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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

REGISTERED QUALIFICATION:

Intermediate Occupational Certificate: Crafted Furniture Machinist

SAQA QUAL ID	QUALIFICATION TITLE			
121890	Intermediate Occupational Certificate: Crafted Furniture Machinist			
ORIGINATOR				
Development Quality Partner-FPMSETA				
PRIMARY OR DELEGATED QUALITY ASSURANCE FUNCTIONARY			NQF SUB-FRAMEWORK	
-			OQSF - Occupational Qualifications Sub-framework	
QUALIFICATION TYPE	FIELD	SUBFIELD		
Intermediate Occupational Cert	Field 06 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	MINIMUM CREDITS	PRE-2009 NQF LEVEL	NQF LEVEL	QUAL CLASS
Undefined	135	Not Applicable	NQF Level 03	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 Crafted Furniture Machinist.

A Crafted Furniture Machinist produces bored, edged, profiled, turned and jointed timber, board or components for crafted furniture using advanced wood machines.

A qualified learner will be able to:

- Perform breakout, planning, 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, edge and stroke sanders.
- Perform joining, profiling, cutting of components using jigs, turning operations by operating spindles, overhead routers, mortise and tenon, multi borers and lathes.

Rationale:

The shortage of skilled workers, rising production costs, and poor domestic demand negatively affect the performance of local furniture manufacturers. The cost of labour, electricity, raw materials and transport 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 investments in capital equipment, insufficient research and development, and inadequate design improvement. Imported furniture is often cheaper than what is manufactured locally, and furniture imports grew beyond (R7 billion) 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 the largest section of the industry. This highlights

the need for this qualification; it could create opportunities for training and skilling current workforce as well as new entrants into the industry to make the industry more competitive and support the vision of the South African Furniture Industry for manufacturing locally and reducing the volume of imports. Industry engagements confirmed the dire need for employees who are skilled at trade level and who are able to create and test furniture prototypes throughout the furniture production process. There are no other similar qualifications on the NQF other than those to be replaced by this qualification.

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 Intermediate Occupational Certificate: Crafted Furniture Machinist is designed to equip learners with the 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 crafted furniture machinists or wood machinists. It includes a part qualification, namely the Elementary Occupational Certificate: Furniture Machine Operator which will provide for an intermediate exit point, where the learner has acquired a set of employable skills that could find them employment or self-employment in the industry. The competencies contained in this 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 Crafted Furniture Machinist 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 qualification is made up of compulsory Knowledge, Practical Skill and Work Experience Modules:

Knowledge Modules

- 682201-002-00-KM-01: Introduction to Furniture Manufacturing, NQF Level 2, 2 Credits.
- 682201-002-00-KM-02: Wood Machining Department and Operations, NQF Level 2, 8 Credits.
- 682201-002-00-KM-03: Crafted Wood Machine Operation and Safety in the Furniture Machining Department, NQF Level 3, 16 Credits.
- 682201-002-00-KM-04: Computer Technology and Operations, NQF Level 2, 4 Credits.
- 682201-002-00-KM-05: Leadership and Supervision, NQF Level 2, 3 Credits.

Total number of credits for Knowledge Modules: 33

Practical Skill Modules

- 682201-002-00-PM-01: Operate a Range of Machines in the Wood Machine Shop to Cut Components for Furniture Manufacturing, NQF Level 2, 20 Credits.
- 682201-002-00-PM-02: Operate Advanced Woodwork Machines in a Machining Department to Produce Bored, Edged, Profiled, Turned and Jointed Timber, Board or Components, NQF Level 2, 30 Credits.
- 682201-002-00-PM-03: Guide Teams in a Fair and Consistent Manner to Achieve Set Targets and Outputs, NQF Level 3, 2 Credits.

Total number of credits for Practical Skill Modules: 52

Work Experience Modules

- 682201-002-00-WM-01: Furniture Machining Operations, NQF Level 2, 20 Credits.
- 682201-002-00-WM-02: Crafted Furniture Machining Operations, NQF Level 3, 30 Credits.

Total number of credits for Work Experience Modules: 50

EXIT LEVEL OUTCOMES

1. Prepare for machining operations to produce cut components for crafted furniture.
2. Apply procedures and techniques for machining wood or composite board to produce cut components for crafted furniture according to product specifications.
3. Perform minor maintenance tasks for advanced woodwork machines to ensure serviceability of the machine.
4. Apply quality, productivity, health and safety in a work environment.
5. Explain the key principles involved in the manufacturing of crafted furniture and jointing, profiling, turning and cutting operations.
6. Perform breakout, planning, sanding and laminating operations to produce cut components for wood products.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcome 1:

ELO 1: Prepare for machining operations to produce cut components for crafted furniture.

- Produce engineering drawings conforming with product specifications.
- Check production information for accuracy and identify and report sufficiency and any incorrect information.
- Design, manufacture, repair and modify jigs and templates used in machining operations.
- Identify, handle delicately, inspect and store all necessary raw materials (hard wood, soft wood and boards) to maintain quality.
- Identify and prepare advanced machines, machine parts and attachments (tooling) used in the wood machining department according to product specifications.

Associated Assessment Criteria for Exit Level Outcome 2:

ELO 2: Apply procedures and techniques for machining wood or composite board to produce cut components for crafted furniture according to product specifications.

- Correctly set advanced machines, machine parts and attachments (tooling) used in the wood machining department and compliant with product specifications.
- Apply and maintain correct feed speeds according to equipment and material to ensure quality and optimum productivity.
- Appropriately select and apply dimension control aids such as jigs, templates, tape measures, verniers, callipers and squares.
- Operate a multi-borer to produce bored timber and board product components (different angles and different materials) while applying the correct routine and safety procedures.
- Operate an edge banding machine to produce edge banded components while applying the correct routine and safety procedures.
- Operate a spindle, moulder and overhead router to produce (wood and composite board) components with different profiles, moulds, rebates, grooves, chamfers, radiuses and bullnoses while applying the correct routine and safety procedures.
- Operate a wood turning machine (lathe and copy lathe) to produce turned components while applying the correct routine and safety procedures.
- Apply and maintain safety procedures throughout the operation.

Associated Assessment Criteria for Exit Level Outcome 3:

ELO 3: Perform minor maintenance tasks for advanced woodwork machines to ensure serviceability of the machine.

- Carry out lockout of the machine as required.
- Correctly apply and select correct tools, lubricants, oil, solvents and cleaning agents.
- Inspect and clean machines and minor maintenance tasks (such as lubrication, belt tension, etc.) are conducted to maintain serviceability of the machines.
- Inspect and clean tooling and equipment and minor maintenance tasks such as sharpening are conducted to maintain the good working order.
- Tag and report faulty and/or defective equipment in accordance with workplace practices.

Associated Assessment Criteria for Exit Level Outcome 4:

ELO 4: Apply quality, productivity, health and safety in a work environment.

- Confirm quality of raw materials such as correct composite, dimensions and compatibility with the machine prior to operation.
- Perform regular product quality checks to maintain accuracy according to customer requirements and corrective action is taken to address faults and defects.
- Adhere to tolerances during the machining operation.
- Inspect the furniture components ensuring fit, squareness, bonding, etc. confirming quality and meeting product specifications.
- Apply production requirements such as production rate, waste control and efficiency control to ensure productivity and that operations are completed within the time allocated.
- Accurately complete necessary documentation.
- Work practices minimise the risk of injury and damage to machinery, equipment and safety of self and others.
- Maintain the use of guards and relevant safety procedures and requirements throughout the operations.

Associated Assessment Criteria for Exit Level Outcome 5:

ELO 5: Explain the key principles involved in the manufacturing of crafted furniture and jointing, profiling, turning and cutting operations.

- Define terminology and abbreviations used in the furniture industry.
- Describe the construction of various types and styles of crafted furniture with reference to the components and machining operations required.

- Explain the mass production process of making crafted furniture from raw material to finished product with reference to the various departments and their contribution to the final product.
- Identify the main furniture construction principles and reason the impact on product quality.
- Argue the function and application of engineering drawings in the process of manufacturing of crafted furniture.
- Identify and justify key machining principles related to advanced jointing, profiling, turning and cutting operations and quality.

Associated Assessment Criteria for Exit Level Outcome 6:

ELO 6: Perform breakout, planning, sanding and laminating operations to produce cut components for wood products.

- Operate a range of machining machines such as cross-cut saws, rip saws, surface and thickness planers, panel saws, radial arm saws, band saws and edge and stroke sanders according to manufacturer specifications.
- Produce profiled, shaped and cut components from timber or board.
- according to specifications.
- Operate pneumatic machines/tools and compressed air systems according to manufacturer specifications.
- Delicately handle, inspect and store raw material (solid wood and boards) ensuring maintained quality.
- Apply health and safety measures to ensure compliance with regulations.
- Inspect machined products, visually and by feel, checking against specifications and applying tolerances to ensure quality and accuracy.

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 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 Intermediate Occupational Certificate: Crafted Furniture Machinist 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 qualification 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 qualification 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 an external assessment.

Conclusion

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

ARTICULATION OPTIONS

This qualification provides opportunities for horizontal, vertical and diagonal articulation options.

Horizontal Articulation:

- Occupational Certificate: Real Wood Floor Finisher, NQF Level 3.
- National Certificate: Vocational, NQF Level 3

Vertical Articulation:

- Occupational Certificate: Wood Processing Machine Operator, NQF Level 4.

Diagonal

- National Certificate: Vocational, NQF Level 4.

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: Crafted Furniture Machinist: 682201-002-00-00.

Encompassed Trade:

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

- None.

Assessment Quality Partner (AQP)

- Fibre Processing and Manufacturing SETA.

RELATED PART-QUALIFICATIONS:

- Occupational Certificate: Furniture Machine Operator, NQF Level 2.

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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