity and problem-solving during the manufacturing process
- ◆ apply skills, knowledge and understanding to unfamiliar practical woodworking situations

Course assessment structure: question paper

Question paper

60 marks

The question paper gives candidates an opportunity to demonstrate skills, knowledge and understanding relating to:

Area	Range of marks
Measuring and marking out tools	4–6
Reading and interpreting drawings	4–6
Materials	4–6
Bench work	5–7
Flat-frame construction and assembly	6–8
Carcase construction and assembly	6–8
Use and care of machines and power tools	8–10
Surface preparation and finish	5–8
Health and safety	6–8
Sustainability and recycling	3–5

The question paper has 60 marks out of a total of 130 marks. This is scaled by SQA to represent 30% of the overall marks for the course assessment.

A proportion of marks are available for more challenging questions, which generally require interpretation and/or integration of more complex practical woodworking situations. This could be in the complexity of the expected response, the descriptions and/or justifications of more detailed and/or complex processes, or problem-solving.

Questions will allow for a variety of response types including short/limited responses and extended responses.

Setting, conducting and marking the question paper

This question paper is set and marked by SQA and conducted in centres under conditions specified for external examinations by SQA.

Candidates will complete this in 1 hour.

Specimen question papers for National 5 courses are published on SQA's website. These illustrate the standard, structure and requirements of the question papers candidates sit. The specimen papers also include marking instructions.

Course assessment structure: coursework

Practical activity

70 marks

The practical activity allows candidates to demonstrate the application of skills and knowledge developed during the course to produce a finished product, to a given standard and specification.

The practical activity will be to manufacture a product and complete a log book. The log book will be provided as part of the assessment task.

Marks are awarded for:

Area
Log book
Flat-frame construction
Carcase construction
Machining/turnery
Finishing
Overall assembly

The practical activity gives candidates an opportunity to demonstrate the following skills, knowledge and understanding:

- ◆ selecting and using a range of woodworking tools, equipment, materials and finishes
- ◆ reading, interpreting and following given working drawings, outline specification information and cutting lists
- ◆ marking out, cutting and shaping component parts
- ◆ manufacturing a finished product to given drawings and standards
- ◆ working and using tools and equipment in accordance with recognised procedures and safe working practices

The assignment has 70 marks out of a total of 130 marks. This is scaled by SQA to represent 70% of the overall marks for the course assessment.

Practical activity overview

The standards and tolerances applicable to the product are as follows:

Operation	Tolerance
Individual components	
Planing (or similar)	±1mm
Marking out and cutting	±1mm
Machine/power tool tasks: <ul style="list-style-type: none"> ◆ vertical drilling ◆ sanding to a line ◆ drilling to given line position 	±1mm
Joint gaps	Not to exceed 1mm
Overall sizes	±3mm

The product will allow candidates to demonstrate skills and apply knowledge gained from the course.

Hand, power and machine tools will be used in the manufacture of the product, as specified in the practical activity.

The product will be prepared, as specified, for the application of a finish. The finish will be appropriate to the practical activity (however any finish applied prior to external verification must not in any way affect the ability of the verifier to make judgements on assessor decisions).

While working on the practical activity, candidates must adhere to recognised safe working practices as well as those stipulated within their centre.

Setting, conducting and marking the practical activity

This practical activity is:

- ◆ set by SQA, on an annual basis
- ◆ conducted under some supervision and control (although a high degree of supervision is required for health and safety purposes)

Evidence is internally assessed by centre staff in line with SQA's marking instructions. All marking is quality assured by SQA.

High-level instructions for centres, giving an overview of the product, materials and cutting list, are provided in advance.

Full instructions for candidates, giving specific jointing and manufacturing details, are contained within the annually issued assessment task.

Assessment conditions

Time

This practical activity is carried out over a period of time, starting at an appropriate point in the course, once all content has been delivered.

Supervision, control and authentication

The practical activity must be carried out:

- ◆ without interruption by periods of learning and teaching
- ◆ in a workshop environment
- ◆ in time to meet the submission date set by SQA
- ◆ on an individual basis by the candidates (ie no group work is permitted)
- ◆ under supervision to ensure that work presented is the candidates' own
- ◆ under supervision to ensure a safe and controlled environment

Resources

The practical activity is undertaken in open-book conditions and, as such, candidates can have access to learning and teaching materials, the internet, notes, exemplar materials, resources on classroom walls or anything similar while it is being undertaken.

The practical activity will include instructions for deliverers and candidates and this will detail any equipment or materials that they will need.

Reasonable assistance

Candidates are expected to progress through each stage of the practical activity independently, having acquired the skills earlier in the course. Assessors will intervene throughout the undertaking of the practical activity to ensure the safe running of the workshop environment. However, where the assessor has to intervene, this must be recorded and reflected in the marks awarded in line with the marking instructions.

The practical activity is designed to discriminate between candidates. Once the practical activity has been completed, the product cannot be returned to the candidate for further work.

Evidence to be gathered

Full instructions for the evidence requirements are contained within the assessment task. This will include:

- ◆ the completed product (and jigs created by the candidate)
- ◆ the completed log book
- ◆ record of any intervention relating to independence of work
- ◆ record of any intervention relating to safe working

All candidate evidence is internally assessed.

Volume

One completed log book and one completed product is required for each candidate.

Grading

A candidate's overall grade is determined by their performance across the course assessment. The course assessment is graded A–D on the basis of the total mark for all course assessment components.

Grade description for C

For the award of grade C, candidates will typically have demonstrated successful performance in relation to the skills, knowledge and understanding for the course.

Grade description for A

For the award of grade A, candidates will typically have demonstrated a consistently high level of performance in relation to the skills, knowledge and understanding for the course.

Equality and inclusion

This course is designed to be as fair and as accessible as possible with no unnecessary barriers to learning or assessment.

For guidance on assessment arrangements for disabled candidates and/or those with additional support needs, please follow the link to the assessment arrangements web page: www.sqa.org.uk/assessmentarrangements.

Further information

The following reference documents provide useful information and background.

- ◆ [National 5 Practical Woodworking subject page](#)
- ◆ [Assessment arrangements web page](#)
- ◆ [Building the Curriculum 3–5](#)
- ◆ [Design Principles for National Courses](#)
- ◆ [Guide to Assessment](#)
- ◆ [SCQF Framework and SCQF level descriptors](#)
- ◆ [SCQF Handbook](#)
- ◆ [SQA Skills Framework: Skills for Learning, Skills for Life and Skills for Work](#)
- ◆ [Coursework Authenticity: A Guide for Teachers and Lecturers](#)
- ◆ [Educational Research Reports](#)
- ◆ [SQA Guidelines on e-assessment for Schools](#)
- ◆ [SQA e-assessment web page](#)

Administrative information

Published: May 2017 (version 1.1)

History of changes to course specification

Version	Description of change	Authorised by	Date
1.1	Removed reference to a 'boxwood' mallet for bench work from the 'Skills, knowledge and understanding for the course assessment' table. This makes it clear that any type of mallet can be used in a woodworking context.	Qualifications Manager	May 2017

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