

National Unit Specification: general information

UNIT Working with Wood: Wooden Toys (Intermediate 1)

NUMBER D6DJ 10

COURSE

SUMMARY

This unit will be suitable for candidates having limited experience of working with woodworking hand tools and associated materials. The outcomes require the candidate to set out a workshop rod for a wooden toy, set out elementary woodworking joints, and use woodworking hand tools to manufacture a range of elementary woodworking joints and a wooden toy. Candidates who achieve this unit should feel confident in progressing to other units in working with wood to further develop their skills.

OUTCOMES

- 1 Set out a workshop rod for a wooden toy.
- 2 Make a range of woodworking joints.
- 3 Manufacture a wooden toy.

RECOMMENDED ENTRY

Candidates enrolling for this unit do not need any prior experience although it would be an advantage to have gained unit D6DE 10 Working with wood: An introduction.

CREDIT VALUE

1 Credit at Intermediate 1.

Administrative Information

Superclass: WK

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CORE SKILLS

Information on the automatic certification of any core skills in this unit is published in *Automatic Certification of Core Skills in National Qualifications* (SQA, 1999).

National Unit Specification: statement of standards

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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.

Note on range for the unit

The range statement for this unit is fully expressed within the performance criteria.

Current health and safety legislation must be complied with throughout.

OUTCOME 1

Set out a workshop rod for a wooden toy.

Performance criteria

- a) The material for the rod is checked for size and remedial action taken if needed.
- b) The rod is drawn in clearly with a pencil.
- c) Dimensions of all components are marked out accurately.
- d) The rod is marked to bear the identity of the candidate.
- e) An accurate cutting list is produced from the rod.

Evidence requirements

Please refer to *Evidence requirements for the unit* at the end of the Statement of Standards.

OUTCOME 2

Make a range of woodworking joints.

Performance criteria

- a) Sawn wood is converted to dressed wood within specified tolerances.
- b) Joints are set out correctly within specified tolerances.
- c) Joints are made within specified tolerances.
- d) Work methods and activities comply with current health and safety regulations.

Evidence requirements

Please refer to *Evidence requirements for the unit* at the end of the Statement of Standards.

National Unit Specification: statement of standards (cont)

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OUTCOME 3

Manufacture a wooden toy.

Performance criteria

- a) Sizes are transferred to components accurately from the workshop rod.
- b) Manufacturing processes are in accordance with recognised practice.
- c) The manufactured product is in accordance with the specification.
- d) Work methods and activities comply with current health and safety regulations.

Evidence requirements

Please refer to *Evidence requirements for the unit* at the end of the Statement of Standards.

EVIDENCE REQUIREMENTS FOR THE UNIT

Outcome 1

Evidence of actual performance is needed to show the candidate can, check the size of material for a workshop rod for suitability and take remedial action if needed, set out the rod using a pencil and setting out tools showing all components within 1mm of accuracy and mark on the rod the identity of the candidate.

Written or oral evidence is needed, assessed by closed book, to show the candidate can produce a cutting list from the rod stating the three dimensions of components in their sawn and dressed condition.

Outcome 2

Evidence of actual performance is needed to show the candidate can make, from sawn wood having minimum dimensions of 50mm x 25mm a mitre joint and either a stub mortise and tenon joint or a stopped housing joint, plus from dressed wood having minimum dimensions of 70mm x 15mm a dovetailed through corner joint with three pins held square with a hardboard gusset plate. Both components in each joint must have a minimum length of 100mm. All activities must be carried out in a safe and organised manner.

Outcome 3

Evidence of actual performance is needed to show the candidate can transfer sizes to components from a workshop rod and manufacture a wooden toy in a safe and organised manner. The product must include all of the following operations: measuring; setting out; planing; sawing; rebating; grooving; chamfering; chiselling; boring or drilling; screwing; nailing; cramping; assembling; sanding.

National Unit Specification: support notes

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

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

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

This unit is designed to introduce the candidate to basic skills in woodworking with a bias towards producing wooden toys. Throughout the unit the candidate should be guided to appreciate the need to consider, the manufacture of wooden toys in terms of their size, surface and edge finish of components and correct proportioning of joints. It is envisaged that the candidate will have limited experience in working with woodworking tools or materials. Whilst it is imperative that all activities are carried out in accordance with current relevant health and safety regulations it is intended that only a basic compliance is summatively assessed.

Corresponding to outcomes 1 to 3:

Outcome 1

Setting out a workshop rod from a given drawing for a wooden toy to enable the product to be manufactured. The rod is likely to be of paper, painted hardboard or thin plywood. A stock of this material may permit the candidate to select a suitable piece. The rod may be set out exactly the same as the given drawing or alternatively be modified to fulfil the candidates needs. A blank cutting list should be provided to enable the candidate to make entries of materials in both their sawn and dressed conditions.

Outcome 2

This outcome covers the manufacture of three joints commonly used in the manufacture of wooden toys. Emphasis should focus on the importance of working accurately and thereafter on, proper stance, posture and positioning of feet and hands in order to minimise the risk of accidents. The use of holding devices such as the woodworking bench vice and cramps should be fully utilised. A workshop drawing must be available for each joint.

Outcome 3

This outcome covers the manufacture of a wooden toy. Great care should be exercised to ensure surfaces and edges are worked to an appropriate finish particularly when considerable handling of the toy will take place. To meet the demands of this outcome it may be necessary to manufacture more than one product to ensure full coverage of the operations listed in the evidence requirements. Suggested toys are: trolley and blocks; draughts board; cribbage board; doll's house; garage; fort; cradle; sledge; go-cart; stilts; chalkboard; easel. A workshop drawing must be available for each toy.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Emphasis throughout this unit should focus on treating tools and equipment with great care and attention whilst working accurately in setting out and during tool applications. The tutor/trainer should fully explain how cutting tools lose their sharpness and therefore their efficiency. Recognised working practices should be fully explained and demonstrated prior to the candidate being exposed to the 'hands on' experience. These recognised working practices should include setting out with a sharp hard pencil when the use of pens should not be tolerated; marking in components in pairs; use of face and edge marks; material retention during tool application; use of

National Unit Specification: support notes (cont)

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workshop equipment; correct posture including the positioning of the feet and hands; maintaining a clean and tidy workspace; working in a safe and organised manner. Numerous projects should be developed when the candidate will be encouraged to select a project. This situation will provide an environment where direct learning will be experienced from within the candidate's own project and passive learning from projects being undertaken by others.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Centres may use the Instruments of Assessment which they consider to be the most appropriate. Examples are provided below:

Outcome 1

Practical Exercise and Structured Questions

The candidate will be provided with material suitable for setting out a workshop rod for the wooden toy to be manufactured in Outcome 3. Satisfactory performance in this outcome will be based on the candidate, ensuring the material is appropriate, setting out the rod with a pencil and setting out tools to show the size and position of all components with their joint details and proportions, clearly marking the rod to identify ownership and producing a cutting list.

A checklist will be developed to record the evidence.

Outcome 2

Practical Exercise

The candidate will be presented with the requisite materials and a working drawing for each joint to be made showing all required dimensions, joint construction and acceptable tolerances. Acceptable tolerances are shown in the specification:

SPECIFICATION

Converts sawn wood to dressed wood with hand plane to size within 3mm	-	E
Marks components of joint with face and edge marks in correct orientation	-	D
Draws in joint, with pencil, to sizes shown on workshop drawing within 1mm	-	E
Completes joints:		
Overall dimensions within 3mm	-	E
Joints to be securely fitted with no gaps exceeding 2mm	-	E
Square to within 3mm in 100mm for angle joints	-	D
Surfaces dressed without plane marks	-	D
Ends of components treated with small chamfer	-	D
No visible excess adhesive	-	D

Satisfactory performance in this outcome will be based on the candidate meeting the performance criteria, including gaining all essential items [E] plus at least three desirable items [D] in the above specification.

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A checklist will be developed to record the evidence.

Outcome 3

Practical Exercise

The candidate will be presented with the requisite materials and a workshop drawing showing all required dimensions, joint construction and acceptable tolerances. Wood will be machine dressed. Acceptable tolerances are shown in the specification

SPECIFICATION

Marks components of project with face and edge marks in correct orientation	-	D
Draws in project, with pencil, to sizes shown on the workshop rod within 1mm	-	E
Completes project to mirror workshop rod:		
Overall dimensions within 5mm	-	D
Joints to be securely fitted with no gaps exceeding 2mm	-	D
Square to within 5mm per 300mm run	-	D
Surfaces dressed without plane marks	-	D
No visible excess adhesive	-	D
Fulfils its design function	-	E

Satisfactory performance in this outcome will be based on the candidate meeting the performance criteria, including gaining both essential items [E] plus at least four desirable items [D] in the above specification.

A checklist will be developed to record the evidence.

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 special 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).