

National Unit Specification: general information

UNIT	Bench Skills 2 – Wood Carcase Construction (Intermediate 1)
NUMBER	D183 10
COURSE	Woodworking Skills (Intermediate 1)

SUMMARY

Applying practical skills and adopting safe working practices in selecting materials, making a range of joints and manufacturing a three-dimensional carcase component.

OUTCOMES

- 1 Select woodworking materials for specific purposes.
- 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.

CREDIT VALUE

1 credit at Intermediate 1.

Administrative Information

Superclass:	WK
Publication date:	December 1999
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National Unit Specification: general information (cont)

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CORE SKILLS

This unit gives automatic certification of the following:

Complete core skills for the unit	None
Core skills components for the unit	Planning and Organising Acc 3

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 2 – Wood Carcase Construction (Intermediate 1)

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

Select woodworking materials for specific purposes.

Performance criteria

- (a) Woodworking materials are identified correctly.
- (b) The selection of man-made and natural woodworking construction materials is appropriate for a given purpose.
- (c) The properties of woodworking materials are stated correctly.

Note on range for the outcome

Construction materials: limited range of hard and soft woods, hardboard, interior and exterior ply, chipboard.

Properties: structural, resistance to climatic conditions, working qualities.

Evidence requirements

Evidence that candidates can identify man-made and natural materials, suggest a suitable usage and give an indication of their properties in terms of structural strength and resistance to climatic conditions.

OUTCOME 2

Make a range of woodworking joints.

Performance criteria

- (a) Woodworking joints are marked out within specified tolerances.
- (b) Correct terminology is used when referring to tools and processes being used.
- (c) Woodworking joints are manufactured to within specified tolerances.

Note on range for the outcome

Woodworking joints: corner rebates, housing, dowelled, butt.

Evidence requirements

Practical work incorporating three of the joints named in the range statement, marked out within a tolerance of ± 3 mm and manufactured to a tolerance of ± 3 mm.

Written and/or oral evidence on terminology related to hand tools, and processes.

National Unit Specification: statement of standards (cont)

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OUTCOME 3

Manufacture a product from a working drawing.

Performance criteria

- (a) The material supplied is checked against the cutting list and confirmed as correct for quantity and size.
- (b) The product is marked out within specified tolerances.
- (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 artefact manufactured in accordance with the working drawing, working to tolerances of ± 3 mm for marking out and < 2 mm for joint gaps. A given cutting list showing check-off marks should also be produced.

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

National Unit Specification: support notes

UNIT Bench Skills 2 – Wood Carcase Construction (Intermediate 1)

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 and understanding of the properties and appropriate uses of materials. Candidates should be encouraged to be independent and to make choices in the use of natural and man-made board materials. They should also be expected to learn the importance of safety, and should 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 for carcase constructions
- selecting appropriate materials
- using basic marking-out tools to mark out artefacts/joints
- using a range of woodworking tools to manufacture a carcase-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, the candidates should learn to interpret workshop drawings. Skills developed in other areas of the course should be developed further, with assembly diagrams being used. Reading and interpretation of workshop drawings culminates in the more complex drawing required for the carcase artefact to be produced for Outcome 3.

Selecting appropriate materials

Candidates will learn the distinctive properties of a small range of hardwoods and softwoods and should also be able to select appropriate materials and sections, including man-made boards, to suit the manufacture of a range of products.

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

Through a variety of practical work, candidates should use a range of marking-out and woodworking hand tools. They should acquire knowledge of tool names and their component parts.

The candidate will make different woodworking joints; and it is recommended that this should be done as part of manufacturing artefacts which reflect the needs of the candidate. For the purposes of assessment, biscuit and comb (finger) joints are acceptable alternatives to dowels.

Artefacts produced should require the identification and preparation of materials, setting out and making of a range of basic joints, and simple assembly procedures used in carcase joinery fabrications and structures.

National Unit Specification: support notes (cont)

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Typical products may be a box stool, bathroom shelving or a bookcase; or artefacts, such as a garden coldframe, 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.

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 carcase 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; carcase assembly, including squaring and cramping.

The carcase 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 carcase product may be the casing for a dartboard box or bathroom cabinet, with a door manufactured for the flat-frame construction unit of the course, with handles turned on the woodwork lathe. This door would then be fixed to a carcase construction. This would incorporate skills and knowledge from other areas of the course. Alternative artefacts could be used that would 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 carcase construction base, made from appropriate exterior materials.

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
Plane to given sizes leaving surfaces even and flat	±2 mm*
Mark, saw and chisel	±3 mm*
Joints' gaps should not exceed:	2 mm*
Overall sizes	±5 mm

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

Safety

Assessment of knowledge and understanding with regard to terminology and safety should be carried out at appropriate stages, either to a whole group or to individual candidates at the same stage. Observational checklists monitoring safe working practice should be used. Candidates should be aware of this ongoing 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 able to 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 candidates fail 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 carcase artefact, but 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 a degree of independence is ultimately 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 carcase artefact and generally the best work should be considered for assessment.

Exemplars

Artefacts of box or carcase construction, such as: nursery toys; games; storage boxes for games, tools, instruments, household items; cabinets with or without drawers; built-in fitments such as small kitchen units; gauge boxes for cement or concrete; window boxes.

National Unit Specification: support notes (cont)

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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).