Unit 30: Setting and Marking Out for Routine Bench Joinery Products

Unit code: K/503/4937

QCF Level: 2

Credit value: 10

Guided learning hours: 100

Unit aim and purpose

This unit should enable learners to set out joinery products to enable the marking out of routine joinery to be undertaken. The unit also seeks to develop an understanding of the importance of setting out so that the joinery operations are carried out efficiently and accurately.

Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes	Assessment criteria
1 Be able to produce cutting lists based on given drawings	1.1 calculate cutting list details from given product drawings to include manual handling 1.2 produce a cutting list in industrial formats for cutting to length sawn and wrot, common joints, profiled sections, sheet and board including numerical checks 1.3 describe the process of converting timber into carcass timber and joinery timber 1.4 describe the processes involved in cutting timber and sheet materials on a construction site to a given specification
2 Be able to set out routine joinery products	2.1 describe how to follow organisational procedures in setting out routine joinery products 2.2 select materials, tools and

	equipment appropriate to the task requested in a contractor specification 2.3 produce setting out details and cutting lists using measuring, marking and drawing for routine bench joinery products to contractor's working instructions, applying safe working practices 2.4 describe how to operate safely cutting and profile machinery under given factory conditions
3 Be able to mark out routine joinery products	3.1 describe how to follow organisational procedures in marking out routine joinery products under given factory conditions 3.2 requisition materials, tools and equipment appropriate to the task specified by contract information, in industrial formats 3.3 mark out, from setting out rods using measuring, marking out and drawing, routine bench joinery products, to contractor's working instructions, applying safe working practices 3.4 demonstrate safe handling and storage of finished joinery products 3.5 describe the cleaning down and safe shut down of machinery used 3.6 describe the waste disposal of recycled and hazardous waste products

Unit content

1 Be able to produce cutting lists based on given drawing

Current legislation: fixed and portable circular saws, profiling and jointing machinery; potential hazards; identification and reporting of hazards; methods of dust extraction; effects of types of timber and sheet material on cutting and profiling machinery; use and purpose of lubricant; methods of timber conversion; defects found in timber

Calculation: based on standard size, setting up mock ups and rigs; checks (cut timber, timber manufactured products and non-ferrous metal); straight, angled, on the bevel; acceptable waste; rectify timber defects; measurements off plans and site measurement

Properties of Materials: classification of timber as hardwood or softwood; identification of timber; cell structure; sources of timber; domestic and imported, forest stewardship council certified timber, conversion of timber into boards and planks, seasoning methods of timber; air seasoning and kiln seasoning; types of timber-based manufactured boards; identification of boards; varieties of boards; properties of timber and timber based boards; moisture content with regards to location, durability, weight, workability, ability to absorb preservatives and finishes, finishes; application of finishes; pressure and non pressure systems, types of finishes, durability and quality of finishes; properties of hardwoods (elm, beech, ash, oak, mahogany, maple); properties of softwoods (spruce, redwood, douglas fir); timber-based manufactured boards (chipboard, blockboard, lamin board, plywood – (varieties birch, marine) water boil proof (WBP), sheathing, shuttering – medium density fibreboard (MDF), hardboard, oriented strand board (OSB)); defects in timber and timber products (seasoning defects (bowing, springing, twist or winding, cupping, shaking, collapse, case hardening), natural defects (heart shakes, cup shakes, star shakes, knots, sap ducts, rot, pith, blue stain, worm infestation)); sizes of materials (standard sheet material, sawn sizes to British Standards, prepared timber, finished sizes)

2 Know how to set out routine joinery products

Types of information: site measurement; linear dimensions (tapes, instruments); water levels to determine changes in height; site datum; plans and scale drawings; job sheets; specifications; schedules; timber requirements; component drawings; manufacturer's catalogues; bench joinery; Building Regulations (staircase construction, construction details for doors, frames, linings, units, fitments and staircases, cutting lists, carpentry, site construction, details for studwork, floor joists, wall plates, reference points, datums)

Accuracy of information: comparison of site dimensions with plans, scale drawings, site notes, minutes of meetings, specifications, schedules, job sheets, component drawings, manufacturer's catalogues, work priority; associated work programme; workshop assembly programme; workshop assembly duration; finishing requirements; quality assessment; programme delivery dates; site fixing requirements; protection requirements; efficient use of materials to avoid wastage;

contractual consequences of delays in programme; contract implications for delays and non-performance; check dimensions of rods from available information

Tools for setting out: pencil; marking knife; try square; combination square; marking gauge; mortice gauge; sliding bevel; tape measure; folding rule; trammel cutting lists; scale rule; dividers; box square; cutting list; materials requisition forms

Joints for wood: uses; mortice and tenon; halving; edge; stopped housing; housing; lengthening; finger; bridle; scarf; dovetail; tongue and groove; birdsmouth; mitre; lap

Set out: checks of available information; cutting lists and job sheets; working to deadlines; impact and consequences of delays; organisation of work; doors; windows; units; staircases

Tools and equipment: use of tools for setting out and marking out of timber; errors in setting out (poor maintenance of tools, damaged tapes, rulers and other equipment); storage of hand tools for setting out and marking out of timber; cleaning tools; sharpening of tools; standardisation of measuring equipment; maintenance procedures for cutting and profiling machinery

3 Be able to mark out routine joinery products

Programme: work priority; associated work programme; assembly duration; finish requirements; delivery dates; site fixing requirements; efficient use of materials to avoid wastage; check dimensions from rods; check material specifications; contractual consequences of delays in programme

Marking out: check dimensions from rods against available information; cutting lists and job sheets; delays caused by insufficient or inaccurate information; mark out doors, windows, stair rise, fittings and handrails; mark out multiple jobs using cramps

Setting out rods: use of setting out rods; full size vertical and horizontal sections; views of curved work; information required for accurate setting out

Tools: pencil; marking knife; try square; combination square; marking gauge; mortice gauge; sliding bevel; tape measure; folding rule; trammel cutting lists; administration of marking out process

Marking out: information required from setting out rods; selecting of timber; face side and face edge; transfer of information from rod; use of tools; multiple marking out using cramps; mark out against test samples, example pieces of marking outdoors, windows, staircase, fittings and handrails; mark out multiple jobs using cramps

Information sources: plans; schedules; Building Regulations; job sheets; cutting lists; manufacturer's catalogues; specifications; site measurements