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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

REGISTERED QUALIFICATION:

Occupational Certificate: Furniture Machine Operator

SAQA QUAL ID	QUALIFICATION TITLE			
121907	Occupational Certificate: Furniture Machine Operator			
ORIGINATOR				
Development Quality Partner - FPMSETA (MAN)				
PRIMARY OR DELEGATED QUALITY ASSURANCE FUNCTIONARY			NQF SUB-FRAMEWORK	
-			OQSF - Occupational Qualifications Sub-framework	
QUALIFICATION TYPE	FIELD	SUBFIELD		
Part-Qualification	Field 06 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	MINIMUM CREDITS	PRE-2009 NQF LEVEL	NQF LEVEL	QUAL CLASS
Undefined	54	Not Applicable	NQF Level 02	Regular-ELOAC
REGISTRATION STATUS		SAQA DECISION NUMBER	REGISTRATION START DATE	REGISTRATION END DATE
Registered		EXCO 1121/24	2024-01-30	2029-01-30
LAST DATE FOR ENROLMENT		LAST DATE FOR ACHIEVEMENT		
2030-01-30		2033-01-30		

In all of the tables in this document, both the pre-2009 NQF Level and the NQF Level is shown. In the text (purpose statements, qualification rules, etc), any references to NQF Levels are to the pre-2009 levels unless specifically stated otherwise.

This qualification does not replace any other qualification and is not replaced by any other qualification.

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The purpose of this qualification is to prepare a learner to operate as a furniture machine operator.

Furniture Machine Operators perform breakout, planing, sanding and laminating operations to produce components for wood products by operating cross-cut saws, rip saws, surface and thickness planers, panel saws, radial arm saws, band saws and edge and stroke sanders.

A learner will be able to perform breakout, planing, sanding and laminating operations to produce components for wood products by operating cross-cut saws, rip saws, surface and thickness planers, panel saws, radial arm saws, band saws and edge and stroke sanders.

Rationale:

A shortage of higher-skilled workers, rising production costs, and poor domestic demand are affecting the performance of local furniture manufacturers negatively. The cost of labour, electricity, raw materials and transportation continue to shrink operating margins and make it difficult for furniture manufacturers to compete in local and international markets. The industry is also negatively affected by declining investment in capital equipment, insufficient research and development, and inadequate design improvement or new product development. Imported furniture is often cheaper than what is manufactured locally, and furniture imports grew beyond R7bn during 2019 (according to the Furniture Industry Master Plan 2020). South African furniture manufacturers are also facing competition from Chinese furniture in their important export markets in Africa. With about 80% of the companies in the furniture manufacturing sector classified as small, medium and micro enterprises (SMMEs), these challenges impose significant pressure on a large component of players in the industry. There are no other similar part qualifications registered on the NQF.

The Furniture Industry Master Plan (FIMP) was established by the Department of Trade Industry and Competition (dtic) in partnership with the South African Furniture Initiative (SAFI) to set clear guidelines and targets for the furniture manufacturing industry, as well as guide public sector procurement as part of government's efforts to support and stimulate the industry. The furniture industry is one of the most labour-intensive industries, with a potential to contribute to the reduction of unemployment, development of small, medium and micro enterprises (SMMEs) and to increase exports. This identifies the importance of growing the furniture industry and signals the need for skilled and competent furniture makers in the furniture production process across the furniture manufacturing industry. Furthermore, it will benefit the manufacturing sector as well as the economy by reducing unemployment and improving entrepreneurial projects.

The Occupational Certificate: Furniture Machine Operator is designed to equip learners with skills, knowledge and understanding required to participate effectively in the furniture industry, whether in micro, small, medium or large operations. Learners may find employment as wood machinists. It is a part-qualification of the Intermediate Occupational Certificate: Crafted Furniture Machinist and thus provides for an intermediate exit point, where the learner has acquired a set of employable skills and could find employment or self-employment in the industry.

The competencies contained in this part-qualification are essential for social and economic transformation, empowerment and upliftment within the furniture manufacturing environment, whilst simultaneously improving the skills base of the furniture industry. This will enhance the international competitiveness of the furniture sector by means of improving productivity in the various furniture making departments and overall quality of products.

Four distinct learner target groups have been identified, namely school leavers wishing to enter the furniture-making industry, persons currently employed in the furniture industry who have no formal qualification in furniture making, persons currently employed in the furniture industry who want to advance their skills or unemployed persons.

No professional registration is needed for a Furniture Machine Operator to operate in the industry. Industry associations consulted include:

- Cape Furniture Manufacturers Association (CFMA).
- KwaZulu Natal Furniture Manufacturers Association (KNFMA).
- Allied Business Association (ABA).
- Garden Route Employer Association (GREA).
- Furniture Bedding and Upholstery Manufacturers Association (FBUMA).
- The National Union of Furniture & Allied Workers SA (NUFAWSA).
- The Chemical, Energy, Paper, Printing, Wood and Allied Workers' Union (CEPPWAWU).

RECOGNISE PREVIOUS LEARNING?

Y

QUALIFICATION RULES

This part-qualification is made up of compulsory Knowledge, Practical Skill and Work Experience Modules:

Knowledge Modules

- 682201-002-00-KM-01: Introduction to Furniture Manufacturing, Level 2, 2 Credits.
- 682201-002-00-KM-02: Wood Machining Department and Operations, Level 2, 8 Credits.
- 682201-002-00-KM-03: Computer Technology and Operations, Level 2, 4 Credits.

Total number of credits for Knowledge Modules: 14

Practical Skill Modules

- 682201-002-00-PM-01: Operate a Range of Machines in the Wood Machine Shop to cut Components for Furniture Manufacturing, Level 2, 20 Credits.

Total number of credits for Practical Skill Modules: 20

Work Experience Modules

- 682201-002-00-WM-01: Furniture Machining Operations, Level 2, 20 Credits.

Total number of credits for Work Experience Modules: 20

EXIT LEVEL OUTCOMES

1. Prepare for wood machining operations.
2. Apply techniques to cut wood or composite board to produce cut components.
3. Inspect the machined product, visually and by feel, checking against specifications and applying tolerances to ensure quality and accuracy.
4. Conclude machining operations.
5. Explain principles and procedures involved in basic machining processes in the bulk production of furniture.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcome 1:

ELO 1: Prepare for wood machining operations.

- Perform workstation preparation with attention to cleaning, layout, placements of tools, paperwork and attention to environmental conditions.
- Correctly interpret drawings, cutting lists, specifications, and other production information.
- Identify, categorise, and select typical wooden furniture products and accessories as per work instruction.
- Identify and select timber and board used in the manufacturing of wooden furniture as per work instruction.
- Identify, prepare, and set up and operate a range of machines, machine parts, machine attachments and tools in the furniture machine shop.
- Delicately handle, inspect, and store raw material (solid wood and boards) ensuring maintained quality.
- Accurately and correctly apply all measurements, calculations, and the application of appropriate formulae.

Associated Assessment Criteria for Exit Level Outcome 2:

ELO 2: Apply techniques to cut wood or composite board to produce cut components.

- Adhere to all safety measures related to the machine operation and work area ensuring compliance with regulations.
- Use helping aids such as push sticks, or a helping fence where appropriate to ensure personal safety.
- Adjust cutting tools and set to meet product specifications.
- Observe the direction of the grain of the wood during cutting to ensure the pattern of grain meets quality specifications.
- Operate various machines in the machining department in laminating, breakout, planing and sanding operations to produce timber components to specifications (cut, drilled, shaped, edged) in a safe and accurate manner.
- Operate pneumatic machines/tools and compressed air systems according to manufacturer's specifications.
- Perform break-out operation using a radial arm/cross-cut saw or a rip saw.
- Operate planing machines such as the surface planer or the thickness planer as per product specifications.
- Conduct sawing operations using a panel saw or a band saw as per product specifications.
- Perform sanding operations using machinery such as a stroke sander, drum sander and an edge sander.
- Produce profiled, shaped and cut components from timber or board according to specifications.

Associated Assessment Criteria for Exit Level Outcome 3:

ELO 3: Inspect the machined product, visually and by feel, checking against specifications and applying tolerances to ensure quality and accuracy.

- Identify component faults such as squareness of the component, incorrect size, knots causing rejects, smoothness and scratches, explain causes and take corrective action.
- Identify process faults such as blade marks, timber moisture content, burn marks, paint contaminated with water, over spraying, running, mixing of wrong paints, wrong viscosity, wrong reaction or inconsistencies in the cut product, explain causes and take corrective action.
- Identify machine faults such as blunt blade, wrong sanding grit, wrong nozzle, pressure that is too high or low and balance of air extraction, explain causes and take corrective action.

Associated Assessment Criteria for Exit Level Outcome 4:

ELO 4: Conclude machining operations.

- Perform routine cleaning, quality change cleaning and housekeeping in the machining process.
- Keep and tidy the workstations.
- Conduct maintenance procedures on sawing machines.
- Accurately record and report machining production information and prepare machining documentation.
- Handle materials and components safely and without damage.
- Clean and return equipment and tools to correct storage after use.

Associated Assessment Criteria for Exit Level Outcome 5:

ELO 5: Explain principles and procedures involved in basic machining processes in the bulk production of furniture.

- Identify wooden and board furniture types, styles and construction.
- Use correct terminology to describe furniture manufacturing principles and operations.
- Identify processes in manufacturing of furniture and discuss their purpose of each.
- Identify machines in the furniture making machine shop and explain their functions.
- Identify saw blade, cutter, timber and composite board technology and explain their functions.
- Identify adhesives and abrasives used in the machining department and explain their functions.
- Analyse quality control mechanisms in wood machining processes.
- Analyse ergonomics related to furniture manufacturing.
- Identify consumables and accessories used in furniture manufacturing.

Integrated Assessment

Integrated Formative Assessment

The Skills Development Providers will use the curriculum to guide them on the stipulated internal assessment criteria and weighting. They will also apply the scope of practical skills and applied knowledge as stipulated by the internal assessment criteria. This formative assessment leads to entrance into the integrated External Summative Assessment.

Integrated Summative Assessment

An External Integrated Summative Assessment, conducted through the relevant QCTO Assessment Quality Partner is required to issue this part-qualification. The External Integrated Summative Assessment will focus on the Exit Level Outcomes and Associated Assessment Criteria. Additional to the written assessment the learner must also submit a portfolio of evidence compiled of outcomes achieved in the workplace.

INTERNATIONAL COMPARABILITY

The Occupational Certificate: Furniture Machine Operator has been compared to similar qualifications offered in Australia and the United Kingdom. The countries used for this comparison have structured learning in place to achieve the qualification in the respective countries.

Australia

The Australian Certificate III in Furniture Making is offered by the Australian Cabinet and Furniture Association Ltd. This qualification includes the skills related to inter alia interpretation of drawings, use of specialised machines and occupational health and safety related aspects. It comprises of core units as well as elective units.

Core units (selected) include:

- Participate in environmentally sustainable work practices.
- Work safely.
- Communicate in the workplace.
- Work in a team.
- Use furniture making sector hand and power tools.
- Set up, operate and maintain basic static machines.
- Apply manufactured board conversion techniques.
- Make measurements and calculations.
- Read and interpret work documents.
- Handle dangerous goods/hazardous substances

Elective units relevant to the Occupational Certificate: Crafted Furniture Machinist include:

- Select timbers for furniture production.
- Prepare cutting list from plans and job specifications.
- Measure and draw site layout for manufactured furniture products.
- Set up, operate and maintain sawing machines.
- Set up, operate and maintain drilling machines.
- Set up, operate and maintain joining machines.
- Set up, operate and maintain planing and finishing machines.
- Set up, operate and maintain multi-head planing and moulding machines.
- Set up, operate and maintain routing and shaping machines.
- Set up, operate and maintain mechanical wood-turning lathes.
- Set up, operate and maintain automated edge banding machines.
- Set up, operate and maintain computer numerically controlled (CNC) sizing machines.
- Set up, operate and maintain computer numerically controlled (CNC) machining and processing centres.
- Produce and maintain cutting tools.
- Construct jigs and fixtures.

Similarities:

Both qualifications are at level 3. The content of the Occupational Certificate: Crafted Furniture Machinist encompasses all competencies listed above as core and elective units.

Differences:

The Australian qualification has no entry requirements and includes core and elective units, while the South African qualification specifies NQF Level 1 and comprises of compulsory modules only. The Occupational Certificate: Crafted Furniture Machinist includes compulsory work experience modules, which is not the case with the Certificate III in Furniture Making.

United Kingdom (UK)

The Level 3 Diploma in Wood Machining is offered by City & Guilds. Learning time is specified as a total of 840 total qualification time hours of which 417 hours are guided learning hours. Learners must achieve 60 Credits from the mandatory units.

Mandatory units include:

- Health and safety within furniture and furnishing making environments.
- Manufacturing wood-based components using powered tools.
- Manufacturing wood-based components using sanding machines.
- Sustainability in the timber trade.
- Environmental management and waste management in wood machining.
- Manage the production of wood-based components using machines.
- Manufacturing wood-based components using profiling machines.
- Workflow management in wood machining.

Similarities:

Both qualifications are at level 3. The content of the Occupational Certificate: Crafted Furniture Machinist encompasses all competencies listed above.

Differences:

The City & Guilds qualification has no entry requirements and includes core and elective units, while the South African qualification specifies NQF Level 1 and comprises of compulsory modules only. The Occupational Certificate: Crafted Furniture Machinist includes compulsory work experience modules, which is not the case with the City & Guilds qualification. In the case of the UK qualification, assessments are conducted by the training centre while the Occupational Certificate: Crafted Furniture Machinist includes and external assessment.

Conclusion

This South African part-qualification compares favourably with the competencies covered in international qualifications.

ARTICULATION OPTIONS

This part-qualification provides opportunities for the following articulation options.

Horizontal Articulation:

There are no horizontal articulation possibilities between other sub-frameworks as there are no registered qualifications available at the time when this qualification was recommended for registration.

- National Certificate: Vocational, NQF Level 2.

Vertical Articulation:

- Intermediate Occupational Certificate: Crafted Furniture Machinist, NQF Level 3.

Diagonal

- National Certificate: Vocational, NQF Level 2.

NOTES

Qualifying for External Assessment:

To qualify for an external assessment, learners must provide proof of completion of all required knowledge and practical modules by means of statements of results and a record of completed work experience.

Additional Legal or Physical Entry Requirements:

- None

Criteria for the accreditation of providers

Accreditation of providers will be done against the criteria as reflected in the relevant curriculum on the QCTO website.

The curriculum title and code is Furniture Machine Operator: 682201-002-00-01.

Encompassed Trade:

This qualification encompasses the following trades as recorded on the NLRD:

- None.

Assessment Quality Partner (AQP)

- Fibre Processing and Manufacturing SETA.

PARENT QUALIFICATION

- Intermediate Occupational Certificate: Crafted Furniture Machinist, NQF Level 3.

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION:

NONE

PROVIDERS CURRENTLY ACCREDITED TO OFFER THIS QUALIFICATION:

This information shows the current accreditations (i.e. those not past their accreditation end dates), and is the most complete record available to SAQA as of today. Some Primary or Delegated Quality Assurance Functionaries have a lag in their recording systems for provider accreditation, in turn leading to a lag in notifying SAQA of all the providers that they have accredited to offer qualifications and unit standards, as well as any extensions to accreditation end dates. The relevant Primary or Delegated Quality Assurance Functionary should be notified if a record appears to be missing from here.

NONE

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