Unit Update • Use from January 2012 •

This version of this unit replaces all previously published versions with effect from January 2012. This unit should be used by all learners registering for qualifications that include it in their structure from this date.

Unit title:	**Producing wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery in the workplace**
Unit reference number:	H/600/8573
QCF level:	2
Credit value:	22
Guided learning hours:	73
Start date:	January 2012

Unit summary

The aim of this unit is to develop the skills, knowledge and understanding required to confirm competence in producing wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery in the workplace, within the relevant sector of industry.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and in accordance with:

– the Additional Requirements for Qualifications using the title NVQ in QCF

– the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment – Craft, Supervisory, Technical, Managerial and Professional Units and Qualifications with NVQ in the Qualification and Credit Framework (QCF) title and SVQs.

Assessors for this unit must use a combination of the following assessment methods:

– observation of normal work activities within the workplace that clearly confirms the required skills
– questioning the learner on knowledge criteria that clearly confirms the required understanding
– reviewing other forms of evidence that can clearly confirm industry required skills, knowledge and understanding.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of occupational expertise and knowledge of producing wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery to be effective and reliable when confirming a learner's competence.

Note: learning outcome 7 – contract information can relate to drawings, specifications, schedules, cuttings lists, manufacturer's information and oral instruction.

Workplace evidence of skills cannot be simulated.

This unit must be assessed against the following endorsements (one from list A or two from list B):

List A:

– high-speed router
– window centre.

List B:

– single-end tenoner
– double-end tenoner
– panel saw
– morticing machines
– lathe
– four-sided planer
– sanding machine
– boring machine
– shaping machine
– edge bander
– spindle moulder
– beam saw

Assessment recording

This unit is assessed in the workplace. The table on the following pages shows the learning outcomes and the assessment criteria for this unit. The table includes space for learners to enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centres can use their own documentation.

Learning outcomes and assessment criteria

Learning Outcome		Assessment Criterion		Evidence type	Portfolio reference	Date
1	Interpret the given information relating to the work and resources needed when producing wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery.	1.1	Interpret and extract information from drawings, specifications, schedules, cutting lists, risk assessments and manufacturers' information.			
		1.2	Comply with information and/or instructions derived from risk assessments and method statements.			
		1.3	State the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.			
		1.4	Describe different types of information, their source and how they are interpreted in relation to: – drawings, specifications, schedules, cutting lists, risk assessments, manufacturers' information and legislation governing wood machining.			
2	Know how to comply with relevant legislation and official guidance when producing wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery.	2.1	Describe their responsibilities under current legislation and official guidance whilst working: – in the workplace, with tools, tooling and equipment, with materials and substances, with movement of materials and by manual and mechanical lifting.			
		2.2	Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.			
		2.3	State what the accident reporting procedures are and who is responsible for making reports.			

Learning Outcome		Assessment Criterion		Evidence type	Portfolio reference	Date
3	Maintain safe working practices when producing wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery.	3.1	Use personal protective equipment (PPE) safely to carry out the activity in accordance with all current legislation and approved Codes of Practice when producing wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery.			
		3.2	Explain why and when personal protective equipment (PPE) should be used, relating to producing wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery, and the types, purpose and limitations of each type.			
		3.3	State how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries, accidents and other task-related hazards.			
4	Select the required quantity and quality of resources for the methods of work to produce wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery.	4.1	Describe the characteristics, quality, uses, limitations and defects associated with the resources in relation to: – CNC machinery – NC machinery – wood materials – wood-based materials – lubricants – hand tools and ancillary equipment.			
		4.2	Select resources associated with own work in relation to materials, components, tools, tooling and equipment and dimensional control aids as appropriate.			

Learning Outcome		Assessment Criterion		Evidence type	Portfolio reference	Date
		4.3	State how the resources should be used correctly, how problems associated with the resources are reported and how the organisational procedures are used.			
		4.4	Outline potential hazards associated with the resources and method of work.			
		4.5	Describe how to calculate quantity, length, area and wastage associated with the method/procedure to produce wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery.			
5	Minimise the risk of damage to the work and surrounding area when producing wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery.	5.1	Protect the work, equipment and its surrounding area from damage.			
		5.2	Minimise damage and maintain a clean work space.			
		5.3	Describe how to protect work and equipment from damage and the purpose of protection in relation to general workplace activities and other occupations.			
		5.4	Remove waste in accordance with legislation.			
		5.5	State why the removal of waste should be carried out in relation to the work.			

Learning Outcome		Assessment Criterion		Evidence type	Portfolio reference	Date
6	Complete the work within the allocated time when producing wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery.	6.1	Demonstrate completion of the work within the allocated time.			
		6.2	State the purpose of the work programme and explain why deadlines should be kept in relation to: – types of progress charts, estimated times and deadlines – organisational procedures for reporting circumstances which will affect the work programme.			
7	Comply with the given contract information to produce wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery to the required specification.	7.1	Demonstrate the following work skills when producing wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery: – measuring, marking out, adjusting, fitting, finishing, positioning and securing.			

Learning Outcome		Assessment Criterion		Evidence type	Portfolio reference	Date
		7.2	Prepare, set up, operate and maintain the following CNC/NC machines (one from list A or two from list B) to produce wood and wood-based products to given working instructions: List A: – high-speed router – window centre. List B: – single-end tenoner – double-end tenoner – panel saw – morticing machines – lathe – four-sided planer – sanding machine – boring machine – shaping machine – edge bander – spindle moulder – beam saw.			

Learning Outcome		Assessment Criterion		Evidence type	Portfolio reference	Date
		7.3	Set up and change appropriate tooling to meet the requirements.			
		7.4	Describe how to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them, to: – prepare and set up the CNC/NC machinery – operate the CNC/NC machinery – maintain the CNC/NC machinery – identify the compatibility of materials with machines – identify how damage to materials and machines can be avoided – identify the correct use of lubricants – identify the relevant dimensional control aids and their uses – identify and report defects and discrepancies in materials and machines – set up and change appropriate tooling – identify the types and suitability of tooling – identify the scope and limitations of the machine – select the appropriate machine for the work to be carried out – use hand tools, power tools and equipment.			

Learning Outcome		Assessment Criterion		Evidence type	Portfolio reference	Date
		7.5	Safely use and store hand tools and ancillary equipment.			
		7.6	State the needs of other occupations and how to effectively communicate within a team when producing wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery.			
		7.7	Describe how to maintain the tools and equipment used when producing wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)