



	Curriculum Document			
Curriculum Code	Curriculum Title			
682201-002-00-01	Part Qualification: Furniture Machine Operator			
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Learner QDF Signature

Date

QDF Signature

Date

DQP Representative Signature

Date

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SECTION 1: CURRICULUM SUMMARY

1. Occupational Information

1.1 Associated Occupation

682201: Cabinet Maker

1.2 Occupation or Specialisation Addressed by this Curriculum

682201-002-00-01: Furniture Machine Operator

1.3 Alternative Titles used by Industry

- None

2. Curriculum Information

2.1 Curriculum Structure

This qualification is made up of the following compulsory Knowledge and Practical Skills Modules:

Knowledge Modules:

- 682201002-00-01-KM-01, Introduction to furniture manufacturing, NQF Level 2, Credits 2
- 682201002-00-01-KM-02, Wood machining department and operations, NQF Level 2, Credits 8
- 682201002-00-01-KM-03, Computer technology and operations, NQF Level 2, Credits 4

Total number of credits for Knowledge Modules: 14

Practical Skills Modules:

- 682201002-00-01-PM-01, Operate a range of machines in the wood machine shop to cut components for furniture manufacturing, NQF Level 2, Credits 20

Total number of credits for Practical Skills Modules: 20

This qualification also requires the following Work Experience Modules:

- 682201002-00-01-WM-01, Furniture machining operations, NQF Level 2, Credits 20

Total number of credits for Work Experience Modules: 20

2.2 Entry Requirements

NQF 1

3. Assessment Quality Partner Information

Name of body: Fibre Processing and Manufacturing SETA

Address of body: 1 Newton Avenue, Killarney, 2193

Contact person name: Ms Ansie Nagel

Contact person work telephone number: 0800007395

4. Part Qualification Curriculum Structure

None

SECTION 2: OCCUPATIONAL PROFILE

1. Occupational Purpose

A Furniture Machine Operator performs 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.

2. Occupational Tasks

- 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 (NQF Level 2)

3. Occupational Task Details

3.1. Perform breakout, planing, sanding, 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. (NQF Level 2)

Unique Product or Service:

- Cut components for wood products

Occupational Responsibilities:

- Operate a range of woodwork machines to produce components for wood products

Occupational Contexts:

- Machining department

SECTION 3: CURRICULUM COMPONENT SPECIFICATIONS

SECTION 3A: KNOWLEDGE MODULE SPECIFICATIONS

List of Knowledge Modules for which Specifications are included

Knowledge	682201-002-00-01-KM-01	Introduction to furniture manufacturing	2	2
Knowledge	682201-002-00-01-KM-02	Wood machining department and operations	2	8
Knowledge	682201-002-00-01-KM-03	Computer technology and operations	2	4

1. 682201002-00-01-KM-01, Introduction to furniture manufacturing, NQF Level 2, Credits 2

1.1 Purpose of the Knowledge Modules

The main focus of the learning in this knowledge module is to build an understanding of the manufacturing of furniture.

The learning will enable learners to demonstrate an understanding of:

- KM-01-KT01: Wooden and board furniture types, styles and construction (10%)
- KM-01-KT02: Timber technology (10%)
- KM-01-KT03: Composite board technology (10%)
- KM-01-KT04: Ergonomics related to furniture manufacturing (10%)
- KM-01-KT05: Processes in manufacturing of furniture (10%)
- KM-01-KT06: Productivity, quality and efficiency (10%)
- KM-01-KT07: Drawings for furniture manufacturing (10%)
- KM-01-KT08: Health and safety in the furniture machine/assembly/finishing department (10%)
- KM-01-KT09: Measuring and calculations (10%)
- KM-01-KT10: Compressor and compressed air (10%)

1.2 Guidelines for Topics

1.2.1. KM-01-KT01: Wooden and board furniture types, styles and construction (10%)

Topic elements to be covered include:

- KT0101 History of furniture
- KT0102 Styles and designs of furniture
- KT0103 Types, categories and uses of furniture
- KT0104 Antique and traditional furniture
- KT0105 Do-it-yourself (DIY) furniture
- KT0106 Furniture construction and components
- KT0107 Quality and customer requirements

Internal Assessment Criteria and Weight

- IAC0101 The history of furniture and furniture production is briefly outlined
- IAC0102 The styles and designs of furniture are listed and described along with the special considerations linked to each
- IAC0103 Antique and traditional furniture and furniture production are compared and contrasted
- IAC0104 Do-It-Yourself (DIY) furniture are discussed in terms of the considerations during their production
- IAC0105 The different types of furniture are described and matched to their uses
- IAC0106 The principles of furniture construction are outlined

- IAC0107 The functions of different components are listed
- IAC0108 The quality requirements for different types of furniture are outlined
- IAC0109 Customer requirements are identified and discussed

(Weight 10%)

1.2.2. KM-01-KT02: Timber technology (10%)

Topic elements to be covered include:

- KT0201 Origin of timber
- KT0202 Wood manufacturing principles
- KT0203 Types, properties and characteristics of timber
- KT0204 Structure of the timber
- KT0205 Drying processes
- KT0206 Timber products and uses
- KT0207 Timber used in construction and boat industry
- KT0208 Timber quality (faults and defects)
- KT0209 Related raw material used in the manufacturing of furniture

Internal Assessment Criteria and Weight

- IAC0201 The origin of different kinds of timber is listed
- IAC0202 The drying process is outlined and the reasons for each step in the process is clarified
- IAC0203 The effect of moisture in timber on timber products is explained to motivate the need for the drying process
- IAC0204 The different types of timber are listed along with their properties, characteristics and uses
- IAC0205 Timber structure is outlined along with the impact structure have on manufacturing
- IAC0206 The different products and uses of timber are described in order to ensure that timber is selected according to specification
- IAC0207 The specifications of timber used in the construction and boat industry are listed and explained
- IAC0208 Timber defects are listed and their impact on timber quality is explained

(Weight 10%)

1.2.3. KM-01-KT03: Composite board technology (10%)

Topic elements to be covered include:

- KT0301 Composite board manufacturing principles
- KT0302 Types and characteristics of boards

- KT0303 Composition of boards
- KT0304 Timber and board products and uses
- KT0305 Board used in construction and boat industry
- KT0306 Board quality (faults and defects)

Internal Assessment Criteria and Weight

- IAC0301 The manufacture of different kinds of boards is described
- IAC0302 The effect of moisture in board on board products is explained to motivate the need for proper storage
- IAC0303 The different types of boards are listed along with their properties, characteristics and uses
- IAC0304 Composite board structure is outlined along with the impact structure have on manufacturing
- IAC0305 The different products and uses of boards are described in order to ensure that composite boards are selected according to specification
- IAC0306 Board defects are listed and their impact on board quality is explained
- IAC0307 Manufacturing principles and best practices such as economical cutting of boards are explained

(Weight 10%)

1.2.4. KM-01-KT04: Ergonomics related to furniture manufacturing (10%)

Topic elements to be covered include:

- KT0401 Definition
- KT0402 Principles
- KT0403 Purpose
- KT0404 Standard measurements for furniture
- KT0405 Lifting and stacking
- KT0406 Moving materials and equipment

Internal Assessment Criteria and Weight

- IAC0401 Ergonomics is defined in terms of its applications and impact in furniture manufacture
- IAC0402 The principles and best practices of ergonomics in the industry is outlined
- IAC0403 The purpose of ergonomics is described in terms of the effect on the finished product and the production processes
- IAC0404 The need for standard sizes in furniture manufacture is motivated with reference to ergonomics
- IAC0405 Lifting and moving equipment are listed and their uses describe
- IAC0406 The lifting and moving equipment's impact on ergonomics during production is outlined

- IAC0407 Material storage (such as stacking) is described with reference to the different sizes, the use of spacers and the avoidance of damage
- IAC0408 The correct equipment is used based on the situation such as ladders of sufficient lengths for the heights involved
- IAC0409 The principles of ergonomics are applied to lifting to identify correct lifting procedures and minimizing the risk of injury to self

(Weight 10%)

1.2.5. KM-01-KT05: Processes in manufacturing of furniture (10%)

Topic elements to be covered include:

- KT0501 Process flow and productivity
- KT0502 Operations in the process flow
- KT0503 Routing sheets
- KT0504 Cutting lists
- KT0505 Product specifications
- KT0506 Finishing aids

Internal Assessment Criteria and Weight

- IAC0501 The process of furniture manufacture is briefly outlined
- IAC0502 The operations in furniture manufacture such as machining, assembling and finishing operations are reviewed
- IAC0503 The finishing processes of furniture is outlined
- IAC0504 The importance of productivity and methods to enhance productivity are discussed
- IAC0505 The role of the routing sheet is described
- IAC0506 Job card information such as component sizes and details, shoulder-to-shoulder size and chemicals to use is explained
- IAC0507 Product specifications are understood and their impact on the manufacturing process is discussed in terms of the process flow and methods that will be used

(Weight 10%)

1.2.6. KM-01-KT06: Productivity, quality and efficiency (10%)

Topic elements to be covered include:

- KT0601 Productivity
- KT0602 Interruptions
- KT0603 Waste management
- KT0604 Timber and board quality

- KT0605 Timber and board faults and defects
- KT0606 Product quality of the machining/assembling/finishing process and defects

Internal Assessment Criteria and Weight

- IAC0601 The importance of planning the job in avoiding delays is explained
- IAC0602 The importance of productivity is discussed
- IAC0603 The factors influencing productivity are outlined along with their impact on manufacturing processes
- IAC0604 The role of accurate cutting lists, specification sheets and routing sheets are described
- IAC0605 The importance of minimizing waste is discussed
- IAC0606 The need to reuse raw material (timber/board) and store reusable raw materials is motivated
- IAC0607 The role of planned interruptions is explained
- IAC0608 The procedures for dealing with unplanned interruption are outlined

(Weight 10%)

1.2.7. KM-01-KT07: Drawings for furniture manufacturing (10%)

Topic elements to be covered include:

- KT0701 Sketches and engineering drawings
- KT0702 Isometric views
- KT0703 Lines used
- KT0704 Hidden detail
- KT0705 Legends and symbols

Internal Assessment Criteria and Weight

- IAC0701 Sketches and engineering drawings are identified according to type and use
- IAC0702 Engineering drawings are correctly interpreted and the relevant actions and processes are identified
- IAC0703 Line structure and dimensions are correctly identified and their meanings described
- IAC0704 The interpretation is done methodically to ensure that all the important details are incorporated into the manufacturing process
- IAC0705 Work pieces to be used are identified based on the engineering drawing
- IAC0706 Hidden details are listed and the actions to be taken are outlined

(Weight 10%)

1.2.8. KM-01-KT08: Health and safety in the furniture machine/assembly/finishing department (10%)

Topic elements to be covered include:

- KT0801 BCOE Act
- KT0802 OHS Act
- KT0803 General hazards in the workshop
- KT0804 Fire extinguishers and uses
- KT0805 Evacuation plans and signage in the workshop
- KT0806 Demarcation lines
- KT0807 Safe working procedures in the various manufacturing operations
- KT0808 Machine safety
- KT0809 Personal safety
- KT0810 Hazards and incidents
- KT0811 Lock-out devices and procedures

Internal Assessment Criteria and Weight

- IAC0801 Routines are described in accordance with safety and work requirements
- IAC0802 Common and critical faults of equipment are listed and described to aid early identification and the proper channels for fault reporting are given
- IAC0803 The importance of keeping the work area free from hazards is explained
- IAC0804 Fire extinguishers and other methods of fire control are listed, their uses and applications outlined
- IAC0805 The importance of not tampering with fire extinguishers is clearly explained
- IAC0806 The evacuation plan is understood and memorized to ensure compliance in hazardous situations
- IAC0807 Signage in the workshop is described and the meanings are explained
- IAC0808 The different demarcation lines and their functions are described to ensure activities such as stacking is done in appropriate places
- IAC0809 Machine safety devices and their functions are given and the installation methods are outlined
- IAC0810 The safety checks for all machines used such as checking for blockages, testing emergency buttons and ensuring lock-out device availability are listed in order
- IAC0811 The personal protective equipment to be used in the workshop is described
- IAC0812 The protocol for incidents and injuries is described and the reporting channels for incidents and injuries are outlined

(Weight 10%)

1.2.9. KM-01-KT09: Measuring and calculations (10%)

Topic elements to be covered include:

- KT0901 Conversions
- KT0902 Taking accurate measures
- KT0903 Calculations
- KT0904 Angles
- KT0905 Tape Measure
- KT0906 Vernier calipers
- KT0907 Measuring cups
- KT0908 Viscosity cups

Internal Assessment Criteria and Weight

- IAC0901 Measuring equipment are identified and matched to their uses
- IAC0902 Correct measuring units are listed along with the scenarios in which they are used
- IAC0903 Conversions between units are demonstrated
- IAC0904 Angels are correctly identified, measured and calculated
- IAC0905 Measuring equipment are used accurately to get correct sizes and meet product specifications
- IAC0906 The considerations for using tape measures to ensure accuracy are listed
- IAC0907 The considerations for using Vernier calipers to ensure accuracy are listed
- IAC0908 The considerations for using measuring cups to ensure accuracy are listed
- IAC0909 The considerations for using viscosity cups to ensure accuracy are listed

(Weight 10%)

1.2.10. KM-01-KT10: Compressor and compressed air (10%)

Topic elements to be covered include:

- KT1001 Compressed air
- KT1002 Compressed air generation
- KT1003 Compressed air properties
- KT1004 Compressed air uses
- KT1005 Identify and solve problems
- KT1006 Hazards and risks
- KT1007 Pneumatic tools

Internal Assessment Criteria and Weight

- IAC1001 The concept of compressed air is described
- IAC1002 The process of compressed air generation is outlined
- IAC1003 Different compressors are identified and their advantages and disadvantages are outlined
- IAC1004 The properties of compressed air are listed and linked to the uses thereof
- IAC1005 Hazards arising from various air tools, including noise, vibration, fumes, hoses and connectors are explained
- IAC1006 The safety requirements and procedures of working with compressed air is outlined and linked to the hazards they are meant to address
- IAC1007 The standard operating procedures for pneumatic devices such as start-up and shut down procedures are outlined
- IAC1008 Common and critical faults of equipment are listed and described to aid early identification and the proper channels for fault reporting are given
- IAC1009 The importance of setting the correct pressure on all pneumatic tools and machines is explained
- IAC1010 The importance of draining water out of airlines is explained
- IAC1011 The proper colour coding for airlines is described

(Weight 10%)

1.3 Provider Programme Accreditation Criteria

Physical Requirements:

- The provider must have lesson plans and structured learning material or provide learners with access to structured learning material that addresses all the topics in all the knowledge modules.

Human Resource Requirements:

- Lecturer/learner ratio of 1:20.
- Qualifications of lecturers: 5 years' relevant experience or NQF 2 58227 with 2 years of experience

Legal Requirements:

- OHS compliant

1.4 Exemptions

- No exemptions, but the module can be achieved in full through a normal RPL process

2. 682201002-00-01-KM-02, Wood machining department and operations, NQF Level 2, Credits 8

2.1 Purpose of the Knowledge Modules

The main focus of the learning in this knowledge module is to build an understanding of the principles and procedures involved in basic machining processes in the bulk production of furniture.

The learning will enable learners to demonstrate an understanding of:

- KM-02-KT01: Machines in the furniture making machine shop (20%)
- KM-02-KT02: Saw blade technology (20%)
- KM-02-KT03: Cutter technology (20%)
- KM-02-KT04: Adhesives and abrasives used in the machining department (20%)
- KM-02-KT05: Quality control in wood machining processes (20%)

2.2 Guidelines for Topics

2.2.1. KM-02-KT01: Machines in the furniture making machine shop (20%)

Topic elements to be covered include:

- KT0101 Types and uses of machines
- KT0102 Machine calibrations and settings
- KT0103 Routine maintenance and cleaning
- KT0104 Safety mechanisms and warning signals
- KT0105 Lock out procedures and isolating machines
- KT0106 Operation and setting up of machine
- KT0107 Colour coding of the machine (orange, red, green)
- KT0108 Trouble shooting

Internal Assessment Criteria and Weight

- IAC0101 Different machines in the machines shop are identified according to their use
- IAC0102 Machine settings are described along with the procedures for achieving the correct settings
- IAC0103 The calibration procedures for machines are delineated
- IAC0104 Machine maintenance and cleaning procedures are described
- IAC0105 The importance of avoiding damage to cables, electrical wiring and parts is explained
- IAC0106 The role of extraction pipes and the fitment procedures are described
- IAC0107 Machine lubrication is described with attention given to the process of excessive oil and lubricant removal
- IAC0108 Lock-out devices for different machines are identified and their uses and roles are described

- IAC0109 Pre-start up checks such as belt or chain tension, proximity of lock-out devices, calibration and cutting tool fitted to the machine are listed
- IAC0110 Control panels are described with special attention to key settings and controls such as emergency light
- IAC0111 Colour coding of machinery in the industry is discussed
- IAC0112 Troubleshooting for common faults and problems of machines is described
- IAC0113 The role of noise in identifying machine faults is discussed in terms of the probable causes of the different noises and the corrective action necessary

(Weight 20%)

2.2.2. KM-02-KT02: Saw blade technology (20%)

Topic elements to be covered include:

- KT0201 Different blades
- KT0202 Blade characteristics
- KT0203 Uses
- KT0204 Band saw blade
- KT0205 Safety requirements
- KT0206 Quality requirements
- KT0207 Faults and defects

Internal Assessment Criteria and Weight

- IAC0201 The different kinds of blades are listed and described
- IAC0202 The characteristics of the different blades are discussed in terms of their uses in the manufacturing process
- IAC0203 The saw blades are matched to the machines and product specifications
- IAC0204 The requirements and considerations of band saw blades are explained
- IAC0205 The reasons for working with sharp, well-maintained blades are given
- IAC0206 Blade labels are identified and their meaning discussed
- IAC0207 Quality requirements of blades are described
- IAC0208 Common or critical faults or damage to the blade are listed and the effects on safety and production is described
- IAC0209 Safety procedures and regulations when working with saw blade technology are outlined
- IAC0210 The correct PPE is listed for working with saw blade technology

(Weight 20%)

2.2.3. KM-02-KT03: Cutter technology (20%)

Topic elements to be covered include:

- KT0301 Different types of cutters
- KT0302 Different cutting speed
- KT0303 Knives and solid cutters
- KT0304 Angle of the cutters
- KT0305 Cutter block
- KT0306 Quality requirements
- KT0307 Faults and defects
- KT0308 Safety requirements

Internal Assessment Criteria and Weight

- IAC0301 Different cutters are identified and described
- IAC0302 The characteristics of the different cutters are discussed in terms of their uses in the manufacturing process
- IAC0303 The requirements and considerations of cutters are explained
- IAC0304 The role and importance of the speed of the machine spindle is discussed in terms of cutter specification and material
- IAC0305 The reasons for working with sharp, well-maintained cutters and knives are given
- IAC0306 Quality requirements of cutters and knives are described
- IAC0307 Common or critical faults or damage to the cutter such as chips are listed and the effects on safety and production is described
- IAC0308 Safety procedures and regulations when working with cutter technology are outlined
- IAC0309 The correct PPE is listed for working with cutter technology

(Weight 20%)

2.2.4. KM-02-KT04: Adhesives and abrasives used in the machining department (20%)

Topic elements to be covered include:

- KT0401 Adhesives
- KT0402 Cold and hot adhesives and application methods
- KT0403 Solvents
- KT0404 Other chemicals
- KT0405 Hazards and risks associated with chemicals
- KT0406 Safe handling and storage of adhesives and solvents
- KT0407 Abrasives
- KT0408 Sand paper and grit sizes

Internal Assessment Criteria and Weight

- IAC0401 The properties of adhesives are outlined
- IAC0402 The characteristics of the different kinds of adhesives are listed and linked to their advantages and disadvantages
- IAC0403 Adhesive selection is explained in terms of product requirements
- IAC0404 Adhesive preparation is outlined and the impact of incorrect preparation on the quality of the adhesive is explained
- IAC0405 The application of hot and cold glue is delineated
- IAC0406 Material safety data sheet (MSDS) for the adhesive is explained
- IAC0407 The PPE to be used when working with adhesives is describe
- IAC0408 Hazards associated with adhesives are identified and the correct safety procedures are described
- IAC0409 The storage of adhesives is described
- IAC0410 The properties of abrasives are outlined
- IAC0411 The characteristics of the different kinds of abrasives are listed and linked to their advantages and disadvantages
- IAC0412 The selection of grit size and sand paper is explained in terms of product requirements
- IAC0413 Hazards associated with adhesives are identified and the correct safety procedures are described

(Weight 20%)

2.2.5. KM-02-KT05: Quality control in wood machining processes (20%)

Topic elements to be covered include:

- KT0501 Timber or board quality
- KT0502 Machine quality
- KT0503 Process quality
- KT0504 Faults and defects

Internal Assessment Criteria and Weight

- IAC0501 Timber defects are listed and their impact on timber quality is explained
- IAC0502 Board defects are listed and their impact on board quality is explained
- IAC0503 The grading and classification of timber quality is outlined
- IAC0504 The grading and classification of board quality is outlined
- IAC0505 The quality requirements for different types of furniture are outlined
- IAC0506 The quality requirements of different operations such as cutting and sawing are described and their identification discussed

- IAC0507 Sawing, cutting and other process faults are discussed in terms of their effect on the end product

(Weight 20%)

2.3 Provider Programme Accreditation Criteria

Physical Requirements:

- The provider must have lesson plans and structured learning material or provide learners with access to structured learning material that addresses all the topics in all the knowledge modules.

Human Resource Requirements:

- Lecturer/learner ratio of 1:20.
- Qualifications of lecturers: 5 years relevant experience or NQF 2 58227 with 2 years of experience

Legal Requirements:

- OHS compliant

2.4 Exemptions

- No exemptions, but the module can be achieved in full through a normal RPL process

3. 682201-002-00-01-KM-03, Computer technology and operations, NQF Level 2, Credits 4

3.1 Purpose of the Knowledge Modules

The main focus of the learning in this knowledge module is to provide the learner with an opportunity to acquire general knowledge and understanding of the functioning and purpose of information and computer technology and computer hardware units. The learning of this module will also enable the Learner to acquire an understanding of the principles of electronic communication and the operation and functioning of software packages, including the design of presentations and specialised computerised management information systems

The learning will enable learners to demonstrate an understanding of:

- KM-03-KT01 : Information, communication technology **5%**
- KM-03-KT02 : Computer hardware **10%**
- KM-03-KT03 : Electronic communication **10%**
- KM-03-KT04 : Software packages for office use **4%**
- KM-03-KT05 : Operating a software package **16%**
- KM-03-KT06 : Create text documents using an appropriate software package **16%**
- KM-03-KT07 : Create spreadsheets using an appropriate software package **16%**
- KM-03-KT08 : Presentations **12%**
- KM-03-KT09 : Specialised computerised management production systems **7%**

3.2 Guidelines for Topics

3.2.1. KM-03-KT01 : Information, communication technology **5%**

Topic elements to be covered include:

- KT0101 Computer technology
- KT0102 Communication technology
- KT0103 Access to information
- KT0104 Cell phones
- KT0105 Social media

Internal Assessment Criteria and Weight

- IAC0101 Information is accessed using internet browser and search engines
- IAC0102 The use of computer technology as a communication tool is demonstrated

(Weight 5%)

3.2.2. KM-03-KT02 : Computer hardware **10%**

Topic elements to be covered include:

- KT0201 Monitor
- KT0202 Keyboard
- KT0203 Mouse
- KT0204 Input and output devices
- KT0205 Memory stick and compact disks

Internal Assessment Criteria and Weight

- IAC0201 Computer hardware is identified and the purpose is stated

(Weight 10%)

3.2.3. KM-03-KT03 : Electronic communication 10%

Topic elements to be covered include:

- KT0301 Internet
- KT0302 Web sites
- KT0303 Internet service providers
- KT0304 Electronic mail
- KT0305 Internet forums and virtual meetings
- KT0306 Digital learning

Internal Assessment Criteria and Weight

- IAC0301 Electronic communication options are identified and the purposes are described and applied

(Weight 10%)

3.2.4. KM-03-KT04 : Software packages for office use 8%

Topic elements to be covered include:

- KT0401 Electronic text documents
- KT0402 Electronic spreadsheets
- KT0403 Internet access
- KT0404 Electronic written communication
- KT0405 Electronic meetings

- KT0406 Electronic seminars

Internal Assessment Criteria and Weight

- IAC0401 Software packages for office use are identified and the purposes are described and applied

(Weight 8%)

3.2.5. KM-03-KT05 : Operating a software package

16%

Topic elements to be covered include:

- KT0501 Create new folders
- KT0502 Move files
- KT0503 Copy files
- KT0504 Open files and folders
- KT0505 Create folders and files
- KT0506 Undo commands
- KT0507 Find files
- KT0508 Recycle bin

Internal Assessment Criteria and Weight

- IAC0501 Ways to systemise and optimise operations on a computer are identified and applied

(Weight 16%)

3.2.6. KM-03-KT06 : Create text documents using an appropriate software package

16%

Topic elements to be covered include:

- KT0601 Select text
- KT0602 Replace text
- KT0603 Insert text
- KT0604 Format text
- KT0605 Find and replace text
- KT0606 Align text
- KT0607 Use tabs
- KT0608 Move, cut and paste text

- KT0609 Format size and appearance of text
- KT0610 Create tables

Internal Assessment Criteria and Weight

- IAC0601 The use of software for creating texts (documents) are described and applied

(Weight 16%)

3.2.7. KM-03-KT07 : Create spreadsheets using an appropriate software package 16%

Topic elements to be covered include:

- KT0701 Create tables
- KT0702 Addition
- KT0703 Sum
- KT0704 Subtraction
- KT0705 Multiplication
- KT0706 Division
- KT0707 Change text colours
- KT0708 Add and delete columns and rows
- KT0709 Clear cells and worksheets
- KT0710 Move data
- KT0711 Copy data
- KT0712 Costing and pricing worksheets

Internal Assessment Criteria and Weight

- IAC0701 The use of software for creating spreadsheets are described and applied

(Weight 16%)

3.2.8. KM-03-KT08 : Presentations 12%

Topic elements to be covered include:

- KT0801 Layout and design
- KT0802 Shapes, smart art and charts
- KT0803 Text and text box
- KT0804 Illustrations and visuals

- KT0805 Smart texts
- KT0806 Transitions
- KT0807 Animation
- KT0808 Slide show

Internal Assessment Criteria and Weight

- IAC0801 The use of software for creating presentations are described and applied

(Weight 12%)

3.2.9. KM-03-KT09 : Specialised computerised management production systems 7%

Topic elements to be covered include:

- KT0901 Capturing production information into a production system

Internal Assessment Criteria and Weight

- IAC0901 Production information is captured onto the system and is accurate

(Weight 7%)

3.3 Provider Programme Accreditation Criteria

Physical Requirements:

- The provider must have lesson plans and structured learning material or provide learners with access to structured learning material that addresses all the topics in all the knowledge modules.

Human Resource Requirements:

- Lecturer/learner ratio of 1:20.
- Qualifications of lecturers: 5 years relevant experience or NQF 4 qualified in furniture or wood technology

Legal Requirements:

- OHS compliant

3.4 Exemptions

- No exemptions, but the module can be achieved in full through a normal RPL process

SECTION 3B: PRACTICAL SKILLS MODULE SPECIFICATIONS

List of Practical Skills Module Specifications

Practical Skills	682201-002-00-01-PM-01	Operate a range of machines in the wood machine shop to cut components for furniture manufacturing	2	20
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1. 682201002-00-01-PM-01, Operate a range of machines in the wood machine shop to cut components for furniture manufacturing, NQF Level 2, Credits 20

1.1 Purpose of the Practical Skill Modules

The focus of the learning in this module is on providing the learner an opportunity to instill the skills to prepare, set and operate a range of basic wood machines, equipment, power tools and hand tools in the furniture machining department to produce cut furniture components to specifications.

The learner will be required to:

- PM-01-PS01: Identify and categorize typical wooden furniture products and accessories
- PM-01-PS02: Identify timber and board used in the manufacturing of wooden furniture
- PM-01-PS03: Identify consumables and accessories used in furniture manufacturing
- PM-01-PS04: Identify a range of machines, machine parts, machine attachments and tools in the furniture machine shop
- PM-01-PS05: Apply safety measures related to the machine operation and work area
- PM-01-PS06: Prepare for machine operations
- PM-01-PS07: Operate various machines in the machining department in laminating, breakout, planing and sanding operations to produce timber components to specifications (cut, drill, shape, edge) in a safe and accurate manner
- PM-01-PS08: Produce profiled, shaped and cut components to specifications from timber or board
- PM-01-PS09: Inspect the physical product, visually and by feel, checking against specification and applying tolerances to ensure quality and accuracy
- PM-01-PS10: Operate pneumatic machines/tools and compressed air according to manufacturer specifications
- PM-01-PS11: Delicately handle, inspect and store raw material (solid wood and boards) ensuring maintained quality
- PM-01-PS12: Perform routine cleaning, quality change cleaning and housekeeping in the machining process
- PM-01-PS13: Conduct maintenance procedures on sawing machines
- PM-01-PS14: Record and report machining production information and prepare machining documentation

1.2 Guidelines for Practical Skills

1.2.1. PM-01-PS01: Identify and categorize typical wooden furniture products and accessories

Scope of Practical Skill

Given a range of samples or photos of different wooden furniture products and accessories, the learner must be able to:

- PA0101 Identify and categorise the product according to types, uses and styles
- PA0102 Identify and categorise the products according to the raw materials used in the manufacturing process
- PA0103 Identify and categorise the accessories according to the uses and furniture design

Applied Knowledge

- AK0101 Furniture types, uses, styles and designs

Internal Assessment Criteria

- IAC0101 Furniture products are accurately identified according to the various categories
- IAC0102 Accessories identified is relevant to the specified use in the furniture manufacturing process

1.2.2. PM-01-PS02: Identify timber and board used in the manufacturing of wooden furniture

Scope of Practical Skill

Given a range of different types of timber and boards (which could be samples or access to a timber store) the learner must be able to:

- PA0201 Identify types of solid wood (soft and hard wood)
- PA0202 Identify types of composite boards (supa wood, chip board, melamine, veneer board, ply board, hard board)
- PA0203 Inspect wood and boards for defects and defaults visually
- PA0204 Use a metal detector to inspect reclaimed wood
- PA0205 Use a moisture meter to determine the moisture content of the wood
- PA0206 Identify standard sizes according to the product to be manufactured in order to reduce waste
- PA0207 Handle and store raw material such as lifting or pallet jacks in a safe manner in order to prevent injury to self and damage to the material
- PA0208 Identify and interpret the labeling and coding system used to identify and trace raw material and products

Applied Knowledge

- AK0201 Timber and board characteristics and quality
- AK0202 Stacking requirements and techniques

Internal Assessment Criteria

- IAC0201 Timber and board is correctly identified in terms of type and size and matched to the product specifications
- IAC0202 Raw materials are checked for quality and defects to ensure high quality end products
- IAC0203 Machinery and tools are correctly used to check, handle and store raw materials

1.2.3. PM-01-PS03: Identify consumables and accessories used in furniture manufacturing

Scope of Practical Skill

Given a range of consumables, chemicals and accessories used in the cabinet making process the learner must be able to:

- PA0301 Identify consumables according to uses
- PA0302 Identify accessories match to specific uses and furniture styles
- PA0303 Inspect consumables and accessories for faults and defects
- PA0304 Handle and store chemicals according to safety requirements and to prolong product lifetime
- PA0305 Identify standard sizes
- PA0306 Handle and store consumables safely and according to requirements

Applied Knowledge

- AK0301 Types of consumables, accessories their use and characteristics

Internal Assessment Criteria

- IAC0301 Different types of consumables and accessories are identified and selected according to the job card specifications
- IAC0302 Consumables are handled and stored according to health and safety specifications
- IAC0303 Accessories are selected according to their design and characteristics.
- IAC0304 Correct tools are used when fitting accessories (hinges, runners, handles).

1.2.4. PM-01-PS04: Identify a range of machines, machine parts, machine attachments and tools in the furniture machine shop

Scope of Practical Skill

Given access to a range of machines used in the machine shop and tools the learner must be able to:

- PA0401 Identify the machines, parts, attachments and tools used in the break-out operation
- PA0402 Identify the machines, parts, attachments and tools used in the planing operation
- PA0403 Identify the machines, parts, attachments and tools used in the sanding operation
- PA0404 Identify the machines, parts, attachments and tools used in the laminating operation
- PA0405 Identify the safety mechanisms applicable to various machines
- PA0406 Identify the control systems for operating the machine
- PA0407 Identify and explain different colour coding used on the machines
- PA0408 Identify the pneumatic machines and the required pressures

Applied Knowledge

- AK0401 Machines in the wood workshop
- AK0402 Meaning of signals, switches, alarms, guides and gauges
- AK0403 Safety when using machines, equipment and tools

Internal Assessment Criteria

- IAC0401 The different machines operating in the machine shop are correctly identified along with their parts and their functions
- IAC0402 All switches, lights and signals on the panel board or control system are correctly identified and interpreted
- IAC0403 The safety mechanisms on the various machines in the machine shop is correctly identified in order to ensure they are functioning properly

1.2.5. PM-01-PS05: Apply safety measures related to the machine operation and work area

Scope of Practical Skill

Given access to a range of machines used in the machine shop and tools the learner must be able to:

- PA0501 Set up the machine to ensure that the work area will be safe and efficient
- PA0502 Use the correct PPC and PPE for the given situation and machine
- PA0503 Identify hazards and risks related to the operation and machine

Applied Knowledge

- AK0501 Understanding of safety notices, colour coding and demarcation lines
- AK0502 Personal protective equipment

Internal Assessment Criteria

- IAC0501 Different notices in the work area are identified and adhered to
- IAC0502 Work is performed within the demarcated area
- IAC0503 Work is performed without creating hazards for self and that of others and safety rules and practices are adhered to at all times

1.2.6. PM-01-PS06: Prepare for machine operations

Scope of Practical Skill

Given a cutting list/job card and sample, timber and access to various machines in the machining department the learner must be able to:

- PA0601 Read and understand the cutting list/job card and sample
- PA0602 Select the correct timber indicated on the cutting list/job card
- PA0603 Select knives, saws, blades, cutter heads, cams, bits, or belts, according to the workpiece, machine functions, or product specifications
- PA0604 Fit the correct tool to the machine or check if the correct tool and/or sanding belts are installed
- PA0605 Set machine speeds (rotation of the blade) according to the type of material
- PA0606 Conduct pre-start-up checks which includes listening to the sound of the machine, adjusting settings if necessary, running a test piece and making sure safety guards are in place
- PA0607 Conduct safety checks

- PA0608 Inspect the machine is operational
- PA0609 Inspect blade and cutting tools for sharpness and correct blade and belts
- PA0610 Replace the blade or belts after specific number of components are completed

Applied Knowledge

- AK0601 Different measuring equipment
- AK0602 Angles and degrees
- AK0603 Basic calculations

Internal Assessment Criteria

- IAC0601 Different measuring equipment are used to measure timber such as measuring tapes and vernier calipers
- IAC0602 The machine is set and ready for operation and all foreign objects are removed from the machine.
- IAC0603 The raw material is inspected for grain direction, type (board or solid) and defects
- IAC0604 Waste control is exercised while cutting material to eliminate fire hazards
- IAC0605 Basic calculations are applied in order to obtain the right number and size of components
- IAC0606 Machine problems are identified and minor problems are resolved while those outside operator control is reported via the correct communication channels

1.2.7. PM-01-PS07: Operate various machines in the machining department in laminating, breakout, planing and sanding operations to produce timber components to specifications (cut, drill, shape, edge) in a safe and accurate manner

Scope of Practical Skill

Given different types of machine in the workshop the learner must be able to:

- PA0701 Start the machine according to starting procedures
- PA0702 Feed workpieces to the machine
- PA0703 Use helping aids such as push sticks or a helping fence where appropriate to ensure personal safety
- PA0704 Adjusting the cutting tools to meet product specification
- PA0705 Observe the direction of the grains of the wood as cutting to ensure sure the pattern of grains is right
- PA0706 Check the concave and convex side of the wood when planing
- PA0707 Choose and use the correct laminating procedure
- PA0708 Perform the break-out operation using a radial arm/cross-cut saw or a rip saw
- PA0709 Use planing machines such as the surface planer or the thickness planer as per product specifications
- PA0710 Conduct sawing operations with a panel saw or a band saw as per product specifications

- PA0711 Perform sanding operations using machinery such as a stroke sander, drum sander and an edge sander
- PA0712 Observe the defects of timber such as knots and remove nails or foreign objects in the case of reclaimed timber
- PA0713 Replenish raw material as needed to ensure optimum production efficiency
- PA0714 Perform quality or style changes such as changing from solid wood to board or from soft wood to hard wood paying attention to settings such as speed and cleaning to prevent scratching
- PA0715 Optimise machine efficiencies and down-time, planned and unplanned interruptions such as breaks, power outages, running out of material, break-downs
- PA0716 Stop the machine at the end of use or in case of an emergency
- PA0717 Dispose/store off-cuts safely
- PA0718 Store and label components according to specifications and size
- PA0719 Check samples at set intervals (spot checks) for correctness and consistency of cut components

Applied Knowledge

- AK0701 Understanding of material and defects
- AK0702 Material handling

Internal Assessment Criteria

- IAC0701 Materials and material defects are identified according to their uses, applications and the tolerance standards to which they are subject in order to identify quality raw materials and reject non-conforming materials
- IAC0702 Cutting lists and routing sheets are interpreted in order to ensure components are correct
- IAC0703 Organisational reporting procedures are followed
- IAC0704 Materials are accurately sorted, handled and stacked safely and securely
- IAC0705 Personal protective equipment are selected and used correctly according to Health and Safety regulations and requirements

1.2.8. PM-01-PS08: Produce profiled, shaped and cut components to specifications from timber or board

Scope of Practical Skill

Given set of drawing, cutting list and the machines the learner must be able to:

- PA0801 Perform simple cuts using small pieces of wood, or straight cuts using the radial arm and rip saw cross cut
- PA0802 Produce complex cuts for curved, irregular shapes and deep cuts, long cuts, angle cuts, multi facet cuts and moulding machines
- PA0803 Operate machines and perform straight cuts, drilling, sanding, dowel drilling, dove tail cutting, Mortise and Tenon
- PA0804 Operate a lathe, multi cutter machines, routers, spindle moulders and sanders

- PA0805 Work with different timber such as boards, ply products, soft woods and hard woods.

Applied Knowledge

- AK0801 Chamfer, rebates, grooves, curves, straight cut, turning techniques

Internal Assessment Criteria

- IAC0801 Different profiles, shapes, rebates and grooves are cut according to specification
- IAC0802 Jigs and templates are used to produce components
- IAC0803 Correct machines are selected for the job and confirmed to be in good condition.
- IAC0804 Correct cutting tools are used to produce shapes and profiles.

1.2.9. PM-01-PS09: Inspect the physical product, visually and by feel, checking against specification and applying tolerances to ensure quality and accuracy

Scope of Practical Skill

Given a range of machined timber and boards with faults and defects and different types of paint the learner must be able to:

- PA0901 Inspect the machined product visually and by feel to ensure compliance with product specifications
- PA0902 Check the machined product against specification while applying tolerances
- PA0903 Identify component faults such as squareness of the component, incorrect size, knots causing rejects, smoothness and scratches
- PA0904 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
- PA0905 Identify machine faults such as blunt blade, wrong sanding grit, wrong nozzle, pressure that is too high or low, balance of air extraction

Applied Knowledge

- AK0901 Different types of faults
- AK0902 Paints and their characteristics

Internal Assessment Criteria

- IAC0901 Faults are rectified or rejects are identified
- IAC0902 Materials are handled and stacked safely and securely
- IAC0903 Finishing materials such as paint are categorised as spirit or oil based

1.2.10. PM-01-PS10: Operate pneumatic machines/tools and compressed air according to manufacturer specifications

Scope of Practical Skill

Given pneumatic machines connected to compressed air the learner must be able to:

- PA1001 Follow safety routines and procedures
- PA1002 Adjust pressure to the required gauge
- PA1003 Identify correct connections (fittings for pipes)
- PA1004 Ensure all settings are correct according to product specifications
- PA1005 Start and stop the machine using standard operating procedures
- PA1006 Run the machine to produce the desired components or effects
- PA1007 Conduct clean-up procedures as required

Applied Knowledge

- AK1001 Different of pressure bar requirement, adjusting pressure gauge.

Internal Assessment Criteria

- IAC1001 The pressure gauge is adjusted to the required pressure
- IAC1002 Water and oil is drained from the system
- IAC1003 Compressed air is used according to standard safety and operating procedures
- IAC1004 Hazards associated with compressed air are identified and rectified

1.2.11. PM-01-PS11: Delicately handle, inspect and store raw material (solid wood and boards) ensuring maintained quality

Scope of Practical Skill

Given range of different types of timber and boards (which could be samples or access to a timber store) the learner must be able to:

- PA1101 Inspect a range of raw materials to identify defects such as cracks, knots, twists, moisture content, insects, wet rot and dry rot, swelling of boards
- PA1102 Handle raw material avoiding damage to edges, chips and using trolleys to cart the raw material to the designated storage areas
- PA1103 Ensure raw material is not stored on the ground to avoid absorption of moisture
- PA1104 Store re-cuts in the designated areas to ensure availability for subsequent use

Applied Knowledge

- AK1101 Lifting and storage

Internal Assessment Criteria

- IAC1101 Faults are rectified or rejects are identified
- IAC1102 Materials are handled and stacked safely and securely
- IAC1103 Personal protective equipment are selected and used correctly according to Health and Safety regulations and requirements

1.2.12. PM-01-PS12: Perform routine cleaning, quality change cleaning and housekeeping in the machining process

Scope of Practical Skill

Given access to a range of machines used in the machine shop and tools the learner must be able to:

- PA1201 Conduct a general cleaning of the work area to ensure safety and efficiency
- PA1202 Clean the machine to remove dust and dirt from the machine
- PA1203 Perform dust extraction procedures using equipment such as cleaning bags and check that the machine is in working condition once the procedures are completed

Applied Knowledge

- AK1201 Reduction of waste, disposal of waste, different types of waste

Internal Assessment Criteria

- IAC1201 Different waste in the workshop is managed and disposed safely and according to company policies and regulation.
- IAC1202 Sawdust is removed regularly to avoid accumulation and the creation of fire hazards
- IAC1203 Waste is minimized during the operations on the machine and offcuts that can be reused are marked and stacked neatly.

1.2.13. PM-01-PS13: Conduct maintenance procedures on sawing machines

Scope of Practical Skill

Given different sawing machines the learner must be able to:

- PA1301 Inspect machine parts for wear and tear and serviceability such as check belts and oil levels
- PA1302 Change cutting tools and nozzles according to the product specifications
- PA1303 Attend to the lubrication of the machine
- PA1304 Drain water or oil manually

Applied Knowledge

- AK1301 Different spanners, blades and machine accessories

Internal Assessment Criteria

- IAC1301 Spanner sizes are identified and used accordingly
- IAC1302 The correct solvents and lubricants are used to clean and lubricate the machine
- IAC1303 Running direction of blades is observed and blades are replaced correctly
- IAC1304 Worn out belts are replaced

1.2.14. PM-01-PS14: Record and report machining production information and prepare machining documentation

Scope of Practical Skill

Given access to production log book, product specification and writing material, the learner must be able to:

- PA1401 Identify the type of information to be recorded in the production document.
- PA1402 Record legibly the hourly production, down time, quality faults, and production history and mother roll specs.
- PA1403 Record any production related problems experienced during the shift.
- PA1404 Hand over to incoming shift following the correct procedure

Applied Knowledge

- AK1401 Record keeping

Internal Assessment Criteria

- IAC1401 The relevant information during the production shift is recorded and reported via the correct reporting channels
- IAC1402 Production problems experienced during shift are recorded correctly, neatly and legibly

1.3 Provider Programme Accreditation Criteria

Physical Requirements:

- The provider must have a work site with all the machines, machine parts, attachments, equipment, control systems, lockout systems, tools, consumables, raw material, utensils, safety equipment, protective clothing, work instructions, internal practical assessment tools and practical training manual specified in the practical skill scope statement

Human Resource Requirements:

- Qualified and accredited facilitator or supervisor with a minimum of 3 years of experience in a furniture manufacturing environment and be NQF 3 qualified in furniture manufacturing processes.
- Supervisor/subordinate ratios = 1:20
- Availability of coaches and mentors = 1:5

Legal Requirements:

- Compliance with all occupational health and safety legislation
- Compliance with Skills Development Act and Regulations
- Compliance with Labour Legislation

1.4 Exemptions

- No exemptions, but the module can be achieved in full through a normal RPL process

SECTION 3C: WORK EXPERIENCE MODULE SPECIFICATIONS

List of Work Experience Module Specifications

Work Experience	682201-002-00-01-WM-01	Furniture machining operations	2	20
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1. 682201002-00-01-WM-01, Furniture machining operations, NQF Level 2, Credits 20

1.1 Purpose of the Work Experience Modules

The focus of the work experience is on providing the learner an opportunity to:

Produce cut timber components for the manufacturing of furniture using a range of basic machines, power tools, hand tools and equipment.

The learner will be required to:

- WM-01-WE01: Read and interpret work instructions and product specifications for machining operations
- WM-01-WE02: Prepare a workstation for machining operations
- WM-01-WE03: Perform breakout operations by operating a crosscut saw and rip saw using solid timber by cutting a minimum of 30 components of the required length and width according to the cutting list
- WM-01-WE04: Produce planed timber and board product components and products (planing straight timber, laminated timber) using surface planer and thickness planer for a minimum period of 3 weeks
- WM-01-WE05: Produce sawn timber and board product components and products (producing straight cuts, mitred cuts, grooves and half laps) for a minimum period of 5 weeks using panel saw and radial arm saw
- WM-01-WE06: Produce shaped timber and board product components and products (simple to more complex shapes) using the band saw for a period of 2 weeks
- WM-01-WE07: Produce machine sanded timber and board components and products (sanding solid timber, veneered boards and composite boards) for a minimum period of 2 weeks using edge sander, stroke sander and wide belt sander
- WM-01-WE08: Produce straight laminated timber and board components
- WM-01-WE09: Apply safety measures and equipment
- WM-01-WE10: Conduct general housekeeping activities to ensure the work area is clean and neat and complying with safety regulations
- WM-01-WE11: Ensure quality of the machined product by identifying machine faults
- WM-01-WE12: Ensure quality of the machined product by identifying raw material faults and handling and storing it correctly
- WM-01-WE13: Ensure quality of the machined product by identifying process faults
- WM-01-WE14: Conduct continuous quality inspection of the machined product throughout the machining operation
- WM-01-WE15: Perform maintenance activities to ensure a well maintained machine and workshop

1.2 Guidelines for Work Experiences

1.2.1. WM-01-WE01: Read and interpret work instructions and product specifications for machining operations

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA0101 Interpret a job card, cutting list, production flow/routing chart and identify all job requirements and specifications including machines and operations as well as jigs and templates for specific tasks
- WA0102 Read and interpret basic engineering drawings and identify all aspects relevant to the work specifications

Supporting Evidence

- SE0101 Signed job card

1.2.2. WM-01-WE02: Prepare a workstation for machining operations

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA0201 Obtain all required timber and conduct quality checks to ensure the timber quality conforms to specifications
- WA0202 Conduct prestart checks on all machines, equipment and attachments ensuring it complies with safety and working specifications and are in good working order (Inspect that the machine is operational, inspect blade for sharpness and correct blade and v-belts, etc.)
- WA0203 Select and apply personal protective clothing and equipment (PPE and PPC) for the specific machine
- WA0204 Identify and report substandard raw material, machines or PPE

Supporting Evidence

- SE0201 Prestart check list

1.2.3. WM-01-WE03: Perform breakout operations by operating a crosscut saw and rip saw using solid timber by cutting a minimum of 30 components of the required length and width according to the cutting list

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA0301 Conduct the appropriate setting up procedure of the crosscut saw and rip saw according to the product specifications on the work instruction
- WA0302 Conduct safety checks on the machines, equipment and workstation to ensure compliance with safety requirements
- WA0303 Observe the direction of the grain of the timber before feeding into the saw
- WA0304 Check cut components at set intervals (do spot checks) for correctness and consistency of cut and grain direction
- WA0305 Use measuring equipment to check that the length or width correspond to cutting list
- WA0306 Label or group components on pallets according to the workplace procedures
- WA0307 Identify, mark and report substandard raw material and components

- WA0308 Dispose of off-cuts safely and store re-useable off-cuts according to sizes and type of timber

Supporting Evidence

- SE0301 Completed job card signed by supervisor to confirm work completed

1.2.4. WM-01-WE04: Produced planed timber and board product components and products (planing straight timber, laminated timber) using surface planer and thickness planer for a minimum period of 3 weeks

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA0401 Conduct the appropriate setting up procedure of the surface planer and thickness planer according to the product specifications on the work instruction
- WA0402 Conduct safety checks on the machines, equipment and workstation to ensure compliance with safety requirements
- WA0403 Operate the surface planer and thickness planer complying with safety standards
- WA0404 Use vernier calliper to verify if the timber is according to specified width and thickness
- WA0405 Label or group components on pallets according to the workplace procedures
- WA0406 Identify, mark and report substandard raw material and components

Supporting Evidence

- SE0401 Completed job card signed by the supervisor to confirm work completed to company standards

1.2.5. WM-01-WE05: Produce sawn timber and board product components and products (producing straight cuts, mitred cuts grooves and half laps) for a minimum period of 5 week using panel saw and radial arm saw

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA0501 Conduct the appropriate setting up procedure of the surface planer and thickness planer according to the product specifications on the work instruction
- WA0502 Conduct safety checks on the machines, equipment and workstation to ensure compliance with safety requirements
- WA0503 Operate a panel saw and radial arm saw to get the required length, and angles that are required.
- WA0504 Check cut components at set intervals (do spot checks) for correctness and consistency of length and angles
- WA0505 Label or group components on pallets according to the workplace procedures
- WA0506 Identify, mark and report substandard raw material and components

Supporting Evidence

- SE0501 Completed job card signed by the supervisor to confirm work completed to company standards

1.2.6. WM-01-WE06: Produce shaped timber and board product components and products (simple to more complex shapes) using the band saw for a period of 2 weeks

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA0601 Conduct the appropriate setting up of the band saw
- WA0602 Conduct safety checks
- WA0603 Confirm if the blade is size and thickness is relevant to the work to be produced
- WA0604 Operate band saw safely and produce required shape and size.
- WA0605 Label components according to work procedures
- WA0606 Identify, mark and report substandard raw material and components.

Supporting Evidence

- SE0601 Completed job card signed by the supervisor to confirm work completed to company standards

1.2.7. WM-01-WE07: Produce machine sanded timber and board components and products (sanding solid timber, veneered boards and composite boards) for a minimum period of 2 week using edge sander, stroke sander and wide belt sander

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA0701 Conduct the appropriate setting up procedure of the surface planer and thickness planer according to the product specifications on the work instruction
- WA0702 Conduct safety checks on the machines, equipment and workstation to ensure compliance with safety requirements
- WA0703 Operate the relevant machines to get the required length and angles
- WA0704 Check cut components at set intervals (do spot checks) for correctness and consistency of length and angles
- WA0705 Label or group components on pallets according to the workplace procedures
- WA0706 Identify, mark and report substandard raw material and components

Supporting Evidence

- SE0701 Completed job card signed by the supervisor to confirm work completed to company standards

1.2.8. WM-01-WE08: Produce straight laminated timber and board components

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA0801 Use tape measure to verify if the length is according to cutting list
- WA0802 Use hand clamps and or laminating press to laminate timber.
- WA0803 Use correct adhesives for the job.

Supporting Evidence

- SE0801 Completed job card signed by the supervisor to confirm work completed to company standards

1.2.9. WM-01-WE09: Apply safety measures and equipment

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA0901 Maintain safe working environment to comply with safety standards
- WA0902 Apply ear and eye protection, dust masks, overall and no loose clothes
- WA0903 Attend regular safety meetings according to the requirements of the workplace
- WA0904 Report inadequate lighting in the machine shop
- WA0905 Participate in simulated fire emergency evacuation procedures

Supporting Evidence

- SE0901 Completed job card signed by the supervisor to confirm work completed

1.2.10. WM-01-WE10: Conduct general housekeeping activities to ensure the work area is clean and neat and complying with safety regulations

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA1001 Clean dust extraction bags where applicable
- WA1002 Check the dust extraction system for working condition
- WA1003 Comply with attendance and time keeping standards as determined by the company
- WA1004 Take necessary actions and measures and to reduce wastage
- WA1005 Produce minimum waste levels as determined by the company within set tolerances
- WA1006 Apply all safety routines and procedures when working with compressed air

Supporting Evidence

- SE1001 Completed job card signed by the supervisor to confirm work completed

1.2.11. WM-01-WE11: Ensure quality of the machined product by identifying machine faults

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA1101 Identify and immediately report any machine defects
- WA1102 Ensure the machine is operated within design specifications
- WA1103 Identify any wrongly fitted attachment and replace
- WA1104 Identify and correct incorrect machine settings
- WA1105 Identify and correct any incorrect speed setting in terms of the rotation of the blade
- WA1106 Conduct calibration routines within the authority of the operator and report any deviations to the supervisor

Supporting Evidence

- SE1101 Job card from the supervisor

1.2.12. WM-01-WE12: Ensure quality of the machined product by identifying raw material faults and handling and storing it correctly

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA1201 Inspect, identify and report all timber defects such as cracks, knots, twists, insects, wet rot and dry rot
- WA1202 Identify the incorrect moisture content of the raw material causing defects such as swelling of boards
- WA1203 Select material correctly according to type as specified on the job card
- WA1204 Handle timber and recuts as delicately as possible avoiding bumping and damaging the edges/chips using trolleys to cart it
- WA1205 Store timber correctly in an area free from moisture
- WA1206 Avoid any misinterpretation of job cards by clarifying information which could be vague or unclear

Supporting Evidence

- SE1201 Job card from the supervisor

1.2.13. WM-01-WE13: Ensure quality of the machined product by identifying process faults

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA1301 Accurately determine the type of material to set the correct working speed of the machine
- WA1302 Accurately determine the type of material to apply the correct feeding of timber to the machine
- WA1303 Ensure the wood is correctly clamped to the jig to avoid damage to machine, unsafe working condition, or not producing the designed product

Supporting Evidence

- SE1301 Job card from the supervisor

1.2.14. WM-01-WE14: Conduct continuous quality inspection of the machined product throughout the machining operation

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA1401 Conduct a quality inspection checking for consistency, accuracy, defects of the product
- WA1402 Conduct a final quality inspection of the machined product before hand over to next process
- WA1403 Record all defects

Supporting Evidence

- SE1401 Quality checklist

1.2.15. WM-01-WE15: Perform maintenance activities to ensure a well maintain machine and workshop

Scope of Work Experience

The person will be expected to engage in the following work activities:

- WA1501 Lubricate, clean and service the machine at required intervals as part of routine maintenance activities
- WA1502 Identify and immediately report any machine or machine part or attachment defects
- WA1503 Service the machine at required intervals by replacing belts and applying calibration routines
- WA1504 Check the sharpness of blades, replace cutting tools and inspect v-belts at required intervals

Supporting Evidence

- SE1501 Completed machine maintenance checklist signed by the supervisor to confirm work completed

1.3 Contextualised Workplace Knowledge

1 Company products

2 Various departments and workflow

3 Reporting structures

4 Company standard operating and safety procedures and quality standards

5 Workshop layout and designated areas

6 Personal protective clothing and equipment

1.4 Criteria for Workplace Approval

Physical Requirements:

- Fully equipment wood machining department with advanced wood and board machining machines, tools and equipment and various types of raw material
- Compressed airline and extraction
- Key processes: wood machining processes using advanced machines

Human Resource Requirements:

- Qualified and accredited mentor or supervisor with a minimum of 3 years of experience in a furniture manufacturing environment and be NQF 3 qualified in furniture manufacturing processes
- Supervisor/subordinate ratios = 1:20
- Availability of coaches and mentors = 1:5

Legal Requirements:

- Compliance with occupational health and safety regulations
- Compliance with Labour Legislation
- Bargaining Council Main Agreement

1.5 Additional Assignments to be Assessed Externally

None

SECTION 4: STATEMENT OF WORK EXPERIENCE

Curriculum Number:	682201002
Curriculum Title:	Furniture Machine Operator

Learner Details	
Name:	
ID Number:	

Employer Details	
Company Name:	
Address:	
Supervisor Name:	
Work Telephone:	
E-Mail:	

682201002-00-01-WM-01, Furniture machining operations, NQF Level 2, Credits 20

WM-01-WE01	Read and interpret work instructions and product specifications for machining operations		
	Scope Work Experience	Date	Signature
WA0101	Interpret a job card, cutting list, production flow/routing chart and identify all job requirements and specifications including machines and operations as well as jigs and templates for specific tasks		
WA0102	Read and interpret basic engineering drawings and identify all aspects relevant to the work specifications		
	Supporting Evidence	Date	Signature
SE0101	Signed job card		
WM-01-WE02	Prepare a workstation for machining operations		
	Scope Work Experience	Date	Signature
WA0201	Obtain all required timber and conduct quality checks to ensure the timber quality conforms to specifications		
WA0202	Conduct prestart checks on all machines, equipment and attachments ensuring it complies with safety and working specifications and are in good working order (Inspect that the machine is operational, inspect blade for sharpness and correct blade and v-belts, etc.)		
WA0203	Select and apply personal protective clothing and equipment (PPE and PPC) for the specific machine		
WA0204	Identify and report substandard raw material, machines or PPE		
	Supporting Evidence	Date	Signature
SE0201	Prestart check list		
WM-01-WE03	Perform breakout operations by operating a crosscut saw and ripsaw using solid timber by cutting a minimum of 30 components of the required length and width according to the cutting list		

	Scope Work Experience	Date	Signature
WA0301	Conduct the appropriate setting up procedure of the crosscut saw and rip saw according to the product specifications on the work instruction		
WA0302	Conduct safety checks on the machines, equipment and workstation to ensure compliance with safety requirements		
WA0303	Observe the direction of the grain of the timber before feeding into the saw		
WA0304	Check cut components at set intervals (do spot checks) for correctness and consistency of cut and grain direction		
WA0305	Use measuring equipment to check that the length or width correspond to cutting list		
WA0306	Label or group components on pallets according to the workplace procedures		
WA0307	Identify, mark and report substandard raw material and components		
WA0308	Dispose of off-cuts safely and store re-useable off-cuts according to sizes and type of timber		
	Supporting Evidence	Date	Signature
SE0301	Completed job card signed by supervisor to confirm work completed		
WM-01-WE04	Produced planed timber and board product components and products (planing straight timber, laminated timber) using surface planer and thickness planer for a minimum period of 3 weeks		
	Scope Work Experience	Date	Signature
WA0401	Conduct the appropriate setting up procedure of the surface planer and thickness planer according to the product specifications on the work instruction		
WA0402	Conduct safety checks on the machines, equipment		

	and workstation to ensure compliance with safety requirements		
WA0403	Operate the surface planer and thickness planer complying with safety standards		
WA0404	Use vernier calliper to verify if the timber is according to specified width and thickness		
WA0405	Label or group components on pallets according to the workplace procedures		
WA0406	Identify, mark and report substandard raw material and components		
	Supporting Evidence	Date	Signature
SE0401	Completed job card signed by the supervisor to confirm work completed to company standards		
WM-01-WE05	Produce sawn timber and board product components and products (producing straight cuts, mitred cuts grooves and half laps) for a minimum period of 5 week using panel saw and radial arm saw		
	Scope Work Experience	Date	Signature
WA0501	Conduct the appropriate setting up procedure of the surface planer and thickness planer according to the product specifications on the work instruction		
WA0502	Conduct safety checks on the machines, equipment and workstation to ensure compliance with safety requirements		
WA0503	Operate a panel saw and radial arm saw to get the required length, and angles that are required.		
WA0504	Check cut components at set intervals (do spot checks) for correctness and consistency of length and angles		
WA0505	Label or group components on pallets according to the workplace procedures		
WA0506	Identify, mark and report substandard raw material		

	and components		
	Supporting Evidence	Date	Signature
SE0501	Completed job card signed by the supervisor to confirm work completed to company standards		
WM-01-WE06	Produce shaped timber and board product components and products (simple to more complex shapes) using the band saw for a period of 2 weeks		
	Scope Work Experience	Date	Signature
WA0601	Conduct the appropriate setting up of the band saw		
WA0602	Conduct safety checks		
WA0603	Confirm if the blade is size and thickness is relevant to the work to be produced		
WA0604	Operate band saw safely and produce required shape and size.		
WA0605	Label components according to work procedures		
WA0606	Identify, mark and report substandard raw material and components.		
	Supporting Evidence	Date	Signature
SE0601	Completed job card signed by the supervisor to confirm work completed to company standards		
WM-01-WE07	Produce machine sanded timber and board components and products (sanding solid timber, veneered boards and composite boards) for a minimum period of 2 week using edge sander, stroke sander and wide belt sander		
	Scope Work Experience	Date	Signature
WA0701	Conduct the appropriate setting up procedure of the surface planer and thickness planer according to the product specifications on the work instruction		

WA0702	Conduct safety checks on the machines, equipment and workstation to ensure compliance with safety requirements		
WA0703	Operate the relevant machines to get the required length and angles		
WA0704	Check cut components at set intervals (do spot checks) for correctness and consistency of length and angles		
WA0705	Label or group components on pallets according to the workplace procedures		
WA0706	Identify, mark and report substandard raw material and components		
	Supporting Evidence	Date	Signature
SE0701	Completed job card signed by the supervisor to confirm work completed to company standards		
WM-01-WE08	Produce straight laminated timber and board components		
	Scope Work Experience	Date	Signature
WA0801	Use tape measure to verify if the length is according to cutting list		
WA0802	Use hand clamps and or laminating press to laminate timber.		
WA0803	Use correct adhesives for the job.		
	Supporting Evidence	Date	Signature
SE0801	Completed job card signed by the supervisor to confirm work completed to company standards		
WM-01-WE09	Apply safety measures and equipment		
	Scope Work Experience	Date	Signature
WA0901	Maintain safe working environment to comply with		

	safety standards		
WA0902	Apply ear and eye protection, dust masks, overall and no loose clothes		
WA0903	Attend regular safety meetings according to the requirements of the workplace		
WA0904	Report inadequate lighting in the machine shop		
WA0905	Participate in simulated fire emergency evacuation procedures		
	Supporting Evidence	Date	Signature
SE0901	Completed job card signed by the supervisor to confirm work completed		
WM-01-WE10	Conduct general housekeeping activities to ensure the work area is clean and neat and complying with safety regulations		
	Scope Work Experience	Date	Signature
WA1001	Clean dust extraction bags where applicable		
WA1002	Check the dust extraction system for working condition		
WA1003	Comply with attendance and time keeping standards as determined by the company		
WA1004	Take necessary actions and measures and to reduce wastage		
WA1005	Produce minimum waste levels as determined by the company within set tolerances		
WA1006	Apply all safety routines and procedures when working with compressed air		
	Supporting Evidence	Date	Signature
SE1001	Completed job card signed by the supervisor to confirm work completed		

WM-01-WE11	Ensure quality of the machined product by identifying machine faults		
	Scope Work Experience	Date	Signature
WA1101	Identify and immediately report any machine defects		
WA1102	Ensure the machine is operated within design specifications		
WA1103	Identify any wrongly fitted attachment and replace		
WA1104	Identify and correct incorrect machine settings		
WA1105	Identify and correct any incorrect speed setting in terms of the rotation of the blade		
WA1106	Conduct calibration routines within the authority of the operator and report any deviations to the supervisor		
	Supporting Evidence	Date	Signature
SE1101	Job card from the supervisor		
WM-01-WE12	Ensure quality of the machined product by identifying raw material faults and handling and storing it correctly		
	Scope Work Experience	Date	Signature
WA1201	Inspect, identify and report all timber defects such as cracks, knots, twists, insects, wet rot and dry rot		
WA1202	Identify the incorrect moisture content of the raw material causing defects such as swelling of boards		
WA1203	Select material correctly according to type as specified on the job card		
WA1204	Handle timber and recuts as delicately as possible avoiding bumping and damaging the edges/chips using trolleys to cart it		
WA1205	Store timber correctly in an area free from moisture		

WA1206	Avoid any misinterpretation of job cards by clarifying information which could be vague or unclear		
	Supporting Evidence	Date	Signature
SE1201	Job card from the supervisor		
WM-01-WE13	Ensure quality of the machined product by identifying process faults		
	Scope Work Experience	Date	Signature
WA1301	Accurately determine the type of material to set the correct working speed of the machine		
WA1302	Accurately determine the type of material to apply the correct feeding of timber to the machine		
WA1303	Ensure the wood is correctly clamped to the jig to avoid damage to machine, unsafe working condition, or not producing the designed product		
	Supporting Evidence	Date	Signature
SE1301	Job card from the supervisor		
WM-01-WE14	Conduct continuous quality inspection of the machined product throughout the machining operation		
	Scope Work Experience	Date	Signature
WA1401	Conduct a quality inspection checking for consistency, accuracy, defects of the product		
WA1402	Conduct a final quality inspection of the machined product before hand over to next process		
WA1403	Record all defects		
	Supporting Evidence	Date	Signature
SE1401	Quality checklist		
WM-01-WE15	Perform maintenance activities to ensure a well		

	maintain machine and workshop		
	Scope Work Experience	Date	Signature
WA1501	Lubricate, clean and service the machine at required intervals as part of routine maintenance activities		
WA1502	Identify and immediately report any machine or machine part or attachment defects		
WA1503	Service the machine at required intervals by replacing belts and applying calibration routines		
WA1504	Check the sharpness of blades, replace cutting tools and inspect v-belts at required intervals		
	Supporting Evidence	Date	Signature
SE1501	Completed machine maintenance checklist signed by the supervisor to confirm work completed		

	Contextualised Workplace Knowledge	Date	Signature
1	Company products		
2	Various departments and workflow		
3	Reporting structures		
4	Company standard operating and safety procedures and quality standards		
5	Workshop layout and designated areas		
6	Personal protective clothing and equipment		

	Additional Assignments to be Assessed Externally	Date	Signature
	None		