

WOODWORKING SKILLS
Intermediate 2

Second edition – published May 1999

**NOTE OF CHANGES TO ARRANGEMENTS
SECOND EDITION TO BE PUBLISHED ON CD-ROM MAY 1999**

COURSE TITLE: Woodworking Skills (Intermediate 2)

COURSE NUMBER: C035 11

National Course Specification

Course Details:	Core Skills	Amended text
	Rationale	Minor textual changes
	Assessment	Significant changes

National Unit Specification:

D182 11 Bench Skills 1: Wood – Flat Frame Construction

Core Skills:	Amended text
Outcome 1:	PC (d) deleted
Outcome 2:	Minor change to PC (b), PC (d) deleted, changes to evidence
Outcome 3:	Range deleted, changes to evidence
Support Notes:	Some changes

D183 11 Bench Skills 2: Wood – Carcase Construction

Outcomes:	Minor changes to titles
Core Skills:	Amended text
Outcome 1:	Small change to O title, small change to evidence
Outcome 2:	Small change to PC (a), PC (d) deleted, change to range and evidence
Outcome 3:	Small change to O title, range deleted, change to evidence
Support Notes:	Some changes

D184 11 Machining and Finishing – Wood

Outcomes:	Small change to O3 title
Core Skills:	Amended text
Outcome 1:	Small changes to PCs, change to range
Outcome 2:	Small changes to PCs
Outcome 3:	Small change to O title, PC (d) deleted.
Outcome 4:	PC (a) rewritten, small change to PC (c), change to range
Support Notes:	Some changes

National Course Specification

WOODWORKING (INTERMEDIATE 2)

COURSE NUMBER C035 11

COURSE STRUCTURE

This course has three mandatory units as follows:

<i>D182 11</i>	<i>Bench Skills 1 – Wood Flat-Frame Construction (Int 2)</i>	<i>1 credit (40 hours)</i>
<i>D183 11</i>	<i>Bench Skills 2 – Wood Carcase Construction (Int 2)</i>	<i>1 credit (40 hours)</i>
<i>D184 11</i>	<i>Machining and Finishing – Wood (Int 2)</i>	<i>1 credit (40 hours)</i>

In common with all courses, this course includes 40 hours over and above the 120 hours for the component units. This may be used for induction, extending the range of learning and teaching approaches, support, consolidation, integration of learning and preparation for external assessment. This time is an important element of the course and advice on its use is included in the course details.

The candidate will also undertake an assessment project within the 160 hours.

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 at Intermediate 1 level

CORE SKILLS

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

Administrative Information

Publication date: May 1999

Source: Scottish Qualifications Authority

Version: 02

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National Course Specification: course details

COURSE Woodworking Skills (Intermediate 2)

RATIONALE

Practical creativity exemplifies mankind's need to be able to control and utilise tools and materials. The sense of achievement that is experienced on the successful completion of a practical project is immense, and the value of this achievement to the development of the personal and social aspects of a candidate's education cannot be overstated. Practical creativity fosters qualities of self-esteem, technological confidence, self-discipline and maturity, all of which are essential attributes for candidates in post-16 education.

This course will contribute to the knowledge, understanding and practical experience of candidates whose aspirations and abilities are towards practical work, or who are considering a career in an industry which involves practical activity in any capacity. Candidates may wish to extend skills developed in Standard Grade Craft and Design. They may wish to progress to education or training in practical areas through studies and practice focused on practical aspects of such work.

Candidates who are pursuing studies in other fields, but who sampled the workshop environment in early secondary education, may wish to come back to gain experience and skills which may be useful and worthwhile in general education and adult life. Such candidates are also to be encouraged.

The course is of a practical nature, workshop-based and provides many skills which are appropriate to a wide range of applications. The course will develop skills in marking-out, cutting, shaping and finishing materials, as well as adjusting and maintaining a range of hand tools. Apart from giving an insight into industrial practice and standards, such studies help with the development of self-confidence, manual dexterity and control, perseverance, maturity and spatial awareness.

The technology framework provides for units and courses in Woodworking Skills and Engineering Craft Skills at Intermediate 2, Intermediate 1 and Access 3 levels. The Intermediate courses have similar learning outcomes, and differ mainly in their assessment requirements; hence it is possible to teach two levels within the same class.

These are intended for use in both schools and colleges.

Differentiation

Teachers and lecturers offering this Intermediate 2 course should be aware of the requirements of the Intermediate 1 course. These differences focus on:

- the degree of difficulty of practical tasks
- the quality of artefacts
- the accuracy achieved in producing functional aspects
- the range of tools and equipment used
- the degree of independence of working

National Course Specification: course details (cont)

COURSE Woodworking (Intermediate 2)

Course aims

This course:

- fosters practical skills in the creation of artefacts
- develops knowledge, understanding and skills of general aspects of practical woodworking activity
- encourages independence and the ability to make choices
- highlights the importance of safety and encourages responsible attitudes in the workshop environment
- contributes to personal development, in particular to practical capability

COURSE CONTENT

All of the course content will be subject to sampling in the external assessment. A brief description of the content of each of the three units which constitute the course is given below.

The course consists of three mandatory units, each of 40 hours, and an assessment project lasting approximately 20-30 hours.

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

Candidates will learn to use and maintain a range of common hand tools and be involved in setting out and making a range of basic joints which are commonly used in the production of flat-frame joinery fabrications and structures.

The candidate will use the skills and knowledge gained from the production of joints to manufacture a framed product from a working drawing.

The associated knowledge of tools, materials and processes is identified in the table below.

AREA OF STUDY	CONTENT
Marking out tools	Rule, square, tape measure, marking gauge, mortice gauge
Marking out equipment	Rods, templates
Bench tools	Tenon saw, firmer and mortice chisels, mallet, jack or smoothing plane
Other common hand tools	Cross-cut saw, rebate planes
Tool care and maintenance	Reporting faults, setting a plane, honing a chisel, honing a plane iron
Cramping tools	Sash cramps, G-cramps, string and blocks, squaring rods, winding sticks
Drawing interpretation	Dimensioned pictorial drawings, dimensioned orthographic drawings, cutting lists

National Course Specification: course details (cont)

COURSE Woodworking (Intermediate 2)

Adhesives	Interior, exterior
Jointing techniques	Through, stub and haunched mortice-and-tenon, bridle and halving joints
Materials	A variety of common woods and manufactured boards

Bench Skills 2 – Wood Carcase Construction (Int 2)

The candidates will learn how to set out and make a range of basic joints that could be used in a wide range of carcase joinery construction.

Candidates will manufacture a carcase or box product from a working drawing.

This should include further study of the use and application of working drawings and the activities and skills listed in the table below.

The basic joints used in flat-frame construction should form the basis for progression to those joint systems required for carcase construction. In practice, some carcasses may consist of manufactured board, or may be framed and panelled.

The associated knowledge of tools, materials and processes is identified in the table below.

AREA OF STUDY	CONTENT
Marking out tools	Rule, square, tape-measure, marking gauge, cutting gauge
Marking out equipment	Rods, templates
Bench tools	Tenon saw, chisels, mallet, router (hand), rebate planes, block planes, plough planes
Other common hand tools	Cross-cut saw, panel saw
Cramping tools	Sash cramps, G-cramps, squaring rods
Drawing interpretation	Dimensioned assembly pictorial drawings, dimensioned orthographic drawings
Adhesives	Interior, exterior
Jointing techniques	Corner rebates, through and stopped housing joints, joints, dowelling joints, nails, screws and fixings
Materials	Some hardwoods, softwoods, manufactured boards such as veneered chipboard and plywood

National Course Specification: course details (cont)

COURSE Woodworking Skills (Intermediate 2)

Machining and Finishing – Wood (Int 2)

Candidates will learn to set up and use a range of common machine and power tools in accordance with safe working practice.

Candidates will manufacture a machined component from a working drawing and will learn how to use various finishing techniques. This will include a range of surface preparations as listed in the table below.

The associated knowledge of tools, materials and processes is identified in the table below.

AREA OF STUDY	CONTENT
Materials	Some hardwoods; softwoods, manufactured boards such as blackboard, veneered chipboard and plywood
Knowledge and understanding of machine tools and their applications	Woodwork lathe (face-plate turning and between centres), belt and disc sander, morticing machine, pedestal drill, tool grinding (including heat effects)
Using machine tools	Woodwork lathe for either face-plate turning or between centres, belt and disc sander, pedestal drill and either the morticing machine or tool grinding (including heat effects)
Power tools	Portable hand-held drills, jigsaws, sanders, screwdrivers
Pre-use checks for power tools	Inspection of cables (where appropriate), tool holding, guards and dust-extraction facilities
Safety	Machine/power-tool setting up for use, safe working procedures, safety equipment, ventilation, security of cutters/work holding
Surface preparations	Planing, sanding, scraping, stopping and filling
Surface finishes	Varnishing; staining; undercoat and oil-paint finishes, application of wax finish when appropriate

Although surface preparation and finishing appears under this unit, teachers/lecturers may wish to integrate this aspect with other areas of the course.

ASSESSMENT

To gain the award of the course, the candidate must achieve all the component units as well as the external assessment. External assessment will provide the basis for grading attainment in the course award.

When the units are taken as component parts of a course, candidates will have the opportunity to demonstrate achievement beyond those required to attain each of the unit outcomes. This attainment may, where appropriate, be recorded and used to contribute towards course estimates and to provide evidence for appeals. Further information on the key principles of assessment are provided in the document *Assessment*, published in May 1996.

National Course Specification: course details (cont)

COURSE Woodworking Skills (Intermediate 2)

As this course is predominantly practical in nature, the majority of the features contained within the additional 40 hours must also be practical. Hence the course assessment is based entirely on a practical project. It is anticipated that this project will require between 20 and 30 hours and be tackled near the end of the course.

The project allows integration of the knowledge, understanding and skills gained in the units of the course. It is proposed that candidates will be able to select projects from a range approved by their teacher/lecturer. This range should be graded according to degree of difficulty so that each candidate tackles work at an appropriate level, ie to suit his/her performance in the units.

The project will be manufactured to a given working drawing. Candidates at this level will be expected to produce an outline plan of how the project is to be made. The role for the course project should be introduced at an early stage, to allow candidates to develop and integrate their course experiences towards their final assessment.

Candidates will not be assessed on their ability to design a product, though designing should be encouraged and developed as part of effective teaching and learning and motivation.

The integrative nature of the final project has several advantages. Depth of understanding can be consolidated and there are opportunities for additional, integrated or applied learning. The additional time allowed for project work encourages more complex artefacts to be manufactured, and hence provides an opportunity to achieve good-quality work and a useful product. In addition, the project is based on some earlier experience, so that candidates will be able to plan their work with confidence.

DETAILS OF THE INSTRUMENTS FOR EXTERNAL ASSESSMENT

External assessment will be based on the outcome of the project. An overall grade (A, B or C) will be determined by the assessment of each candidate's performance in producing a project. This assessment will be subject to external moderation. To gain the course award, the candidate must pass all three unit assessments, as well as the project assessment.

There are four aspects to be considered in determining the grade of award at Intermediate 2:

- 1 The range of working practices demonstrated.
- 2 The level of difficulty of the project.
- 3 The overall quality of the finished artefact.
- 4 The degree of independence and the amount of practical assistance required.

1 The range of working practices demonstrated

The range of working practices will extend from covering a limited number of processes to covering the majority of processes and skills from the units. These notional levels are explained within the assessment criteria.

National Course Specification: course details (cont)

COURSE Woodworking Skills (Intermediate 2)

2 *The level of difficulty of the project*

The projects will contain jointing, shaping and assembling tasks that may vary in degree of difficulty from simple and straightforward to complex and will reflect suitable limits for accurate working at this level. Tasks at this level may involve accommodating mouldings, rebates or interpenetrating joints into the jointing and shaping techniques being employed. Overall sizes and geometrical positioning will also feature in the assessment.

3 *The overall quality of the finished artefact*

This will be based on:

- quality of manufacture
- quality of finish
- functionality of the artefact

4 *The degree of independence and the amount of practical assistance required*

This will be summarised and reported on a checklist. It is anticipated that most candidates will require some guidance to proceed with a significant piece of work. Some practical assistance may be required with certain processes such as machine routing. These aspects should be recorded as being done by the teacher/lecturer and would not be considered in the assessment.

Suitable limits for accurate working have been stated in the unit specifications. These provide the notional levels for assessment of accuracy in the project, and should be recorded on an observational checklist.

Examples of the standards of accuracy required at Intermediate 1 and Intermediate 2 are:

OPERATION	TOLERANCE	
	Intermediate 1	Intermediate 2
Mark and plane to size	±2 mm	±1 mm
Mark out the component	±2 mm	±1 mm
Saw and chisel	±2 mm	±1 mm
Joints' gaps should not exceed:	2 mm	1 mm
Overall finish	Free from gross blemishes	Well-prepared surfaces finished to a high standard

These tolerances depend upon the size and scale of the work and are indicative of the typical standard expected. Candidates should be assessed on their best work and not penalised for earlier errors made.

National Course Specification: course details (cont)

COURSE Woodworking Skills (Intermediate 2)

GRADE DESCRIPTIONS

Grade C

For performance at Grade C, the candidate, with occasional guidance and showing due regard for safety procedures and practices, has produced work which demonstrates attainment of a fairly good standard of craftsmanship.

In this work there is evidence of:

- a few techniques with a good level of challenge being undertaken successfully
- most joints and overall sizes being within acceptable tolerances
- a fairly good level of care in construction and assembly
- occasional support in completing the project

Grade B

For performance at Grade B, the candidate, with little guidance and showing due regard for safety procedures and practices, has produced work which demonstrates attainment of a good standard of craftsmanship.

In this work there is evidence of:

- some techniques with a good level of challenge being fairly well executed
- most joints having no appreciable gap and overall sizes within tolerances
- a good level of care in construction and assembly
- little support in completing the project

Grade A

For performance at Grade A, the candidate, with minimal or no support in organisation and execution and with due regard for safety procedures and practices, has produced work which demonstrates attainment of a high standard of craftsmanship.

In this work there is evidence of:

- many techniques with high level of challenge being well executed
- almost all joints having no appreciable gap and overall sizes being well within tolerances
- a high level of care in construction and assembly
- minimal or no support in completing the project

National Course Specification: course details (cont)

COURSE Woodworking Skills (Intermediate 2)

APPROACHES TO LEARNING AND TEACHING

Where appropriate, arrangements should be made to ensure that there will be no artificial barriers to learning and assessment. The nature of a candidate's special needs should be taken into account when planning learning experiences and selecting assessment instruments. Alternative arrangements can be made as necessary.

Induction

The course will commence with some time from the additional 40 hours being spent on setting the scene for the course, including:

- a tour of the workshop facilities and equipment
- matters of general safety and expectations of acceptable conduct and attitudes in a workshop environment
- the structure of the course
- how the course relates to previous experiences
- an outline of the course content and the units
- the assessment requirements for the course
- advice for candidates on how to access knowledge for themselves
- progression available beyond successful completion

It is proposed that an induction project is undertaken to familiarise the candidates with the layout and accessing of the tools and equipment and to set the parameters within which the candidates will work. Appropriate videos to introduce safety aspects might also be useful.

As well as providing for general education, this course also has a specifically vocational nature and should include the appropriate terminology where possible. All candidates should be encouraged to know, use and understand the following terms:

Workshop rod	This is a flat strip of light timber or plywood or paper, on which all frame dimensions, height and width, including shoulder sizes, are marked out and squared across. These marks are subsequently transferred on to material in the drawing-in process
Setting out	Marking out of the outline of a structure on the ground or on a flat surface
Drawing in	Marking and squaring across of shoulders, etc on multiple structural members
Taking off	Lifting of sizes from a drawing or workshop rod
Setting a datum	Fixing a horizontal line round a perimeter of a building, room or structure to a predetermined level
Scribing	Fitting a structural member to an irregular surface, either vertically or horizontally.

National Course Specification: course details (cont)

COURSE Woodworking Skills (Intermediate 2)

The units have been designed so that they can be taught sequentially and thus build up the candidates' knowledge, craft skills and experience as they progress. Some time benefits may be gained by integration across units. For example, in Units 1 and 2, Outcomes 1 and 2 may be taught together, as some tools and joint systems appropriate to flat-frame construction may also be appropriate to carcass construction. The project will serve not only for assessment but will also provide the opportunity to integrate work across the course in a practical context.

Bench Skills 1 – Wood Flat-frame Construction (Int 2) should be regarded as the starting point of the course. The unit includes developing experience of reading and interpreting drawings, marking out, and manufacturing using common hand tools.

FURTHER ADVICE ON APPROACHES TO LEARNING AND TEACHING

Teaching the use of a range of common hand tools

This could include the component parts; setting and sharpening; care, maintenance and proper use of a range of joinery bench tools, such as planes, chisels, marking-out tools and of basic jigs and fixtures such as cramps and mitre boxes. This could be achieved by practical demonstration to the whole group or to individual candidates, for the purpose of additional learning.

It might also include the workshop, detailed identification of tools and equipment, their component parts and demonstration of their appropriate use.

Making a range of woodworking joints

This could include practical demonstration of the setting out and making of a range of joints which could be used in a wide range of flat-frame joinery.

Manufacturing a framed product from a working drawing

This could include the practical demonstration 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; frame assembly including squaring and cramping; and lining and plumbing.

Manufacturing a carcass construction from a working drawing

The basic joints used in flat-frame construction should form the basis for progression to those joint systems required for carcass construction. In practice, some carcasses may consist of manufactured board or be framed and panelled.

Teaching the names and appropriate uses of a range of hardwoods and softwoods, manufactured board, nails, screws and fixings could be tackled by demonstration and reference to display boards as and when appropriate.

Teaching the use of a range of common machine and power tools

The setting up and appropriate use of a range of machine tools such as the turning lathe, mortice machine, band and disc facer could be taught by practical demonstration as the work proceeds. This would apply to the use of common power tools, which should be in accordance with appropriate health-and-safety guidance and checks.

National Course Specification: course details (cont)

COURSE Woodworking Skills (Intermediate 2)

Finishing techniques will be taught by demonstration and carried out by candidates. The candidates should be encouraged to choose appropriate finishes for their frame or carcass constructions made in other areas of the course.

Due to health-and-safety regulations, it may be necessary for certain machining techniques to be taught by demonstration or by video.

PROJECT EXEMPLARS

In each teaching environment it would be appropriate for candidates to manufacture products which reflect the range of resources available and their educational needs but still motivate them and offer a vehicle to demonstrate tool, machine and finishing skills that they have learned.

These projects may include: cabinets, tables, garden furniture, turnery, tool-storage and work boxes, animal hutches and boxes with hinged doors or lids, nursery furniture, wooden toys, scenery fitments and props for school plays, scale-sized doors, windows, stair sections, arch centres, fitments such as kitchen units, composite projects comprising a number of frames contributing to a group exercise such as a trunking assembly, frames having regular geometric shapes, manufacture of moulding boxes for casting shapes.

SPECIAL NEEDS

This course 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).

SUBJECT GUIDES

A Subject Guide to accompany the Arrangements documents has been produced by the Higher Still Development Unit (HSDU) in partnership with the Scottish Consultative Council on the Curriculum (SCCC) and Scottish Further Education Unit (SFEU). The Guide provides further advice and information about:

- support materials for each course
- learning and teaching approaches in addition to the information provided in the Arrangements document
- assessment
- ensuring appropriate access for candidates with special educational needs

The Subject Guide is intended to support the information contained in the Arrangements document. The SQA Arrangements documents contain the standards against which candidates are assessed.

National Unit Specification: general information

UNIT	Bench Skills 1 – Wood Flat-Frame Construction (Int 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
Publication date:	May 1999
Source:	Scottish Qualifications Authority
Version:	02

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National Unit Specification: general information (cont)

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

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

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)

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

OUTCOME 3

Manufacture a product from a working drawing.

Performance criteria

- (a) 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.

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)

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

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)

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

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).

National Unit Specification: general information

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

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. 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
Publication date:	May 1999
Source:	Scottish Qualifications Authority
Version:	02

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National Unit Specification: general information (cont)

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

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

UNIT Bench Skills 2 – Wood Carcase 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

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

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

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

Evidence requirements

Written and/or oral evidence that candidates can identify manufactured and natural woodworking materials, suggest a suitable usage and give an indication of their properties in terms of structural strength, resistance to climatic conditions and working qualities.

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: butt joints, corner rebates, through and stopped housings.

Evidence requirements

Practical work incorporating joints as described in the range statement, marked out within a tolerance of ± 1 mm and manufactured to a tolerance of ± 1 mm.

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

National Unit Specification: statement of standards (cont)

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

OUTCOME 3

Manufacture a product from a working drawing.

Performance criteria

- (a) An accurate cutting list is drawn up from the working drawing provided and the materials supplied checked against it.
- (b) The product is marked out within specified tolerances.
- (c) The product is manufactured within specified tolerances.
- (d) The work methods and activities are in accordance with recognised procedures and safe working practices.

Evidence requirements

A completed cutting list in accordance with the working drawing.

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 2 – Wood Carcase 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 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 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
- drawing up cutting lists
- selecting appropriate materials
- using 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 and draw up cutting lists from these 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.

Use 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 candidates 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.

National Unit Specification: support notes (cont)

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

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

Typical products may be a box stool, bathroom shelving, 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 man-made and natural materials. 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 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.

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)

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

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.

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 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, 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 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 fittings such as small kitchen units; gauge boxes for cement or concrete; window boxes.

National Unit Specification: support notes (cont)

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

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).

National Unit Specification: general information

UNIT	Machining and Finishing – Wood (Intermediate 2)
NUMBER	D184 11
COURSE	Woodworking Skills (Intermediate 2)

SUMMARY

Applying practical skills and adopting safe working practices in the use of common machine and power tools for the manufacture of a finished machined product.

OUTCOMES

- 1 Use common machine tools.
- 2 Use common power tools.
- 3 Use finishing techniques on timber products.
- 4 With the aid of machine and power tools, 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
Publication date:	May 1999
Source:	Scottish Qualifications Authority
Version:	02

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National Unit Specification: general information (cont)

UNIT Machining and Finishing – Wood (Intermediate 2)

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

UNIT Machining and Finishing – Wood (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 common machine tools.

Performance criteria

- (a) Instruction on the preparation for use of fixed machinery is interpreted and implemented correctly.
- (b) Machining operations are carried out to specified tolerances in the correct sequence.
- (c) Work methods and activities are in accordance with recognised safety procedures.

Note on range for the outcome

Machine tools/operations: vertical drill, woodworking lathe (face-plate turning or between centres), belt and disc sander, morticing machine, bench grinder (grinding chisels).

Evidence requirements

Performance evidence of the candidate using the machine tools indicated in the range statement in an appropriate manner.

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

OUTCOME 2

Use common power tools.

Performance criteria

- (a) Instruction on the preparation for use of portable power tools is interpreted and implemented correctly.
- (b) Power-tool operations are carried out to specified tolerances in the correct sequence.
- (c) Work methods and activities are in accordance with recognised safety procedures.

Note on range for the outcome

Power tools: portable hand drills, jigsaws, sanders, power screwdrivers.

Evidence requirements

Performance evidence of the candidate using the power tools indicated in the range statement in an appropriate manner.

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

National Unit Specification: statement of standards (cont)

UNIT Machining and Finishing – Wood (Intermediate 2)

OUTCOME 3

Use finishing techniques on timber products.

Performance criteria

- (a) The preparation of surfaces is in accordance with the instructions given.
- (b) The preparation of finishing materials prior to application is in accordance with manufacturers' instructions.
- (c) The application of finishes is in accordance with instructions given.
- (d) Work methods and activities are in accordance with recognised safety procedures.

Note on range for the outcome

Surface preparations: planing; scraping, sanding; stopping and filling.

Surface finishes: varnishing; undercoat and finishing-coat oil-paint finishes.

Evidence requirements

Inspection of an artefact, manufactured from timber-based materials, which has been prepared and finished. The finish will be of good quality and will have been achieved by using a minimum of two coats of brush-applied finishing materials.

Performance evidence of the candidate carrying out the above task, using good working practice, to include appropriate ventilation, protective clothing and brush cleaning.

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

National Unit Specification: statement of standards (cont)

UNIT Machining and Finishing – Wood (Intermediate 2)

OUTCOME 4

With the aid of machine and power tools, manufacture a product from a working drawing.

Performance criteria

- (a) Correct terminology is employed with regard to the tools and processes being used.
- (b) The product is marked out prior to machining, in accordance with the working drawing.
- (c) The product is manufactured within specified tolerances.
- (d) Work methods and activities are in accordance with recognised safety procedures.

Note on range for the outcome

Manufactured product: an artefact of four or more components made from timber-based products.

Evidence requirements

Performance evidence that the candidate can manufacture and finish a product of four or more components that involves the use the woodworking lathe plus one other machine tool and two power tools from the following lists:

- 1 Machine tools: morticing machine, woodworking lathe (face-plate turning or between centres), pedestal drill, belt and disc sander.
- 2 Power tools: portable hand drills, jigsaws, sanders, power screwdrivers.

Performance evidence of appropriate preparation and finishing techniques being applied as described for Outcome 3.

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

National Unit Specification: support notes

UNIT Machining and Finishing – Wood (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 and understanding of the parts, setting up and appropriate uses of a range of fixed and portable machine tools. They will also be expected to adhere to important safety procedures associated with the use of fixed and hand-held machine tools, and conduct themselves in a manner suitable to an industrial area.

Candidates at this level should be encouraged to be independent, and to make choices in the use of the machine and power tools to be used.

GUIDANCE ON CONTENT AND CONTEXT FOR THE UNIT

This unit balances practical activity with knowledge and understanding that can be transferred to more complex machinery in industrial situations at a later date.

Through this practical activity, the candidate should develop a respect for codes of practice and develop a healthy attitude to safety regulations.

The candidate should develop skills in:

- using a variety of fixed and portable machine tools to manufacture a product
- preparing and finishing a timber product
- recognising the need for, and adhering to, safe working practices at all times

Candidates should be encouraged to draw up a sequence of operations.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

The major part of the teaching and learning in this unit is aimed at ensuring that systematic approaches and routine checks become an integral part of the candidates' approach to practical work. Drawing up a sequence of operations is part of this systematic approach, and candidates should follow their own work sequence, faithfully negotiating changes as and when necessary.

Using a variety of fixed and portable machine tools to manufacture a product

Candidates will learn the setting up and use of a range of fixed and portable machine tools, with due regard for safety procedures. They will also be able to select the correct machine tool from the range studied, to carry out a range of operations.

Candidates should become aware of the need for the sequencing of work both in machining operations and preparation and finishing of materials.

National Unit Specification: support notes (cont)

UNIT Machining and Finishing – Wood (Intermediate 2)

Routine checks should be evident at all times and systematic good working practice should be the norm rather than the exception.

Preparing and finishing a timber product

Candidates should develop a clear understanding of water-, oil- and spirit-based finishes available and the appropriate brush-cleaning methods for each type of finish.

Candidates will also learn the various stages in the preparation of surface finishes for wood, and the preparation and application of a range of surface finishes.

Recognising the need for, and adhering to, safe working practices at all times

Conforming to rules and regulations begins in the induction period and should permeate the whole of this course. Receptive attitudes to systematic approaches developed while using bench skills will make the adherence to safe working practices in this unit more achievable.

Each new activity should be presented with a code of practice, which should be firmly enforced.

Developing receptive attitudes to systematic approaches for good working practice can sometimes be an uphill struggle, and teachers and lecturers must be unstinting in their pursuit of achieving this goal.

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.

Observational checklists will be required to monitor routine inspections prior to use of both fixed and machine tools. The candidates should be observed checking for common errors in the setting up of fixed and machine tools prior to use on a regular basis.

The candidate will produce an artefact for Outcome 4, which should provide performance evidence as it is required for the unit.

National Unit Specification: support notes (cont)

UNIT Machining and Finishing – Wood (Intermediate 2)

An example of this might be as follows:

<i>Fixed machine tools</i>	
OPERATION	TOLERANCES
Turn between centres to a given diameter	±1 mm*
Drill to a given hole position using Pillar Drill	±1 mm*
Drill to a given hole depth using Pillar Drill	±1 mm*
Finish to a line using the Disc sander	±1 mm*
Grinding edge tool	reasonably keen edge
<i>Portable power tools</i>	
OPERATION	TOLERANCES
Drill to a given hole position using portable hand drill	±1 mm*
Jig Saw	±1 mm*
Portable machine sanding	virtually free from sanding damage
Screwdriving	virtually no damage or unsatisfactory torque

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

Assessment of knowledge and understanding with regard to terminology and safety requirements should be carried out at appropriate stages, either for a whole group or to individual candidates at the same stage.

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 another part of the course, when the next artefact is manufactured.

In situations where 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 manufactured product, 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 at this level ultimately independence is expected from the candidate.

National Unit Specification: support notes (cont)

UNIT Machining and Finishing – Wood (Intermediate 2)

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 manufactured product, and generally the best work should be considered for assessment.

Generally some evidence of machine and surface finishing work can be either incorporated into a flat-frame or a carcass construction undertaken in another part of the course. This is to aid relevance and to encourage motivation. It is proposed that evidence for Outcomes 3 and 4 would be best developed through an artefact requiring machining and finishing skills. An example of this could be a small winetable incorporating wood turning and surface preparation and finishing.

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).