

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

**Hanover House
24 Douglas Street
GLASGOW G2 7NQ**

NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number-	0085301	-Session-1988-89
-Superclass-	WK	
-Title-	CARPENTRY AND JOINERY: WORKSHOP PRACTICE 1 (x 1¹/₂)	
-DESCRIPTION-		
Purpose	This module is designed to introduce a student following a career in carpentry and joinery and receiving complementary industrial training to the knowledge and skills required for everyday use of handtools in the workshop.	
Preferred Entry Level	No formal entry requirements	
Learning Outcomes	The student should: <ol style="list-style-type: none">1. know the practical applications of a range of woodworking tools and equipment;2. know the practical applications of a range of timber joints;3. know the use of a range of ironmongery/hardware;4. demonstrate tool skills in the manufacture of timber joints and components.	
Content/ Context	Safety regulations and safe working practices and procedures should be observed at all times. The following should be read in conjunction with objectives set out in the New Training Initiative recommendations for Carpenters and Joiners.	

Corresponding to the Learning Outcomes 1-4:

1. Range of woodworking tools:
 - (a) saws: rip saw; cross cut saw; panel saw; tenon saw; dovetail saw; compass saw; pad saw; bow saw; coping saw.
 - (b) planes: smoothing plane; jack plane; try plane; block plane; bullnose plane; shoulder plane; rebate plane; bench rebate plane; side rebate plane; plough plane; compass plane; universal multi-plane; router; spokeshave.
 - (c) chisels: firmer chisels; bevel edge chisels; mortise chisels; gouges;
 - (d) boring and drilling tools: ratchet brace; wheel brace; auger bit; expansion bit; flat bit; forstner bit; screwdriver bit; twist drills;
 - (e) driving and fixing tools: claw hammer; warrington hammer; pin hammer; mallet; fixed screwdriver; ratchet screwdriver; pump screwdriver; rampin; bradawl; nail punch;
 - (f) setting out tools: four fold rule; retractable tape; try square; combination square; sliding bevel; marking knife; marking gauge; mortise gauge; scribing compasses; trammel.
 - (g) miscellaneous tools: cutting gauge; spirit level; cabinet scraper, sanding cork; files; rasps; replaceable blade knife; saw set; pincers;
 - (h) equipment: sash cramp; G cramp; veneer cramp; mitre cramp; band cramp; bench holdfast; joiners vice; joiners bench; saw stool; bench hook; mitre block; mitre box; square template; mitre template; dovetail template.
2. Range of timber joints:
 - (a) angle joints: tee halving; tee dovetailed halving; corner halving; cross halving; mitre; mortise and tenon; haunched mortise and tenon; bridle joint; square housing; stopped housing; corner housing; through dovetails; lapped dovetails; butt.
 - (b) widening joints: butt; tongued and grooved; slip feather; tongued, grooved and veed; slot screwed; doweled.
 - (c) lengthening joints: half lap scarfed; mitred scarfed; finger.

3. Range of ironmongery/hardware:
 - (a) nails: wire; oval brads; lost heads; cut nail; annular shank; panel pins; hardened steel nail; bayonet tacks.
 - (b) screws: countersunk; round head; raised head; coach screw; self tapping screw.
 - (c) bolts: coach bolt; handrail bolt.
 - (d) hinges: edge; back-flap; tee; hook and band; offset (easy clean); cranked butt.
 - (e) locks and latches: dead; rim; mortise; cylinder; padlock;
 - (f) fittings: slip bolts barrel; slip bolts flush; casement stay; casement fastener; hasp and staple; door furniture; letter plate.

4. Sawn timber supplied for the manufacture of joints and components.
 - (a) stance, posture and positioning of hands; measuring; marking; planing; sawing; gauging; rebating; grooving; chamfering; chiselling; boring; drilling; screwing; nailing; honing plane irons and chisels.
 - (b) joints: tee halving; tee dovetailed halving; cross-halving; mortise and tenon; haunched mortise and tenon; bridle; through dovetails; lapped dovetails.
 - (c) components: set out rod; frame constructed with housing joints; frame constructed with through haunched mortise and tenon joints.

Suggested
Learning and
Teaching
Approaches

This module should be partly undertaken in the classroom where a folio of information could be developed. The majority of time should be spent in a well equipped joinery workshop where the emphasis must be placed on the student acquiring knowledge and craft skills by the continual use of tools and equipment. It is intended that this module will be formative in directing the student in correct procedures and attitudes. The student should be encouraged to take pride in the quality of his/her productions.

Visual aids, AV material, handouts and demonstration by the lecturer are expected to provide the student with satisfactory learning experiences.

Dimensions of components could be renegotiated during formative assessment if the work when assembled would not meet the dimensional tolerance. The new negotiated dimension should be at least 20mm less than the original dimensions, thus necessitating the student to recut joints and or materials. It should be noted that renegotiated sizes must adhere to the minimum acceptable size specified.

Assessment Procedures

Acceptable performance in the module will be satisfactory achievement of the performance criteria specified for each Learning Outcome.

The following abbreviations are used below:

- LO Learning Outcome
- IA Instrument of Assessment
- PC Performance Criteria

LO1 KNOW THE PRACTICAL APPLICATIONS OF A RANGE OF WOODWORKING TOOLS AND EQUIPMENT

PC The student:

- (a) identifies a range of woodworking tools and equipment;
- (b) identifies the correct tools to be used for given practical tasks;
- (c) identifies the correct equipment to be used for given practical tasks.

IA Objective Test using a range of Short Answer and Completion Items

The student will be presented with questions which test the knowledge of the identification and practical applications of a range of woodworking tools and equipment.

The exercise will consist of 50 questions allocated as follows:

- (a) identification of tools and equipment - 30
- (b) practical applications - 20

Satisfactory achievement of the Learning Outcome will be demonstrated by the student producing 23 correct responses to (a) and 15 correct responses to (b).

LO2 KNOW THE PRACTICAL APPLICATIONS OF A RANGE OF TIMBER JOINTS

PC The student:

- (a) identifies a range of timber joints;
- (b) states the practical application of a range of timber joints.

IA Objective test using a range of Short Answer and Completion Item.

The student will be presented with questions which test the knowledge of the identification and practical application of a range of timber joints.

The test will consist of 20 questions allocated as follows:

- (a) identification of angle, widening and lengthening joints; 10
- (b) practical applications of angle, widening and lengthening joints. 10

Satisfactory achievement of the Learning Outcome will be demonstrated by the student producing 7 correct responses to each of (a) and (b).

LO3 KNOW THE USE OF A RANGE OF IRONMONGERY/HARDWARE

PC The student:

- (a) identifies a range of ironmongery/hardware;
- (b) identifies the application of a range of ironmongery/hardware.

IA Completion Items

The student will be presented with questions which test the knowledge of the identification and practical applications of a range of ironmongery/ hardware.

The test will consist of 20 questions allocated as follows:

- (a) identification of 10 ironmongery/hardware
- (b) practical applications 10

Satisfactory achievement of the Learning Outcome will be demonstrated by the student producing 7 correct responses to each of (a) and (b).

LO4 DEMONSTRATE TOOL SKILLS IN THE
MANUFACTURE OF TIMBER JOINTS AND
COMPONENTS

PC The student:

- (a) makes joints and components by hand from sawn material;
- (b) sets out and makes a range of joints within specified tolerances;
- (c) sets out rod for components;
- (d) makes components within specified tolerances;
- (e) observes local and statutory safety requirements.

IA Practical Exercise

The student will be presented with a series of workshop drawings of timber joints and components and be tested in the application of tool skills and safe working practices during and on completion of the manufacture of the joints and components.

The project will comprise:

1. all timber to be sawn and worked by hand;
2. 5 angle joints and 2 widening joints using minimum section sizes of 50mm x 25mm and 75mm x 15mm sawn respectively;
3. Components:
 - (a) prepare a rod for the project;
 - (b) make 2 frames/one using through haunched mortise and tenon joints to fit into the other frame made with housing joints;
 - (c) hang inner frame to outer frame;

Project Specification:

Minimum height 0.600m

Minimum width 0.400m

Minimum section sizes (sawn):

Outer Frame 75 x 25mm

Inner Frame 63 x 30mm

Edge Hinges 2No. 65mm

Satisfactory achievement of the Learning Outcome will be demonstrated by the student gaining for:

Section A: All 4 Essential Items (E) plus at least 2 Desirable Items for each of the 5 angle joints and all 4 Essential Items (E) plus at least 1 Desirable Item (D) for each of 2 widening joints.

Section B: All 8 Essential Items (E) plus at least 3 Desirable Items (D).

CHECKLIST

Section A

Complete 5 angle joints

Overall dimensions to ± 2 mm	E
No gaps exceeding 1mm	E
Observes local safety requirements	E
Observes statutory safety regulations	E
Square to ± 2 mm in 100mm	D
Out of wind less than 2mm in 100mm	D
Inside edges dressed	D
Faces dressed without plane marks (no glass paper to be used)	D

Complete 2 Widening joints

Overall dimensions to ± 2 mm	E
No gaps	E
Observes local safety requirements	E
Observes statutory safety regulations	E
Faces dressed without plane marks (no glass paper to be used)	D
Each member parallel to within 2mm	D

Section B

Components

Sets out rod with position, shape and dimensions of all components within 1mm	E
Overall height ± 2 mm	E

Overall width within 0 to -3mm	E
Diagonal difference less than 3mm	E
Out of wind (diagonal above plane) less than 10mm	E
Joints 75% no gaps exceeding 1mm	E
Inside edges dressed	D
Faces dressed without plane marks (no glass paper to be used)	D
Hinges correctly positioned	D
Screws fitting correctly	D
Screws not burred	D
Frame hung with 2mm gap \pm 1mm	D
Observes local safety requirements	E
Observes statutory safety regulations	E