

National Unit Specification: general information

UNIT	Bench Skills 1 – Wood Flat-Frame Construction (Intermediate 2)
NUMBER	D182 11
COURSE	Woodworking Skills (Intermediate 2)

SUMMARY

Applying practical skills and adopting safe working practices in the manufacture of a range of joints and a flat-framed wooden component.

OUTCOMES

- 1 Use a range of common hand tools.
- 2 Make a range of woodworking joints.
- 3 Manufacture a product from a working drawing.

RECOMMENDED ENTRY

While entry is at the discretion of the centre, candidates would normally be expected to have had some previous experience in Craft Skills. This may be evidenced by:

- Standard Grade Craft and Design
- Woodworking Skills (Int 1)

CREDIT VALUE

1 credit at Intermediate 2.

Administrative Information

Superclass:	WK
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National Unit Specification: general information (cont)

UNIT Bench Skills 1 – Wood Flat-Frame Construction (Intermediate 2)

CORE SKILLS

This course gives automatic certification of the following:

Complete core skills for the unit

None

Core skills components for the unit

Planning and Organising Int 1

Additional information about core skills is published *in Automatic Certification of Core Skills in National Qualifications* (SQA, 1999).

National Unit Specification: statement of standards

UNIT Bench Skills 1 – Wood Flat-Frame Construction (Intermediate 2)

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 the Scottish Qualifications Authority.

OUTCOME 1

Use a range of common hand tools.

Performance criteria

- (a) Instruction on the care and use of tools is interpreted and implemented correctly.
- (b) Correct terminology is used when referring to common hand tools.
- (c) Tools to be used are checked for satisfactory condition and corrective action is taken when required.

Note on range for the outcome

Hand tools: rule; try square; marking gauge; mortice gauge; firmer and mortice chisels; saws and planes.

Corrective action: adjusting a plane, honing a plane iron, honing a chisel, lubrication.

Evidence requirements

Performance evidence of the candidate adjusting a plane, honing a plane iron and honing a chisel.

Performance evidence of the methodology, care and use of tools and work methods being implemented.

Written and/or oral evidence of the terminology related to hand tools.

OUTCOME 2

Make a range of woodworking joints.

Performance criteria

- (a) Wood is planed accurately to within specified tolerances.
- (b) Woodworking joints are marked out within specified tolerances.
- (c) Woodworking joints are manufactured to within specified tolerances.

Note on range for the outcome

Woodworking joints: through, stub and haunched mortice and tenon, halving and bridle joints.

Evidence requirements

Practical exercise incorporating the woodworking joints named in the range statement, working to tolerances of ± 1 mm for planing, marking out of three joints to ± 1 mm and manufacture of joints to ± 1 mm.

National Unit Specification: statement of standards (cont)

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OUTCOME 3

Manufacture a product from a working drawing.

Performance criteria

- (a) If required, an accurate cutting list is compiled from the working drawing provided, and the materials supplied are checked against it.
- (b) The product is marked out correctly in accordance with the working drawing.
- (c) The product is manufactured within specified tolerances.
- (d) Work methods and activities are in accordance with recognised procedures and safe working practices.

Evidence requirements

A completed cutting list manufactured in accordance with the working drawing, if required.

A completed artefact manufactured in accordance with the working drawing, working to tolerances of ± 1 mm for marking out and < 1 mm for joint gaps.

Observational evidence of adherence to safe working practices related to the tasks being undertaken.

National Unit Specification: support notes

UNIT Bench Skills 1 – Wood Flat-Frame Construction (Intermediate 2)

This part of the unit specification is offered as guidance. The support notes are not mandatory.

While the time allocated to this unit is at the discretion of the centre, the notional design length is 40 hours.

This unit provides candidates with the opportunity to acquire knowledge, understanding and skills in fundamental areas of practical woodworking. Candidates should be encouraged to be responsible, and to start making choices in the use of tools and materials. They should also be expected to learn the importance of safety and conduct themselves in a manner suitable for an industrial area.

GUIDANCE ON CONTENT AND CONTEXT FOR THIS UNIT

This unit is practical in nature and requires the candidate to develop skills in:

- reading and interpreting workshop drawings
- drawing up cutting lists
- using marking-out tools to mark out simple artefacts/joints
- using a range of woodworking tools to manufacture a flat-frame-type artefact
- adhering to safe working practices at all times

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Reading and interpreting workshop drawings

Through a variety of practical work, candidates should learn to interpret workshop drawings. Orthographic drawings should be used, and as the course/unit proceeds the complexity of the drawings should increase.

Using a range of marking-out and woodworking hand tools to manufacture a flat-frame-type artefact

Through a variety of practical work, candidates should use a range of common marking-out and woodworking hand tools. They should acquire knowledge of tool names and their component parts, as well as the ability to set and sharpen a plane iron and sharpen a chisel as and when it is required.

The candidate will make a range of woodworking joints, and it is recommended that this should be done as part of an artefact which reflects the purpose for which the candidate is taking the course.

Artefacts produced should require the identification and preparation of materials, setting out and making of a range of basic joints, and assembly procedures used in flat-frame joinery fabrications and structures. For the purposes of assessment, biscuit and comb (finger) joints are acceptable alternatives to dowels.

Typical products may be a mirror frame, tea tray or framed wall clock or larger products such as the top of a garden cold-frame, requiring larger sections of timber.

In all cases, candidates should be encouraged to use varied sections of materials and varying types of manufactured board. The value of this experience should not be underestimated.

National Unit Specification: support notes (cont)

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If outcomes have to be reassessed then it may be necessary to use ‘test pieces’ to develop the necessary skills.

The unit should culminate with the manufacture of a framed product from a working drawing. This will include the teaching and learning of the use, application and possible modification of working drawings; the practical use of cutting lists; setting out, using rods and templates; drawing in; selection and use of appropriate joints; and frame assembly, including squaring and cramping.

The framed product produced for Outcome 3 could be part of a bigger artefact which would incorporate skills from the other units in the course. An example of this framed product may be the door for a dartboard box or bathroom cabinet, with handles turned on the woodwork lathe, being fixed to a carcass construction. This would incorporate skills and knowledge from other areas of the course. Alternative artefacts could be used to provide the same experience but in a more vocational context, with setting-out skills being used over greater lengths and areas. An example of such an artefact that would use larger sections of timber is a coldframe with a hinged and glazed top, fixed to a carcass construction base, made from appropriate exterior materials.

At first glance, the complexity of the suggested integrated project above may seem unnecessary, but this approach could serve any or all of the following three purposes:

- as a rehearsal for the course assignment, during which the candidate is expected to work with a degree of independence
- as a means of reassessing certain performances from other areas of the course
- as a means of employing a holistic approach to assessment, whereby much of the evidence for the other two units of the course could be found in the artefact as it is described

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Whenever possible, the dynamic nature of this course should not be hindered by overburdening assessment of the candidate.

The candidate should be aware that certain performances (including safe working practice) are being monitored constantly and recorded on an observation checklist, and that finished artefacts will be tested against the stated criteria for accuracy and quality. Lengthy written tests are not required for tool, process or equipment recognition and use. A preferred technique would be to display the tools and equipment and ask the candidates to write or state their names and uses.

National Unit Specification: support notes (cont)

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Observational checklists

The checklists will be set against performance evidence and applied as the work proceeds.

An example of this might be:

OPERATION	TOLERANCES
Mark and plane to size	±1 mm*
Mark, saw and chisel	±1 mm*
Joints' gaps should not exceed:	1 mm*
Overall sizes	±3 mm

* These tolerances would depend upon the size and scale of the work.

Safety

Candidates should be aware of on-going monitoring and that failure to comply to safe working practices will result in unattained performance criteria, failed outcomes and ultimately failed units.

Approaches to generating evidence

Assessment evidence for this unit should be drawn from the manufacture of artefacts. In situations where candidates fail to achieve the required standard of performance in one area, this weakness can be targeted in the next part of the course, when the next artefact is manufactured.

In situations where the candidate fails to achieve the required standard of performance in more than one area, it may be necessary to provide tasks aimed specifically at the areas to be reassessed.

Some candidates may require additional support and help to ensure success in the manufacturing of the framed artefact. However, candidates must also be aware that the overall course assessment takes into account the amount of practical assistance given by the teacher/lecturer and that, at this level, ultimately independence is expected from the candidate.

A practical approach is recommended and candidates will produce a range of work, which should be retained for assessment and external sampling. The culmination of the unit is the manufacture of a flat-framed artefact, and generally the best joint should be considered for assessment.

SPECIAL NEEDS

This unit specification is intended to ensure that there are no artificial barriers to learning or assessment. Special needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering alternative outcomes for units. For information on these, please refer to the SQA document *Guidance on Special Assessment and Certification Arrangements for Candidates with Special Needs/Candidates whose First Language is not English* (SQA, 1998).