

Federal Democratic Republic of Ethiopia
OCCUPATIONAL STANDARD



BAMBOO FURNITURE MAKING
NTQF Level II and III



Ministry of Education
April 2011

Introduction

Ethiopia has embarked on a process of reforming its TVET-System. Within the policies and strategies of the Ethiopian Government, technology transformation – by using international standards and international best practices as the basis, and, adopting, adapting and verifying them in the Ethiopian context – is a pivotal element. TVET is given an important role with regard to technology transfer. The new paradigm in the outcome-based TVET system is the orientation at the current and anticipated future demand of the economy and the labor market.

The Ethiopia Occupational Standard (EOS) is the core element of the Ethiopian National TVET-Strategy and an important factor within the context of the National TVET-Qualification Framework (NTQF). They are national Ethiopian standards, which define the occupational requirements and expected outcome related to a specific occupation without taking TVET delivery into account.

This document details the mandatory format, sequencing, wording and layout for the Ethiopia Occupational Standard which comprised of Units of Competence.

A Unit of Competence describes a distinct work activity. It is documented in a standard format that comprises:

- Occupational title, NTQF level
- Unit code
- Unit title
- Unit descriptor
- Elements and Performance criteria
- Variables and Range statement
- Evidence guide

Together all the parts of a Unit of Competence guide the assessor in determining whether the candidate is competent.

The ensuing sections of this EOS document comprise a description of the respective occupation with all the key components of a Unit of Competence:

- a chart with an overview of all Units of Competence for the level including the Unit Codes and the Unit of Competence Titles
- contents of each Unit of Competence (competence standard)
- occupational map providing the technical and vocational education and training (TVET) providers with information and important requirements to consider when designing training programs for this standards and for the individual, a career path

UNIT OF COMPETENCE CHART

Occupational Standard: Bamboo Furniture Making

Occupational Code: IND BFM

NTQF Level III

[IND BFM3 01 0411](#)

Organize Work Activities

[IND BFM3 02 0411](#)

Design Furniture, Jigs and Molds

[IND BFM3 03 0411](#)

Prepare Bill of Materials

[IND BFM3 04 0411](#)

Fabricate Jigs, Molds and Templates

[IND BFM3 05 0411](#)

Produce Bent Laminated Components

[IND BFM3 06 0411](#)

Apply Advanced Finishing

[IND BFM3 07 0411](#)

Apply Quality Control

[IND BFM3 08 0411](#)

Lead Small Teams

[IND BFM3 09 0411](#)

Lead Workplace Communication

[IND BFM3 10 0411](#)

Improve Business Practice

[IND BFM3 11 0411](#)

Monitor Implementation of Work Plan / Activities

[IND BFM3 12 1012](#)

Maintain Quality System and Continuous Improvement Processes

NTQF Level II

[IND BFM2 01 0411](#)

Read and Interpret Drawings

[IND BFM2 02 0411](#)

Prepare Bamboo Pole for Furniture Production

[IND BFM2 03 0411](#)

Carryout Chemical Treatment

[IND BFM2 04 0411](#)

Dry Kiln Bamboo Materials

[IND BFM2 05 0411](#)

Operate and Maintain Basic Woodworking Machines

[IND BFM2 06 0411](#)

Perform Basic Bamboo Processing

[IND BFM2 07 0411](#)

Produce Joints

[IND BFM2 08 0411](#)

Assemble Component Parts

[IND BFM2 09 0411](#)

Fabricate Bamboo Weaves

[IND BFM2 10 0411](#)

Apply Basic Finishing

[IND BFM2 11 0411](#)

Maintain Simple Hand and Portable Power Tools

[IND BFM2 12 0411](#)

Participate in Workplace Communication

[IND BFM2 13 0411](#)

Work in Team Environment Communication

[IND BFM2 14 0411](#)

Develop Business Practice

[IND BFM2 15 1012](#)

Apply Continuous Improvement Processes (Kaizen)

NTQF Level III

Occupational Standard: Bamboo Furniture Making Level III	
Unit Title	Organize Work Activities
Unit Code	IND BFM3 01 0411
Unit Descriptor	This unit covers the knowledge, skills and attitude required in organizing work activities. It may be applied to a small independent operation or to a section of a large organization.

Elements	Performance Criteria
1. Determine work activities and schedule	1.1 Tasks/work activities to be completed are identified and prioritized as directed 1.2 Allocated resources are determined and confirmed 1.3 Schedule of work activities is coordinated with personnel concerned 1.4 Work plan is adjusted according to requirements for job quality, customer service, social responsibility and resource use
2. Assign workloads	2.1 Teams are oriented / briefed on objectives and plan in accordance with organization standards 2.2 Work assignments are confirmed and ensured to be understood by the personnel concerned 2.3 Instructions are interpreted and checked against relevant organizational standards 2.4 Work methods and practices are identified in consultation with personnel concerned and agreed upon
3. Implement feedback system	3.1 Feedback mechanism is implemented and observed in accordance with agreed parameters 3.2 Feedback mechanism is agreed upon for work improvement 3.3 Appropriate avenues to provide feedback are determined and agreed upon 3.4 Necessary documents are accomplished in accordance with standards procedures

Variable	Range
Resources	May include but not limited to: <ul style="list-style-type: none"> • Personnel • Equipment and technology • Services • Supplies and materials • Sources for accessing specialist advice • Budget

Schedule of work activities	<ul style="list-style-type: none"> • May include but not limited to: • Daily • Work-based • Contractual • Regular • Confidential • Disclosure • Non-disclosure
Work methods and practices	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Work methods and practices may include but not limited to: • Legislated regulations and codes of practice • Industry regulations and codes of practice • Occupational health and safety practices
Standards	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Performance targets • Performance management and appraisal systems • National competency standards • Employment contracts • Client contracts • Discipline procedures • Workplace assessment guidelines • Internal quality assurance • Internal and external accountability and auditing requirements • Training Regulation Standards • Safety Standards
Appropriate personnel/ authorities	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Appropriate personnel include: • Management • Line Staff
Feedback mechanisms	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • Feedback mechanisms include: • Verbal feedback • Informal feedback • Formal feedback • Questionnaire • Survey • Group discussion

Evidence Guide	
Critical Aspects of Competence	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> • scheduled work activities • monitored work activities • reviewed and evaluated work activities
Underpinning Knowledge and Attitudes	<p>Demonstrate knowledge and attitudes on:</p> <ul style="list-style-type: none"> • Organization's strategic plan, policies rules and regulations, laws and objectives for work unit activities and priorities • Organizations policies, strategic plans, guidelines related to the role of the work unit • Organizing Techniques and Procedures • Team work and consultation strategies • Occupational Health and Safety • Communication Process
Underpinning Skills	<p>Demonstrate skills on:</p> <ul style="list-style-type: none"> • Leading • Organizing • Coordinating • Communication Skills • Inter-and intra-person/motivation skills • Presentation skills
Resource Implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> • Workplace or fully equipped location with necessary tools and equipment as well as consumable materials
Methods of Assessment	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	<p>Competence may be assessed in the workplace or in simulated work.</p>

Occupational Standard: Bamboo Furniture Making Level III	
Unit Title	Design Furniture, Jigs and Molds
Unit Code	IND BFM3 02 0411
Unit Descriptor	This unit describes the competences required in determining in-demand market specifications and develops designs of furniture, jigs and molds.

Elements	Performance Criteria
1. Prepare workstation	1.1 Workbench and seating are set up according to OHS practices 1.2 Drawing tools and equipment are selected 1.3 Tools and equipment are set out to facilitate effective work practice
2. Determine influences on design trends	2.1 Market demand specifications are identified 2.2 Furniture trends and significant events of the century are identified and related to furniture style and fad changes 2.3 Furniture trend cycles are identified 2.4 Series of trade sketches are drawn to illustrate influence of design principles to furniture style
3. Develop designs of furniture, molds, jigs, and templates	3.1 Specifications and requirements are confirmed and interpreted to meet design brief 3.2 Design features required to complete technical drawing are identified 3.3 Detailing and special effects are used on technical drawing 3.4 Feedback is sought, received and technical drawing adjusted accordingly 3.5 Technical drawing is completed and documented

Variable	Range
Drawing tools and equipment include:	<ul style="list-style-type: none"> • A3 layout pad • pencils with HB leads • pencil sharpener • knead able eraser • templates
Specifications	May include but not limited to: <ul style="list-style-type: none"> • color • style • accent / theme • design principles • materials

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge in: <ul style="list-style-type: none"> • prepare workstation • determine influences on design trends • develop furniture design
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • read and interpret drawings • technical drawing • sketching • design features • principles of design • knowledge about different material • trend analysis • OHS procedures
Underpinning Skills	Demonstrates skills to: <ul style="list-style-type: none"> • ability to do technical drawing • ability to do sketching • ability to draw lines freehand to create shapes • read, interpret and follow information on work specifications, design brief and standard operating procedures • communication skills
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competency may be assessed through: <ul style="list-style-type: none"> • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competency may be assessed in the work place or in a simulated work place setting

Occupational Standard: Furniture Making Level III	
Unit Title	Prepare Bill of Materials
Unit Code	IND BFM3 03 0411
Unit Descriptor	This unit covers the knowledge, skills and attitude in preparing the needed labor, materials and supplies required for the job.

Elements	Performance Criteria
1. Identify nature/ scope of work	<p>1.1 Effective communication skills are applied to determine the nature and scope of work to be undertaken</p> <p>1.2 Extent of service to be rendered is determined and documented in line with standard operating procedures</p> <p>1.3 Nature and extent of work are confirmed from appropriate personnel</p> <p>1.4 Materials and design are determined and confirmed</p>
2. Organize list of specification	<p>2.1 Type of project is identified based on design.</p> <p>2.2 Required materials are listed according to type of project.</p> <p>2.3 Quantities of raw materials are determined in size, height, width, thickness, etc. using specific unit of measurement.</p> <p>2.4 Finishing materials are determined following work /job requirement.</p> <p>2.5 Types and quantity of assembling and fixing materials are determined according to project design.</p>
3. Calculate resource requirements	<p>3.1 Type and quantity of supplies, materials and labor required to perform work are calculated and finalized in line with job requirements</p> <p>3.2 Cost of supplies, materials are obtained from suppliers</p> <p>3.3 Material quantities for the job are correctly calculated using appropriate factors/formula</p> <p>3.4 Results are confirmed and recorded</p>
4. Estimate approximate quantities and cost	<p>4.1 Calculations for determining resource requirements are taken</p> <p>4.2 Quantities are estimated from calculations taken</p> <p>4.3 Resource quantities for the job are calculated, confirmed and recorded within organization tolerances</p> <p>4.4 Bill of quantity is finalized, documented and presented to appropriate personnel</p>

Variable	Range
Suppliers	Includes: <ul style="list-style-type: none"> • distributors • managers • proprietors
Resource requirements	Include: <ul style="list-style-type: none"> • supplies and materials • equipment depreciation • labor • overhead and warranty cost

Evidence Guide	
Critical Aspects of Competence	Assessment requires evidence that the candidate <ul style="list-style-type: none"> • identified nature/scope of work • interpreted and applied relevant information • calculated bill of quantity • presented estimate
Underpinning Knowledge and Attitudes	Demonstrate knowledge and attitudes on: <ul style="list-style-type: none"> • scope and nature of furniture making • resource requirements in furniture making • types, characteristics, uses and functions of materials • basic calculation and measurement • capacity of machine • honesty, perseverance, patience, attention to details • trade mathematics, calculations and determining quantities • project quality requirements and organization procedures • communication devices and process
Underpinning Skills	Demonstrate skills on: <ul style="list-style-type: none"> • identifying resource requirements • applying correct formula • estimating quantity of required resources • estimating total cost of resource requirements
Resource Implications	The following resources must be provided: <ul style="list-style-type: none"> • workplace or fully equipped assessment location with necessary tools and equipment as well as consumable materials
Methods of Assessment	Competence may be assessed through: <ul style="list-style-type: none"> • Interview / Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competency may be assessed in the work place or in a simulated work place setting

Occupational Standard: Bamboo Furniture Making Level III	
Unit Title	Fabricate Jigs, Molds and Templates
Unit Code	IND BFM3 04 0411
Unit Descriptor	This unit describes the competences required in fabricating jigs, molds and templates.

Elements	Performance Criteria
1. Prepare workstation	1.1 Materials are sorted according to job specification and design requirements 1.2 Design, tolerances, process, materials quantities are determined from work instructions 1.3 Tools and equipment suitable for fabricating component parts are selected and checked for functionality 1.4 Work area is ensured for safe work activity
2. Carry out fabrication	2.1 Materials are resized based on drawings 2.2 Component parts are produced using appropriate tools and equipment and in accordance with design brief and job specifications 2.3 Component parts are made using carpentry and fabrication techniques 2.4 Process is monitored to ensure quality of product and output 2.5 Waste quantities are checked and minimized 2.6 Problems with the required work and/or the operation of the machine are identified and reported to appropriate personnel
3. Clean up	3.1 Material that can be reused is collected and stored 3.2 Waste and scrap are removed following workplace procedures 3.3 Equipment and work area are cleaned and made ready for the next work in accordance with OHS procedures 3.4 Unserviceable equipment is tagged and faults identified in accordance with OHS procedures 3.5 Necessary documentation is accomplished in accordance with enterprise standards

Variable	Range
Materials	May include but not limited to: <ul style="list-style-type: none"> • Bamboo slats • Woven mats • Crush bamboo • Raw bamboo • Laminated bamboo boards • Fastening Materials (Nails, screws, rivets...) • Boards (Plywood, ply boards, MDF, Chipboard...) • Glue
Tools and equipment	May include but not limited to: <ul style="list-style-type: none"> • Blow Torch • Jigs • Hand tools (knife, chisel, pliers, scissors....) • Portable power machines (drill, grinder, sander.....) • Stationary machines (saw, grinder, splitter, ...)
Pressing equipment	May include but not limited to: <ul style="list-style-type: none"> • Laminating Press (Hot, cold, high frequency) • Clamps (bar clamps, c-clamps, f-clamps)
Carpentry Techniques	May include but not limited to: <ul style="list-style-type: none"> • Material straightening • Shaping • Carving
Fabrication Techniques	May include but not limited to: <ul style="list-style-type: none"> • Sanding • Profiling • Jigs

Evidence Guide	
Critical Aspects of Competence	Critical evidence of knowledge and skills include: <ul style="list-style-type: none"> • Make samples and prototype • Produce jigs and templates • knowledge of quality assurance, principles of workflow planning, delegation and problem solving
Underpinning Knowledge and Attitudes	Demonstrate knowledge and attitude on: <ul style="list-style-type: none"> • Different types of jigs, fixtures and templates • Properties of bamboo • Machine operation • typical work organisation methods appropriate to the industry • quality assurance principles and time management
Underpinning Skills	Demonstrate skills on: <ul style="list-style-type: none"> • Manipulate bamboo and other materials • Operate woodworking machines • Evaluating efficiency • Reporting and documentation

Resource Implications	May include but not limited to workplace or fully equipped assessment location with necessary tools and equipment as well as consumable materials
Methods of Assessment	Competence may be assessed through: <ul style="list-style-type: none"> • Interview / Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competency may be assessed in the work place or in a simulated work place setting

Occupational Standard: Bamboo Furniture Making Level III	
Unit Title	Produce Bent Laminated Components
Unit Code	IND BFM3 05 0411
Unit Descriptor	This unit covers the required skills, attitudes and knowledge in producing bent laminated components. It includes preparation, glue application, bending, pressing.

Elements	Performance Criteria
1. Prepare workstation	<p>1.1 Materials are sorted according to job specification and design requirements</p> <p>1.2 Furniture design, tolerances, process, materials quantities are determined from work instructions</p> <p>1.3 Tools and equipment suitable for fabricating component parts are selected and checked for functionality</p> <p>1.4 Work area is ensured for safe work activity</p>
2. Carry out fabrication	<p>2.1 Materials are resized based on job specification</p> <p>2.2 Materials were shaped/bend using blower, chemicals and jigs and pressing equipment in accordance with specifications</p> <p>2.3 Component parts are produced using appropriate tools and equipment and in accordance with design brief and job specifications</p> <p>2.4 Component parts are made using carpentry and fabrication techniques</p> <p>2.5 Process is monitored to ensure quality of product and output</p> <p>2.6 Items that do not meet quality requirements are repaired, recycled or discarded according to workplace procedures</p> <p>2.7 Waste quantities are checked and minimized</p> <p>2.8 Problems with the required work and/or the operation of the machine are identified and reported to appropriate personnel</p>
3. Clean up	<p>3.1 Material that can be reused is collected and stored</p> <p>3.2 Waste and scrap are removed following workplace procedures</p> <p>3.3 Equipment and work area are cleaned and made ready for the next work in accordance with OHS procedures</p> <p>3.4 Unserviceable equipment is tagged and faults identified in accordance with OHS procedures</p> <p>3.5 Necessary documentation is accomplished in accordance with enterprise standards</p>

Variable	Range
Materials	May include but not limited to: <ul style="list-style-type: none"> • Bamboo slats • Woven mats • Crush bamboo • Raw bamboo
Tools and equipment	May include but not limited to: <ul style="list-style-type: none"> • Blow Torch • Jigs • Hand tools (knife, chisel, pliers, scissors....) • Portable power machines (drill, grinder, sander.....) • Stationary machines (saw, grinder, splitter, ...)
Pressing equipment	May include but not limited to: <ul style="list-style-type: none"> • Laminating Press (Hot, cold, high frequency) • Clamps (bar clamps, c-clamps, f-clamps)
Carpentry Techniques	May include but not limited to: <ul style="list-style-type: none"> • Material straightening • Shaping • Carving
Fabrication Techniques	May include but not limited to: <ul style="list-style-type: none"> • Sanding • Profiling • Jigs

Evidence Guide	
Critical Aspects of Competence	Critical evidence of knowledge and skills include: <ul style="list-style-type: none"> • Ability to produce bent laminated furniture components • Ability to bend and straighten raw bamboo • knowledge of quality assurance, principles of workflow planning, delegation and problem solving • observed OHS procedures and measures • Interpret work order and locate relevant information • Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment • Follow work instructions, operating procedures and inspection practices to: <ul style="list-style-type: none"> • minimize the risk of injury to self or others • prevent damage to tools, equipment or products • maintain required production output and product quality • Work effectively with others and clean-up workplace
Underpinning Knowledge and Attitudes	Demonstrate knowledge and attitude on: <ul style="list-style-type: none"> • Adhesives and application • Bamboo Properties • Laminating processes and procedures • Machine operation

	<ul style="list-style-type: none"> • workplace and equipment safety requirements • quality requirements and safe work methods • tools and equipment types, characteristics, uses and maintenance • Perform housekeeping
Underpinning Skills	<p>Demonstrate skills on:</p> <ul style="list-style-type: none"> • operate machines • adhesive and glue application • gas torch and blow torch operation • clamping and pressing operation • reporting and documentation
Resource Implications	May include but not limited to workplace or fully equipped assessment location with necessary tools and equipment as well as consumable materials
Methods of Assessment	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview / Written Test • Observation/Demonstration with Oral questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting

Occupational Standard: Furniture Making Level III	
Unit Title	Apply Advance Finishing
Unit Code	IND BFM3 06 0411
Unit Descriptor	This unit covers the required skills, attitudes and knowledge in carrying out decorative finishes to furniture with all required components. It includes surface preparation and application of decorative finishes.

Elements	Performance Criteria
1. Prepare for work	<p>1.1 Work requirements are correctly identified from drawings/specifications/instructions</p> <p>1.2 Quality assurance requirements are recognized and adhered to in accordance with enterprise operation</p> <p>1.3 Safety requirements are followed in accordance with safety plans and policies</p> <p>1.4 Tools and equipment selected to carry out tasks are checked for serviceability and any faults are rectified or reported prior to commencement</p> <p>1.5 Material quantity requirements are determined and prepared in accordance with plans and/or specifications</p> <p>1.6 Environmental protection requirements are identified for the project in accordance with environmental plans and regulatory obligations and applied</p>
2. Prepare finishing materials and surfaces for finishing process	<p>2.1 Surfaces are checked for contamination and correct preparation according to workplace procedures and standards</p> <p>2.2 Products with surface or other faults are identified and faults are reported or repaired according to workplace procedures and standards.</p> <p>2.3 Techniques for application of decorative finishing are identified and used according to workplace procedures</p> <p>2.4 Materials for decorative finishing are prepared according to the given formulation.</p> <p>2.5 Wood filler is applied to surface if necessary or specified.</p>
3. Apply glazing putty	<p>3.1 Glazing putty is applied to surfaces in accordance with manufacturer's specification and workplace procedures and standards</p> <p>3.2 Applied glazing putty is dried and sanded and applied with primer surface in accordance with workplace procedure and standards</p>

4. Apply decorative finishing	<p>4.1 Decorative finish is applied in accordance with job instructions, workplace procedures and manufacturer's specifications</p> <p>4.2 Work is checked against required quality standards and any non-conformity rectified.</p>
5. Complete work	<p>5.1 Work area is cleaned, hand and/or power tools and equipment are cleaned, maintained and stored in accordance with workplace procedures</p> <p>5.2 Machinery is cleaned and left in a safe mode in accordance with manufacturers' recommendations and standard work practices</p> <p>5.3 Faulty and/or defective equipment is tagged and reported in accordance with workplace practices.</p> <p>5.4 Off-cuts and unused materials are collected and stored for reuse or disposal following workplace procedures.</p> <p>5.5 Waste and scrap materials are dealt with following workplace procedures and OHS rules.</p>

Variables	Range
Safety requirements	<ul style="list-style-type: none"> • OHS requirements include legislation, material safety management systems, hazardous substances and dangerous goods code and local safe operating procedures • Work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling procedures and organization insurance requirements
Tools, Equipment and materials	<ul style="list-style-type: none"> • Tools and equipment may include, but are not limited to: measuring tapes or rulers, measuring cups, mixing bowls or containers, spray gun, air compressor, paint brush, pallet, stirring rods • Materials to be used may include but are not limited to: sand paper, NGR Stains, Wood Filler, Paint thinner, Lacquer thinner. Lacquer Paints. Wood, Wool, Natural Fibers, Tinting color
Decorative finish	<p>May include, but are not limited to:</p> <ul style="list-style-type: none"> • Gold finish • Marble Finish • Granite Finish • Aramis Finish • Leather finish

Evidence Guide				
Critical Aspects of Competence	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> • prepared for decorative finishing work • carrying out of decorative finishes to furniture • observed OHS procedures and measures • Interpret work order and locate relevant information • Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment • Follow work instructions, operating procedures and inspection practices to: <ul style="list-style-type: none"> • minimize the risk of injury to self or others • prevent damage to tools, equipment or products • maintain required production output and product quality • Prepare and apply a minimum of three different decorative surfaces to various substrates • Work effectively with others and clean-up workplace • Modify activities to cater for variations in workplace context and environment 			
Underpinning Knowledge and Attitudes	<p>Demonstrate knowledge of :</p> <ul style="list-style-type: none"> • workplace and equipment safety requirements • quality requirements and safe work methods • tools and equipment types, characteristics, uses and maintenance • furniture decorative finishing techniques • decorative finishing materials • materials handling, storage and environmentally friendly waste management • types, characteristics, uses and limitations of decorative surfaces • interpretation of plan representing furniture design • the preparation of drawings/set-outs • identification of hand and/or power tools, materials, equipment, processes and procedures • workflow in relation to furniture production 			
Underpinning Skills	<p>Demonstrate skills of:</p> <ul style="list-style-type: none"> • lay-outing • apply decorative surfaces • carry out decorative finishes • perform housekeeping 			
Resource Implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> • workplace or fully equipped assessment location with necessary tools, equipment and consumable materials 			
Methods of Assessment	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview / Written Test • Observation/Demonstration with Oral Questioning 			
Context of Assessment	<p>Competency may be assessed in the work place or in a simulated work place setting</p>			
Page 19 of 89	<table border="1"> <tr> <td>Ministry of Education Copyright</td> <td>Bamboo Furniture Making Ethiopian Occupational Standard</td> <td>Version 1 April 2011</td> </tr> </table>	Ministry of Education Copyright	Bamboo Furniture Making Ethiopian Occupational Standard	Version 1 April 2011
Ministry of Education Copyright	Bamboo Furniture Making Ethiopian Occupational Standard	Version 1 April 2011		

Occupational Standard: Bamboo Furniture Making Level III	
Unit Title	Apply Quality Control
Unit Code	IND BFM3 07 0411
Unit Descriptor	This unit covers the knowledge, skills and attitudes required in applying quality control to apparel production.

Elements	Performance Criteria
1. Determine quality standards	1.1 Quality standard documents are acquired and reviewed 1.2 Quality standards and procedures are introduced to staff / personnel. 1.3 Quality standard procedures are ensured to be implemented in accordance with the organization/workplace policy. 1.4 Standard procedures are revised / updated when necessary
2. Assess quality of work and product delivered	2.1 Products/work outputs and work performance are checked against organization quality standards and specifications 2.2 Work outputs and performance delivered are evaluated using the appropriate evaluation parameters and in accordance with organization standards 2.3 Causes of any identified faults are identified and corrective actions are taken in accordance with organization policies and procedures
3. Record information	3.1 Basic information on the quality performance is recorded in accordance with organization procedures 3.2 Records of work quality are maintained according to the requirements of the organization
4. Study causes of quality deviations	4.1 Causes of deviations from final outputs or services are investigated and reported in accordance with organization procedures 4.2 Suitable preventive action is recommended based on organization quality standards and identified causes of deviation from specified quality standards of final service or output
5. Complete documentation	5.1 Information on quality and other indicators of service performance is recorded. 5.2 All service processes and outcomes are recorded.

Variable	Range
Quality check	<ul style="list-style-type: none"> • visual inspection • physical measurements • check against design/specifications
Quality standards	<ul style="list-style-type: none"> • materials • component parts • final product • production process • conformity to specifications
Quality parameters	<ul style="list-style-type: none"> • finish • size • durability • product variations • materials • alignment • color • damage and imperfections

Evidence Guide			
Critical Aspects of Competence	Assessment requires evidence that the candidate: <ul style="list-style-type: none"> • checked completed work continuously against organization standard • identified and isolated faulty or poor product/output • checked service delivered against organization standards • identified and applied corrective actions on the causes of identified faults or error • recorded basic information regarding quality performance • investigated causes of deviations of services against standard • recommended suitable preventive actions 		
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • relevant quality standards, policies and procedures • characteristics of products/outputs • safety environment aspects of production processes • relevant evaluation techniques and quality checking procedures • workplace procedures and reporting procedures 		
Underpinning Skills	Demonstrates skills to: <ul style="list-style-type: none"> • interpret work instructions, specifications and standards appropriate to the required work or product • carry out relevant performance evaluation • maintain accurate work records in accordance with procedures • meet work specifications and requirements • communicate effectively within defined workplace procedures 		
Page 21 of 89	Ministry of Education Copyright	Bamboo Furniture Making Ethiopian Occupational Standard	Version 1 April 2011

Resource Implications	The following resources should be provided: <ul style="list-style-type: none"> • access to relevant workplace or appropriately simulated environment and materials relevant to the activity/ task
Methods of Assessment	Competence may be accessed through: <ul style="list-style-type: none"> • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context for Assessment	Competence may be assessed in the work place or in a simulated work place setting

Occupational Standard: Bamboo Furniture Making Level III	
Unit Title	Monitor Implementation of Workplan/Activities
Unit Code	IND BFM3 08 0411
Unit Descriptor	This unit deals with the skills and knowledge required to oversee and monitor the quality of work operations within an enterprise. This unit may be carried out by team leaders, supervisors or managers.

Elements	Performance Criteria
1. Plan and organise workflow	<p>1.1 Current workload of colleagues is accurately assessed.</p> <p>1.2 Work is scheduled in a manner which enhances efficiency and customer service quality.</p> <p>1.3 Work is delegated to appropriate people in accordance with principles of delegation.</p> <p>1.4 Workflow is assessed against agreed objectives and timelines.</p> <p>1.5 Colleagues are assisted in prioritization of workload.</p> <p>1.6 Input is provided to appropriate management regarding staffing needs.</p>
2. Monitor and improve workplace operations	<p>2.1 Efficiency and service levels are monitored on an ongoing basis.</p> <p>2.2 Operations in the workplace support overall enterprise goals and quality assurance initiatives.</p> <p>2.3 Quality problems and issues are promptly identified and adjustments are made accordingly.</p> <p>2.4 Procedures and systems are changed in consultation with colleagues to improve efficiency and effectiveness.</p> <p>2.5 Colleagues are consulted about ways to improve efficiency and service levels.</p>
3. Maintain workplace records	<p>3.1 Appropriate documents and information are collected in accordance with workplace procedures.</p> <p>3.2 Workplace records are accurately completed and submitted within required timeframe.</p> <p>3.3 Where appropriate completion of records is delegated and monitored prior to submission.</p> <p>3.4 Workplace records are kept in a secured location</p>
4. Solve problems and make decisions	<p>4.1 Workplace problems are promptly identified and considered from an operational and customer service perspective.</p> <p>4.2 Short term action is initiated to resolve the immediate</p>

	<p>problem where appropriate.</p> <p>4.3 Problems are analysed for any long term impact and potential solutions are assessed and actioned in consultation with relevant colleagues.</p> <p>4.4 Where problem is raised by a team member, they are encouraged to participate in solving the problem.</p> <p>4.5 Follow up action is taken to monitor the effectiveness of solutions in the workplace.</p>
--	--

Variable	Range
Workplace records	May include but not limited to: <ul style="list-style-type: none"> • staff records • regular performance reports

Evidence Guide	Description
Critical Aspects of Competence	<ul style="list-style-type: none"> • ability to effectively monitor and respond to a range of common operational and service issues in the workplace • understanding of the role of staff involved in workplace monitoring • knowledge of quality assurance, principles of workflow planning, delegation and problem solving
Underpinning Knowledge and Attitudes	Demonstrate knowledge and attitude on: <ul style="list-style-type: none"> • the roles and responsibilities of those involved in monitoring work operations • overview of leadership and management responsibilities • principles of work planning • typical work organisation methods appropriate to the industry • quality assurance principles and time management • principles of delegation • problem solving and decision making processes • industrial and/or legislative issues which affect short term work organization as appropriate to industry sector
Underpinning Skills	<ul style="list-style-type: none"> • Planning and organizing workflow • Monitoring and improving workplace operations • Maintaining workplace records • Evaluating efficiency • Reporting and documentation
Resource Implications	May include but not limited to workplace or fully equipped assessment location with necessary tools and equipment as well as consumable materials
Methods of Assessment	Competence may be assessed through: <ul style="list-style-type: none"> • Interview / Written Test • Observation/Demonstration with Oral questioning
Context of Assessment	Competency may be assessed in the work place or in a simulated work place setting

Occupational Standard: Bamboo Furniture Making Level III	
Unit Title	Lead Small Team
Unit Code	IND BFM3 09 0411
Unit Descriptor	This unit covers the knowledge, skills and attitudes to lead small teams including setting and maintaining team and individual performance standards.

Elements	Performance Criteria
1. Provide team leadership	<p>1.1 Work requirements are identified and presented to team members</p> <p>1.2 Reasons for instructions and requirements are communicated to team members</p> <p>1.3 Team members' queries and concerns are recognized, discussed and dealt with</p>
2. Assign responsibilities	<p>2.1 Duties and responsibilities are allocated having regard to the skills, knowledge and aptitude required to properly undertake the assigned task and according to company policy</p> <p>2.2 Duties are allocated having regard to individual preference, domestic and personal considerations, whenever possible</p>
3. Set performance expectations for team members	<p>3.1 Performance expectations are established based on client needs and according to assignment requirements</p> <p>3.2 Performance expectations are based on individual team members duties and area of responsibility</p> <p>3.3 Performance expectations are discussed and disseminated to individual team members</p>
4. Supervised team performance	<p>4.1. Monitoring of performance takes place against defined performance criteria and/or assignment instructions and corrective action taken if required</p> <p>4.2. Team members are provided with feedback, positive support and advice on strategies to overcome any deficiencies</p> <p>4.3. Performance issues which cannot be rectified or addressed within the team are referenced to appropriate personnel according to employer policy</p> <p>4.4. Team members are kept informed of any changes in the priority allocated to assignments or tasks which might impact on client/customer needs and satisfaction</p> <p>4.5. Team operations are monitored to ensure that employer/client needs and requirements are met</p> <p>4.6. Follow-up communication is provided on all issues affecting the team</p>

	4.7. All relevant documentation is completed in accordance with company procedures
--	--

Variable	Range
Work requirements	<ul style="list-style-type: none"> • Client Profile • Assignment instructions
Team member's concerns	<ul style="list-style-type: none"> • Roster/shift details
Monitor performance	<ul style="list-style-type: none"> • Formal process • Informal process
Feedback	<ul style="list-style-type: none"> • Formal process • Informal process
Performance issues	<ul style="list-style-type: none"> • Work output • Work quality • Team participation • Compliance with workplace protocols • Safety • Customer service

Evidence Guide	
Critical Aspects of Competence	<p>Demonstrates skills and knowledge to:</p> <ul style="list-style-type: none"> • Maintained or improved individuals and/or team performance given a variety of possible scenario • Assessed and monitored team and individual performance against set criteria • Represented concerns of a team and individual to next level of management or appropriate specialist and to negotiate on their behalf • Allocated duties and responsibilities, having regard to individual's knowledge, skills and aptitude and the needs of the tasks to be performed • Set and communicated performance expectations for a range of tasks and duties within the team and provided feedback to team members
Underpinning Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • Company policies and procedures • Relevant legal requirements • How performance expectations are set • Methods of Monitoring Performance • Client expectations

	<ul style="list-style-type: none"> • Team member's duties and responsibilities
Underpinning Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • Communication skills required for leading teams • Informal performance counseling skills • Team building skills • Negotiating skills
Resource Implications	<ul style="list-style-type: none"> • Access to relevant workplace or appropriately simulated environment where assessment can take place • Materials relevant to the proposed activity or task
Methods of Assessment	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	<p>Competence may be assessed in the work place or in a simulated work place setting</p>

Occupational Standard: Bamboo Furniture Making Level III	
Unit Title	Lead Workplace Communication
Unit Code	IND BFM3 10 0411
Unit Descriptor	This unit covers the knowledge, skills, and attitudes to lead in the dissemination and discussion of information and issues in the workplace.

Elements	Performance Criteria
1. Communicate information about workplace processes	1.1 Appropriate communication method is selected 1.2 Multiple operations involving several topics areas are communicated accordingly 1.3 Questions are used to gain extra information 1.4 Correct sources of information are identified 1.5 Information is selected and organized correctly 1.6 Verbal and written reporting is undertaken when required 1.7 Communication skills are maintained in all situations
2. Lead workplace discussion	2.1 Response to workplace issues are sought 2.2 Response to workplace issues are provided immediately 2.3 Constructive contributions are made to workplace discussions on such issues as production, quality and safety 2.4 Goals/objectives and action plan undertaken in the workplace are communicated.
3. Identify and communicate issues arising in the workplace	3.1 Issues and problems are identified as they arise 3.2 Information regarding problems and issues are organized coherently to ensure clear and effective communication 3.3 Dialogue is initiated with appropriate staff/personnel 3.4 Communication problems and issues are raised as they arise

Variable	Range
Methods of communication	<ul style="list-style-type: none"> • Non-verbal gestures • Verbal • Face to face • Two-way radio • Speaking to groups • Using telephone • Written • Using Internet

Evidence Guide	
Critical Aspects of Competence	<p>Demonstrates skills and knowledge to:</p> <ul style="list-style-type: none"> • Dealt with a range of communication/information at one time • Made constructive contributions in workplace issues • Sought workplace issues effectively • Responded to workplace issues promptly • Presented information clearly and effectively written form • Used appropriate sources of information • Asked appropriate questions • Provided accurate information
Underpinning Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • Organization requirements for written and electronic communication methods • Effective verbal communication methods • Apparel/Garments Terminology
Underpinning Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • Organize information • Understand and convey intended meaning • Participate in variety of workplace discussions • Comply with organization requirements for the use of written and electronic communication methods
Resource Implications	The following resources must be provided: variety of information, communication tools, simulated workplace
Methods of Assessment	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting

Occupational Standard: Bamboo Furniture Making Level III	
Unit Title	Improve Business Practice
Unit Code	IND BFM3 11 0411
Unit Descriptor	This unit covers the knowledge, skills and attitudes required in promoting, improving and growing business operations.

Elements	Performance Criteria
1. Diagnose the business	1.1 Data required for diagnosis is determined and acquired 1.2 Competitive advantage of the business is determined from the data 1.3 SWOT analysis of the data is undertaken
2. Benchmark the business	2.1 Sources of relevant benchmarking data are identified 2.2 Key indicators for benchmarking are selected in consultation with key stakeholders 2.3 Like indicators of own practice are compared with benchmark indicators 2.4 Areas for improvement are identified
3. Develop plans to improve business performance	3.1 A consolidated list of required improvements is developed 3.2 Cost-benefit ratios for required improvements are determined 3.3 Work flow changes resulting from proposed improvements are determined 3.4 Proposed improvements are ranked according to agreed criteria 3.5 An action plan to implement the top ranked improvements is developed and agreed 3.6 Organizational structures are checked to ensure they are suitable
4. Develop marketing and promotional plans	4.1 The practice vision statement is reviewed 4.2 Practice objectives are developed/reviewed 4.3 Target markets are identified/refined 4.4 Market research data is obtained 4.5 Competitor analysis is obtained 4.6 Market position is developed/reviewed 4.7 Practice brand is developed 4.8 Benefits of practice/practice products/services are identified

	4.9 Promotion tools are selected/developed
5. Develop business growth plans	<p>5.1 Plans to increase yield per existing client are developed</p> <p>5.2 Plans to add new clients are developed</p> <p>5.3 Proposed plans are ranked according to agreed criteria</p> <p>5.4 An action plan to implement the top ranked plans is developed and agreed</p> <p>5.5 Practice work practices are reviewed to ensure they support growth plans</p>
6. Implement and monitor plans	<p>6.1 Implementation plan is developed in consultation with all relevant stakeholders</p> <p>6.2 Indicators of success of the plan are agreed</p> <p>6.3 Implementation is monitored against agreed indicators</p> <p>6.4 Implementation is adjusted as required</p>

Variable	Range
Data required includes:	<ul style="list-style-type: none"> • organization capability • appropriate business structure • level of client service which can be provided • internal policies, procedures and practices • staff levels, capabilities and structure • market, market definition • market changes/market segmentation • market consolidation/fragmentation • revenue • level of commercial activity • expected revenue levels, short and long term • revenue growth rate • break even data • pricing policy • revenue assumptions • business environment • economic conditions • social factors • demographic factors • technological impacts • political/legislative/regulative impacts • competitors, competitor pricing and response to pricing

	<ul style="list-style-type: none"> • competitor marketing/branding • competitor products 		
Competitive advantage includes:	<ul style="list-style-type: none"> • services/products • fees • location • timeframe 		
Objectives should be 'SMART' , that	<ul style="list-style-type: none"> • Specific • Measurable • Achievable • Realistic • Time defined 		
Market research data includes:	<ul style="list-style-type: none"> • data about existing clients • data about possible new clients • data from internal sources • data from external sources such as: <ul style="list-style-type: none"> • trade associations/journals • Yellow Pages small business surveys • libraries • Internet • Chamber of Commerce • client surveys • industry reports • secondary market research • primary market research such as: <ul style="list-style-type: none"> • telephone surveys • personal interviews • mail surveys 		
Competitor analysis	<ul style="list-style-type: none"> • competitor offerings • competitor promotion strategies and activities • competitor profile in the market place 		
SWOT analysis includes:	<ul style="list-style-type: none"> • internal strengths such as staff capability, recognized quality • internal weaknesses such as poor morale, under-capitalization, poor technology • external opportunities such as changing market and economic conditions • external threats such as industry fee structures, strategic alliances, competitor marketing 		
Key indicators may include:	<ul style="list-style-type: none"> • salary cost and staffing • personnel productivity (particularly of principals) 		
Page 32 of 89	Ministry of Education Copyright	Bamboo Furniture Making Ethiopian Occupational Standard	Version 1 April 2011

	<ul style="list-style-type: none"> • profitability • fee structure • client base • size staff/principal • overhead/overhead control
Organizational structures include:	<ul style="list-style-type: none"> • legal structure (partnership, limited liability company, etc.) • organizational structure/hierarchy • reward schemes
Market position should include data on:	<ul style="list-style-type: none"> • product • the good or service provided • product mix • the core product - what is bought • the tangible product - what is perceived • the augmented product - total package of consumer • features/benefits • product differentiation from competitive products • new/changed products • price and pricing strategies (cost plus, supply/demand, ability to pay, etc.) • pricing objectives (profit, market penetration, etc.) • cost components • market position • distribution strategies • marketing channels • promotion • promotional strategies • target audience • communication • promotion budget
Practice brand may include:	<ul style="list-style-type: none"> • practice image • practice logo/letter head/signage • phone answering protocol • facility decor • slogans • templates for communication/invoicing • style guide • writing style • AIDA (attention, interest, desire, action)
Benefits may include:	<ul style="list-style-type: none"> • features as perceived by the client • benefits as perceived by the client

Promotion tools include:	<ul style="list-style-type: none"> • networking and referrals • seminars • advertising • press releases • publicity and sponsorship • brochures • newsletters (print and/or electronic) • websites • direct mail • telemarketing/cold calling
Yield per existing client may be increased by:	<ul style="list-style-type: none"> • raising charge out rates/fees • packaging fees • reduce discounts • sell more services to existing clients

Evidence Guide

Critical Aspects of Competence	<p>The candidate must be able to demonstrate:</p> <ul style="list-style-type: none"> • ability to identify the key indicators of business performance • ability to identify the key market data for the business • knowledge of a wide range of available information sources • ability to acquire information not readily available within a business • ability to analyze data and determine areas of improvement • ability to negotiate required improvements to ensure implementation • ability to evaluate systems against practice requirements and form recommendations and/or make recommendations • ability to assess the accuracy and relevance of information
Underpinning Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • data analysis • communication skills • computer skills to manipulate data and present information • negotiation skills • problem solving • planning skills • marketing principles • ability to acquire and interpret relevant data • current product and marketing mix • use of market intelligence • development and implementation strategies of promotion and growth plans

Underpinning Skills	<ul style="list-style-type: none"> • data analysis and manipulation • ability to acquire and interpret required data • current practice systems and structures • sources of relevant benchmarking data • methods of selecting relevant key benchmarking indicators • communication skills • working and consulting with others when developing plans for the business • negotiation skills and problem solving • using computers to manipulate, present and distribute information • planning skills
Resource Implications	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: <ul style="list-style-type: none"> • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the workplace or in a simulated workplace setting

Occupational Standard: Bamboo Furniture Making Level III	
Unit Title	Maintain Quality System and Continuous Improvement Processes (Kaizen)
Unit Code	IND BFM3 12 1012
Unit Descriptor	This unit of competence covers the skills and knowledge required to prevent process improvements in their own work from slipping back to former practices or digressing to less efficient practices. It covers responsibility for the day- to-day operation of the work/functional area and ensuring that quality system requirements are met and that continuous improvements are initiated and institutionalized.

Elements	Performance Criteria
1. Develop and maintain quality framework within work area	1.1 Distribute and explain information about the enterprise's quality system to personnel 1.2 Encourage personnel to participate in improvement processes and to assume responsibility and authority 1.3 Allocate responsibilities for quality within work area in accordance with quality system 1.4 Provide coaching and mentoring to ensure that personnel are able to meet their responsibilities and quality requirements
2. Maintain quality documentation	2.1 Identify required quality documentation, including records of improvement plans and initiatives 2.2 Prepare and maintain quality documentation and keep accurate data records 2.3 Maintain document control system for work area 2.4 Contribute to the development and revision of quality manuals and work instructions for the work area 2.5 Develop and implement inspection and test plans for quality controlled products
3. Facilitate the application of standardized procedures	3.1 Ensure all required procedures are accessible by relevant personnel 3.2 Assist personnel to access relevant procedures, as required 3.3 Facilitate the resolution of conflicts arising from job 3.4 Facilitate the completion of required work in accordance with standard procedures and practices

<p>4. Provide training in quality systems and improvement processes</p>	<p>4.1 Analyze roles, duties and current competency of relevant personnel</p> <p>4.2 Identify training needs in relation to quality system and continuous improvement processes (kaizen)</p> <p>4.3 Identify opportunities for skills development and/or training programs to meet needs</p> <p>4.4 Initiate and monitor training and skills development programs</p> <p>4.5 Maintain accurate training record</p>
<p>5. Monitor and review performance</p>	<p>5.1 Review performance outcomes to identify ways in which planning and operations could be improved</p> <p>5.2 Use the organization's systems and technology to monitor and review progress and to identify ways in which planning and operations could be improved</p> <p>5.3 Enhance customer service through the use of quality improvement techniques and processes</p> <p>5.4 Adjust plans and communicate these to personnel involved in their development and implementation</p>
<p>6. Build continuous improvement process</p>	<p>6.1 Organize and facilitate improvement team</p> <p>6.2 Encourage work group members to routinely monitor key process indicators</p> <p>6.3 Build capacity in the work group to critically review the relevant parts of the value chain</p> <p>6.4 Assist work group members to formalize improvement suggestions</p> <p>6.5 Facilitate relevant resources and assist work group members to develop implementation plans</p> <p>6.6 Monitor implementation of improvement plans taking appropriate actions to assist implementation where required.</p>
<p>7. Facilitate the identification of improvement opportunities</p>	<p>7.1 Analyze the job completion process</p> <p>7.2 Ask relevant questions of job incumbent</p> <p>7.3 Encourage job incumbents to conceive and suggest improvements</p> <p>7.4 Facilitate the trying out of improvements, as appropriate</p>
<p>8. Evaluate relevant components of quality system</p>	<p>8.1 Undertake regular audits of components of the quality system that relate to the work area</p> <p>8.2 Implement improvements in the quality system in accordance with own level of responsibility and workplace procedures</p> <p>8.3 Facilitate the updating of standard procedures and</p>

	practices
	8.4 Ensure the capability of the work team aligns with the requirements of the procedure

Variable	Range
Coaching and mentoring	<p>May refer to:</p> <ul style="list-style-type: none"> • providing assistance with problem-solving • providing feedback, support and encouragement • teaching another member of the team, usually focusing on a specific work task or skill
Continuous improvement processes may include:	<p>May include:</p> <ul style="list-style-type: none"> • cyclical audits and reviews of workplace, team and individual performance • evaluations and monitoring of effectiveness • implementation of quality systems, such as International Standardization for Organization (ISO) • modifications and improvements to systems, processes, services and products • policies and procedures which allow the organization to systematically review and improve the quality of its products, services and procedures • seeking and considering feedback from a range of stakeholders • Kaizen • Enterprise-specific improvement systems
Technology	<p>May include:</p> <ul style="list-style-type: none"> • computerized systems and software such as databases, project management and word processing • telecommunications devices • any other technology used to carry out work roles and responsibilities
Customer service	<p>May be:</p> <ul style="list-style-type: none"> • internal or external • to existing, new or potential clients
Key process indicators	<p>Key process indicators may include:</p> <ul style="list-style-type: none"> • statistical process control data/charts • orders • lost time, injury and other OHS records • equipment reliability charts, etc.
Continuous improvement tools	<p>May include:</p> <ul style="list-style-type: none"> • statistics • cause and effect diagrams • fishbone diagram • Pareto diagrams • run charts • X bar R charts • PDCA

	<ul style="list-style-type: none"> • Sigma techniques • balanced scorecards • benchmarking • performance measurement • upstream and downstream customers • internal and external customers immediate and/or final
--	---

Evidence Guide	
Critical Aspects of Competence	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • taking active steps to implement, monitor and adjust plans, processes and procedures to improve performance • supporting others to implement the continuous improvement system/processes, and to identify and report opportunities for further improvement • knowledge of principles and techniques associated with continuous improvement systems and processes • assist others to follow standard procedures and practices • assist others make improvement suggestions • standardize and sustain improvements <p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • implement and monitor defined quality system • requirements and initiate continuous improvements within the work area • apply effective problem identification and problem solving techniques • strengthen customer service through a focus on continuous improvement • implement, monitor and evaluate quality systems in the work area • initiate quality processes to enhance the quality of performance of individuals and teams in the work area • gain commitment of individuals/teams to quality principles and practices • implement effective communication strategies • encourage ideas and feedback from team members when developing and refining techniques and processes • analyze training needs and implement training programs • prepare and maintain quality and audit documentation
Underpinning Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • principles and techniques associated with: <ul style="list-style-type: none"> – benchmarking – best practice – change management – continuous improvement systems and processes – quality systems • range of procedures available and their application to different jobs • applicability of takt time and muda to jobs

	<ul style="list-style-type: none"> • identification and possible causes of variability in jobs • continuous improvement process for organization • questioning techniques • methods of conceiving improvements • suggestion and try out procedures • relevant OHS • quality measurement tools for use in continuous improvement processes • established communication channels and protocols • communication/reporting protocols • continuous improvement principles and process • enterprise business goals and key performance indicators • enterprise information systems management • enterprise organizational structure, delegations and responsibilities • policy and procedure development processes • relevant health, safety and environment requirements • relevant national and international quality standards and protocols • standard operating procedures (SOPs) for the technical work performed in work area • enterprise quality system
Underpinning Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • coach and mentor team members • gain the commitment of individuals and teams to continuously improve • innovate or design better ways of performing work • communicate with relevant people • prioritize and plan tasks related to encouraging and improving use of standardized procedures • negotiate with others to resolve conflicts and gain commitment to standardized procedures • facilitate other employees in improvement activities • implement and monitor defined quality system requirements • initiate continuous improvements within the work area • apply effective problem identification and problem solving techniques • strengthen customer service through a focus on continuous improvement • implement, monitor and evaluate quality systems • implement effective communication strategies • encourage ideas and feedback from team members when developing and refining techniques and processes • analyze training needs and implementing training programs • prepare and maintain quality and audit documentation
Resources Implication	<p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned,

	<p>currently being implemented, or implemented changes to work processes and procedures relevant to the candidate</p> <ul style="list-style-type: none"> • documentation and information in relation to production, waste, overheads and hazard control/management • enterprise quality manual and procedures • quality control data/records
Methods of Assessment	<p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • suitable simulation • oral or written questioning to assess knowledge of procedures and contingency management; principles and techniques associated with change management • review of the audit process and outcomes generated by the candidates <p>Those aspects of competence dealing with improvement processes could be assessed by the use of suitable simulations and/or a pilot plant and/or a range of case studies and scenarios.</p> <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competence which are difficult to assess directly.</p>
Context of Assessment	<p>Competence may be assessed in the work place or in a simulated workplace setting / environment.</p>

NTQF Level II

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Read and Interpret Drawings
Unit Code	IND BFM2 01 0411
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to read and interpret drawings.

Elements	Performance Criteria
1. Interpret technical drawing	1.1 Components, assemblies or objects are recognized as required. 1.2 Dimensions are identified as appropriate. 1.3 Instructions are identified and followed as required. 1.4 Material requirements are identified as required. 1.5 Tolerance , limits and fits are identified in drawing.
2. Read and interpret job specifications	2.1 Job specifications are identified from drawings, notes and descriptions. 2.2 Standards of work, finishes and tolerances are identified from project specifications. 2.3 Material attributes are identified from specifications
3. Interpret details from freehand sketch	3.1 Components, assemblies or objects are recognized as required. 3.2 Dimensions are identified as appropriate. 3.3 Instructions are identified and followed as required. 3.4 Material requirements are identified in accordance to job specifications and work orders.

Variable	Range
Occupational Health and Safety (OHS)	OHS requirements are to be in accordance with federal/regional legislation and regulations, organizational safety policies and procedures, and project safety plan. <ul style="list-style-type: none"> This may include protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of firefighting equipment, organizational first aid, hazard control and hazardous materials and substances Personal protective equipment is to include that prescribed under legislation, regulation and workplace policies and practices Emergency procedures are to include but may not be limited extinguishing fires, organizational first aid requirements and evacuation

Tools and Equipment	Equipment is to include but not be limited to drawings, sketches, blue prints and pencils.
---------------------	--

Evidence Guide	
Critical Aspects of Competence	Assessment requires evidence that the candidate: <ul style="list-style-type: none"> • read and interpreted accurately technical drawings/sketches
Underpinning Knowledge	Demonstrates knowledge of: <ul style="list-style-type: none"> • understanding specifications and relating to job requirements • key features of formal job specifications • drawing symbols • dimensioning techniques • tolerance, limits and fits • drawing tools and supplies
Underpinning Skills	Demonstrates skills of: <ul style="list-style-type: none"> • reading working drawings • interpreting signs and symbols • calculate tolerance, limits and fits • basic mathematical processes of addition, subtraction, division and multiplication
Resource Implications	The following resources must be provided: <ul style="list-style-type: none"> • Workplace or fully equipped assessment location with necessary tools and equipment as well as consumable material
Methods of Assessment	Competence may be accessed through: <ul style="list-style-type: none"> • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competency may be assessed individually in the actual workplace or through accredited institution

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Prepare Bamboo Poles for Furniture Production
Unit Code	IND BFM2 02 0411
Unit Descriptor	This unit describes the competencies required to prepare culms for furniture production.

Elements	Performance Criteria
1. Prepare for work	<p>1.1 Workplace health and safety requirements, including personal protection needs are observed throughout the work.</p> <p>1.2 Tools, machines and equipment are selected and checked prior to use to ensure that they are appropriate for work</p> <p>1.3 Suitable work area is selected for the task.</p>
2. Select poles	<p>2.1 Bamboo poles are selected according to job specification and design requirements</p> <p>2.2 Selected poles are appropriate for furniture production</p> <p>2.3 Selected poles are sorted by age and diameter.</p> <p>2.4 Materials are visually inspected for flaws and faults.</p> <p>2.5 Narrow tip of the pole and the stout bamboo rhizome are removed before cutting to length</p> <p>2.6 Cut to length bamboo poles readied for further processing</p>
3. Scraping	<p>3.1 Waxy epidermis and nodal flange are removed from the culm surface by scraping gently and evenly without damaging the surface appearance</p> <p>3.2 Scrapped bamboo is checked in conformity with job order and specifications.</p>
4. Clean up	<p>4.1 Faulty and/or defective equipment is tagged and reported in accordance with workplace practices</p> <p>4.2 Work area is cleaned, tools and equipment are cleaned and stored in accordance with workplace procedures</p> <p>4.3 Cut-offs, unused materials and scrapped materials are collected and stored for reuse or disposal following workplace procedures</p>

Variable	Range
Tools and equipment	May include but not limited to: <ul style="list-style-type: none"> • Diameter gauge • Measuring tape • Cross cut saw • Scrapper • Pole cutter

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge in: <ul style="list-style-type: none"> • selecting culms • Identify mature bamboo • Cut bamboo on specified length
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • machine operation • tools and equipment specifications, uses and maintenance • Culm handling and storing • Bamboo physical and anatomical properties • sanding and scraping • calculations and mensuration
Underpinning Skills	Demonstrates skills to: <ul style="list-style-type: none"> • operate machine • operate hand tools and portable power tools • Differentiate young and mature bamboo poles
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competency may be assessed through: <ul style="list-style-type: none"> • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competency may be assessed in the work place or in a simulated work place setting

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Carry-out Chemical Treatment
Unit Code	IND BFM3 03 0411
Unit Descriptor	This unit covers the knowledge, skills, and attitude in treating and curing bamboo materials with chemicals for use and durability.

Elements	Performance Criteria
1. Prepare for work	<p>1.1 Materials are selected according to work specifications</p> <p>1.2 Tools and equipment are identified and prepared for work</p> <p>1.3 Use of PPE, 5S and safety procedures are observed throughout the process</p> <p>1.4 Treatment Method is identified and confirmed with supervisor</p> <p>1.5 Chemical formulations are acquired and confirmed with supervisor.</p>
2. Check chemical mixtures / solutions	<p>2.1 Chemicals mixtures / solution needed are identified according to job specification</p> <p>2.2 Mixture is thoroughly stirred prior to use and following safety procedures</p> <p>2.3 Ensure there is no sediments or solid particles present in the mixtures / solutions</p> <p>2.4 Mixtures are ensured to be stored in a secured container</p>
3. Treat bamboo materials	<p>3.1 Bamboos materials for treatment are checked and prepared in accordance to job specifications</p> <p>3.2 Treatment is done according to company standards and standard procedures</p> <p>3.3 Safety procedures are observed throughout the process</p> <p>3.4 Problems with required work and/or operation of treatment facilities are identified and reported to appropriate persons.</p> <p>3.5 Used treatment chemicals are disposed in accordance to manufacturer's disposal procedures and company disposal procedures.</p>

4. Clean up work area	<p>4.1 Problems are handled following enterprise policy and procedures</p> <p>4.2 Process, encountered problems and action taken are recorded and reported in accordance with enterprise standard procedures</p> <p>4.3 Material that can be reused is collected and stored.</p> <p>4.4 Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures.</p>
-----------------------	--

Variable	Range
Chemicals	May include but not limited to: <ul style="list-style-type: none"> • borax • citric acid • sodium chloride • caustic soda • lime • insecticides
PPE	May include but not limited to: <ul style="list-style-type: none"> • gloves • goggles • coverall • safety shoes
Materials	May include but not limited to: <ul style="list-style-type: none"> • mixing & boiling tanks/containers • bamboo strips, slats and splits • fire woods • hanging cords
Tools and equipment	May include but not limited to: <ul style="list-style-type: none"> • stove • tongs • mixing ladles • Treatment vats • Treatment Chambers
Treatment Method	May include but not limited to: <ul style="list-style-type: none"> • Non-pressure method • Pressurize method • Traditional method

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge in: <ul style="list-style-type: none"> • Determine appropriate treatment method • Prepare chemical solutions • Treat bamboo materials

Underpinning Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • Safety principles and procedures • Chemical storage and disposal • Treatment Method • Five thermal laws • States of matter principles
Underpinning Skills	Demonstrates skills to: <ul style="list-style-type: none"> • Use and maintain relevant tools, machinery, equipment • Identify problems and equipment faults and demonstrate appropriate response procedures • Use appropriate communication and interpersonal techniques with colleagues and others • Accurately record and report workplace information, and maintain documentation • Efficiently and safely treat bamboo materials
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competency may be assessed through: <ul style="list-style-type: none"> • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competency may be assessed in the work place or in a simulated work place setting

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Dry Kiln Bamboo Materials
Unit Code	<u>IND BFM2 04 0411</u>
Unit Descriptor	This unit covers the knowledge, skills, and attitude required in kiln drying bamboo materials.

Elements	Performance Criteria
1. Prepare for work	<p>1.1 Applicable Occupational Health and Safety (OHS), legislative and organizational requirements relevant to drying hardwood are identified and complied with</p> <p>1.2 Work order is reviewed and checked with appropriate personnel</p> <p>1.3 Equipment is selected appropriate to work requirements and checked for operational effectiveness in accordance with manufacturer's recommendations</p> <p>1.4 Oven sections and sample boards are selected and cut in accordance with standard operating procedures</p> <p>1.5 Drying process is planned in accordance with site procedures</p> <p>1.6 Communication with others is established and maintained in accordance with OHS requirements</p>
2. Load and control drying conditions	<p>2.1 Bamboo materials to be dried are visually assessed for consistent drying characteristics and adjusted to meet site requirements</p> <p>2.2 Moisture content is measured and routinely compared with anticipated levels in accordance with standard operating procedures</p> <p>2.3 Pre start-up checks are carried out on equipment in accordance with site requirements</p> <p>2.4 Kiln is loaded with racks selected for processing and loading completed and reported</p> <p>2.5 Baffles and blankets are positioned in accordance with standard operating procedures</p> <p>2.6 Kiln control settings are regularly adjusted and routinely checked to site drying schedules</p>
3. Unload kiln	<p>3.1 Drying end point is identified and kiln made safe for entry</p> <p>3.2 Kiln is opened and moisture content of bamboo materials checked in accordance with anticipated equilibrium moisture content</p> <p>3.3 Moisture probes and baffles are removed from samples in accordance with standard operating procedures</p>

	<p>3.4 Kiln change is monitored and reconditioning or high humidity treatment conducted as required</p> <p>3.5 Bamboo materials are directed and moved to storage or processing operations in accordance with site requirements</p> <p>3.6 Sub-standard material is rejected and disposed of in accordance with site requirements</p>
4. Clean up work area	<p>4.1 Problems are handled following enterprise policy and procedures</p> <p>4.2 Process, encountered problems and action taken are recorded and reported in accordance with enterprise standard procedures</p> <p>4.3 Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures.</p>

Variable	Range
Occupational Health and Safety (OHS)	<p>OHS requirements are to be in accordance with federal/regional legislation and regulations, organizational safety policies and procedures, and project safety plan.</p> <ul style="list-style-type: none"> This may include protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of firefighting equipment, organizational first aid, hazard control and hazardous materials and substances Personal protective equipment is to include that prescribed under legislation, regulation and workplace policies and practices Emergency procedures are to include but may not be limited extinguishing fires, organizational first aid requirements and evacuation
Work order	<ul style="list-style-type: none"> is to include instructions for the drying of bamboo poles, slats, slivers, skewers and may diameter, width, length, thickness and quantity
Appropriate personnel	<ul style="list-style-type: none"> may include supervisors, suppliers, clients, colleagues and managers
Equipment	<ul style="list-style-type: none"> may include low temperature kilns up to 60 to 70 degrees Celsius with a heat source which may be solar, electricity or gas, kilns powered by burning wood waste up to temperatures of 90 degrees Celsius, vacuum dryers, and kilns powered by steam producing boilers is to include procedures for equipment lock-out, i.e. protecting operators and co-workers from accidental injury by isolating the machine from the power source Moisture meter Oven dryer

	<ul style="list-style-type: none"> • Weighing scale
Communication	<ul style="list-style-type: none"> • may include verbal and non-verbal language, constructive feedback, active listening, questioning to clarify and confirm understanding, use of positive, confident and cooperative language, use of language and concepts appropriate to individual social and cultural differences, control of tone of voice and body language
Visually assessed	<ul style="list-style-type: none"> • is to include the assessment of materials to determine finish quality and faults and may include stability, spacing of strips and support to minimize warping
Moisture content (MC)	<ul style="list-style-type: none"> • is the amount of moisture maintained in timber or timber products after drying to avoid cracking and deforming • may include testing for capacitance, resistance and oven-dry conditions
Pre-start up checks	<ul style="list-style-type: none"> • are conducted to ensure the equipment has been set-up correctly, the systems are performing accurately and equipment is operating to optimum performance
Drying schedules	<ul style="list-style-type: none"> • is to include drying times based on moisture content
Drying End Points	<ul style="list-style-type: none"> • is the predicted time when the drying process will be completed and the desired moisture content achieved
Equilibrium Moisture Content (EMC)	<ul style="list-style-type: none"> • is the moisture level to be achieved by drying which will be sustainable in the environment after processing thereby retaining its shape and strength without excessive movement

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge in: <ul style="list-style-type: none"> • Effectively conduct kiln operations • Efficiently bamboo materials to target moisture content in readiness for storage and/or processing • Correctly determine and record moisture content during drying operations
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • Drying techniques • Kiln operations • Basic knowledge on how bamboo dries • Methods of visual inspection • Characteristics of bamboo • Procedures for the recording, reporting and maintenance of workplace records and information
Underpinning Skills	Demonstrates skills to: <ul style="list-style-type: none"> • Operate kiln dryer • Determine moisture content and drying condition • Identify problems and equipment faults and demonstrate appropriate procedures • Accurately record and report workplace information, and maintain documentation • use appropriate communication and interpersonal

	techniques with colleagues and others
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: <ul style="list-style-type: none"> • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the workplace or in a simulated workplace setting

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Operate and Maintain Basic Woodworking Machines
Unit Code	IND FMK2 05 0411
Unit Descriptor	This unit covers the skills, attitudes and knowledge required in setting-up and operating different machines in the production of bamboo furniture.

Elements	Performance Criteria
1. Prepare for work	<p>1.1 Work instructions are used to determine job requirements, including design, quality, materials, equipment, and quantities.</p> <p>1.2 Cutting list and job specifications are read and interpreted.</p> <p>1.3 Workplace health and safety requirements, including personal protection needs, are observed throughout the work.</p> <p>1.4 Material for machining is selected and inspected for quality</p> <p>1.5 Joining machines, cutting tools and jigs are identified and checked for safe and effective operation.</p> <p>1.6 Procedures are determined for minimizing waste material.</p> <p>1.7 Procedures are identified for maximizing energy efficiency while completing the job.</p>
2. Set-up machines	<p>2.1 Safety equipment, including emergency stops, gauges, guards and controls are checked.</p> <p>2.2 Machine settings and adjustments are made in accordance with job requirements and machine and tool manufacturer instructions.</p> <p>2.3 Trial runs are conducted to check machine operation, accuracy and quality of finished work.</p> <p>2.4 Necessary adjustments are made to machine settings.</p>
3. Operate machines	<p>3.1 Machine start-up procedure is carried out in accordance with manufacturers' instructions.</p> <p>3.2 Material is fed into machine in accordance with manufacturers' instructions, tooling requirements, safe handling procedures and standard workplace operating procedures.</p> <p>3.3 Machine is operated in accordance with its designed capacity and purpose and to manufacturers' recommendation.</p>

	<p>3.4 Machine operation is monitored to ensure product quality and output.</p> <p>3.5 Waste quantities are checked and minimized.</p> <p>3.6 Items that do not meet quality requirements are recycled or discarded according to workplace procedures.</p> <p>3.7 Problems with required work and/or operation of machine are identified and reported to appropriate persons.</p>
4. Clean up work area	<p>4.1 Material that can be reused is collected and stored.</p> <p>4.2 Waste and scrap are removed following workplace procedures.</p> <p>4.3 Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures.</p>

Variables	Range
Occupational Health & Safety (OH&S)	<ul style="list-style-type: none"> OHS requirements include legislation, material safety management systems, hazardous substances and dangerous goods code and local safe operating procedures Work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling procedures and organization insurance requirements
Tools and Equipment	<ul style="list-style-type: none"> Tools and equipment are to include: machine-specific tools and tension wrenches and may include: screwdrivers, hammers, spanners, jigs and fixtures & joining machine Machine may include but not limited to: <ul style="list-style-type: none"> Automated edge banding machines, Mechanical wood turning lathes, Routing and shaping machines pressure and clamping machines, Joining machines
Materials	<p>Materials may include but not limited to:</p> <ul style="list-style-type: none"> joining machine consumables, oils and lubricants and trial materials

Evidence Guide	
Critical Aspects of Competence	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> Interpreted work order and locate and apply relevant information Applied safe handling requirements for equipment, products and materials, including use of personal protective equipment

	<ul style="list-style-type: none"> • Read and interpreted cutting lists and job specifications • Identified materials used in the work process • Follow work instructions, operating procedures and inspection processes to - minimize the risk of injury to self or others • Prevented damage and wastage of materials, equipment and products • Maintained required production output and product quality • Identify, set up, operate to their full capacities at least two different types of joining machines (mortise and tenon and dovetail), including the use of safety cut-outs and guards and their application of the machines to a variety of materials • Conduct operator maintenance on the machines and related equipment • Work effectively with others • Modify activities to cater for variations in workplace context and environment
Underpinning Knowledge and Attitudes	<p>Demonstrate knowledge and attitudes on:</p> <ul style="list-style-type: none"> • Types, characteristics, uses and limitations of Wood working machines • Joining processes and techniques • Characteristics of materials and uses of products produced • Workplace guidelines regarding acceptable tolerance levels • Workplace safety policies and procedures • Characteristics of machines and operating procedures • Procedures for reporting machinery faults and material defects
Underpinning Skills	<p>Demonstrate skills on:</p> <ul style="list-style-type: none"> • Setting up woodworking machines • Operating woodworking machines • Observing OHS measures and procedures • Cleaning workplace after operations
Resources Implication	The following resources must be provided: variety of information, communication tools, simulated workplace
Methods of Assessment	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Perform Basic Bamboo Processing
Unit Code	IND BFM2 06 0411
Unit Descriptor	This unit covers the skills, knowledge and in performing basic bamboo processing. This includes splitting, slicing, slitting, crushing and production of semi-processed bamboo materials

Elements	Performance Criteria
1. Prepare for work	<p>1.1 Production process to be undertaken are properly identified and confirmed</p> <p>1.2 Bamboo are selected according to work specifications</p> <p>1.3 Tools and equipment are identified and checked for functionality and safe operations</p> <p>1.4 Use of PPE, 5S and safety procedures are observed throughout the process</p> <p>1.5 Workstation is made ready and safe for work activity</p>
2. Produce semi-processed bamboo materials	<p>2.1 Bamboo is cut according to specified length</p> <p>2.2 Appropriate tools and equipment is selected for every required production process to maximize output and minimize wastage.</p> <p>2.3 Size of semi-processed bamboo materials conformed to job specifications.</p>
3. Produce sticks	<p>3.1 Materials is selected and cut according to specifications</p> <p>3.2 Size and shape of sticks conforms to job specifications</p>
4. Clean up	<p>4.1 Material that can be reused is collected and stored</p> <p>4.2 Waste and scrap are removed following workplace procedures</p> <p>4.3 Equipment and work area are cleaned and made ready for the next work in accordance with OHS procedures</p> <p>4.4 Unserviceable equipment is tagged and faults identified in accordance with OHS procedures</p> <p>4.5 Necessary documentation is accomplished in accordance with enterprise standards</p>

Variable	Range
Production process	May include but not limited to: <ul style="list-style-type: none"> • Cutting • Splitting • Ripping • Slitting • Crushing • Waning
Tools and equipment	May include but not limited to: <ul style="list-style-type: none"> • Twin Rip saw • Manual Splitter • Splitting Machine • Wicking Machine • Doweling gadget • Pole cutter • Hand saw • Knife • Machete/Bolo
PPE	May include but not limited to: <ul style="list-style-type: none"> • gloves • goggles • coverall • safety shoes
Semi-processed bamboo materials	May include but not limited to: <ul style="list-style-type: none"> • Slats • Slivers • Wickers • Skewers • Crush bamboo
Sticks	May include but not limited to: <ul style="list-style-type: none"> • Incense stick • Tooth pick • Chop Stick

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge in: <ul style="list-style-type: none"> • preparation of culms • straightening and shaping • carry out fabrication • weaving of bamboo products
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • machine operation • operate hand tools and portable power tools • fabrication methods and operation • chemical treatment • sanding

	<ul style="list-style-type: none"> • carpentry techniques and procedures • density estimating of culms
Underpinning Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • machine operation • operate hand tools and portable power tools • application of chemical treatment • straightening and shaping methods and operation • weaving mat
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competency may be assessed in the work place or in a simulated work place setting

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Produce Joints
Unit Code	IND BFM2 07 0411
Unit Descriptor	This unit describes the competences required to fabricate bamboo furniture joints using hand tools and machines.

Elements	Performance Criteria
1. Prepare workstation	<p>1.1 Work instructions and technical drawings are obtained and confirmed</p> <p>1.2 Technical drawing is reviewed and interpreted to determine furniture style and joint type</p> <p>1.3 Required materials, tools and equipment are acquired and made ready</p> <p>1.4 Tools and equipment are checked for functionality following OHS procedures</p> <p>1.5 Workplace is ensured for safety</p>
2. Make joints	<p>2.1 Component joints are identified in accordance with technical drawing and design specifications</p> <p>2.2 Materials are resized in accordance with design specification of component joints</p> <p>2.3 Measurements and calculations are checked to ensure accuracy of outcomes</p> <p>2.4 Culm is joined using appropriate tool or equipment following OHS and quality procedures</p> <p>2.5 Different joint types are produced in accordance with design specifications and applying carpentry techniques</p> <p>2.6 Appropriate fastening material is used in accordance with design specifications</p>
3. Complete operation	<p>3.1 Tools are checked for serviceable condition, returned and stored in accordance with workplace procedures.</p> <p>3.2 Unused materials are returned and/or stored in accordance with work procedures.</p> <p>3.3 Work site is cleaned and freed of waste/scrap materials following environment safety guidelines and policies</p> <p>3.4 Necessary documentation is accomplished in accordance with company standard procedures</p>

Variable	Range
Technical drawing	May include but not limited to: <ul style="list-style-type: none"> • sketching • working drawings • scaling
Materials	May include but not limited to: <ul style="list-style-type: none"> • Bamboo pole • solid wood • metal • Fastening materials
Tools and equipment	May include but not limited to: <ul style="list-style-type: none"> • jig and template • hand tools • Portable power tools (driller, grinder, sander...) • Stationary machines (cross cut saw, splitter, inner node remover, planer, sander, press, polishing.....)
OHS and quality procedures	<ul style="list-style-type: none"> • OH & S requirements are to be in accordance with government legislation and regulations • Personal protective equipment is to include that prescribed under legislation, regulation and workplace policies and practices. • Safe operating procedures are to include but not be limited to the conduct of operational risk assessment and treatments associated with power cables (including overhead service trays, cables and conduits), trip hazards, working with dangerous materials, working in confined spaces and in proximity to others • Emergency procedures related to this unit are to include but may not be limited to extinguishing fires, organizational first aid requirements and evacuation.
Carpentry techniques	May include but not limited to: <ul style="list-style-type: none"> • joinery • sawing/cutting • carving methods • fastening

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge in: <ul style="list-style-type: none"> • prepare workstations • read and interpret drawings • use equipment/machines, hand and portable power tools • make joints

Underpinning Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • read and interpret technical drawings • calculations and mensuration • lay-outing and marking parts/components • different type of bamboo furniture joints • fastening material • tools and equipment types, specification, uses and maintenance
Underpinning Skills	Demonstrates skills to: <ul style="list-style-type: none"> • read and interpret drawings • select and use machines, hand and portable power tools • produce joints
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: <ul style="list-style-type: none"> • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Assemble Component Parts
Unit Code	IND BFM2 08 0411
Unit Descriptor	This unit describes the competencies required to assemble parts of bamboo furniture, select appropriate device for assembly, and carry out assembly procedures

Elements	Performance Criteria
1. Prepare workstation	1.1 Plan and drawings are read and interpreted 1.2 Component parts are checked and sorted for quality 1.3 Fittings, fasteners, attachments and materials are checked and made ready 1.4 Tools and equipment suitable for assembly are selected and checked for functionality 1.5 Jigs are selected and checked for suitability of purpose 1.6 Work area is ensured for safe work activity
2. Assemble component parts	2.1 Components are laid out and joined using jigs and appropriate fastenings 2.2 Hand and/or power tools and equipment are used as required 2.3 Assembled frame is checked for compliance with specifications 2.4 Components are prepared, assembled and fitted as per specification 2.5 Angle adjustment and levelness are checked for compliance to the job specifications 2.6 Assembled product is cleaned and sanded 2.7 Finished products are made ready for finishing
3. Clean up	3.1 Faulty and/or defective equipment is tagged and reported in accordance with workplace procedures 3.2 Waste and scrap are removed following OHS procedures 3.3 Tools and equipment used are cleaned, checked for serviceable condition and stored appropriately in accordance with workplace procedures 3.4 Equipment and work area are cleaned in accordance with workplace and OHS procedures

Variable	Range
Assembly tools and equipment	May include but not limited to: <ul style="list-style-type: none"> • Jigs • Portable power tools • Hand tools • Furniture accessories • Hand tools (hammer, mallet, clamps....) • Equipment (clamping device, press machine, portable drill....)
Assembly Procedures	May include but not limited to: <ul style="list-style-type: none"> • Joinery • Nailing • Tying • Drilling • Riveting
Materials	May include but not limited to: <ul style="list-style-type: none"> • Raw materials (glue, nails, screws.....)

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge in: <ul style="list-style-type: none"> • prepare component parts and workplace • select appropriate device for assembly • carry out assembly
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • interpreting and reading of drawings • operation of assembling devices • application of assemble material • measuring and leveling instruments • Preparation of parts and workplace • Selection of appropriate device for assembly • carry out assembly
Underpinning Skills	Demonstrates skills to: <ul style="list-style-type: none"> • Operate assemble devices • Use assemble material • Preparation of parts and workplace • Selection of appropriate device for assembly • carry out assembly
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competency may be assessed through: <ul style="list-style-type: none"> • Interview / Written Test / Oral Questioning • Observation / Demonstration
Context of Assessment	Competency may be assessed in the work place or in a simulated work place setting

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Fabricate Bamboo Weaves
Unit Code	IND BFM2 09 0411
Unit Descriptor	This unit covers the skills, attitudes and knowledge required in producing woven products

Elements	Performance Criteria
1. Prepare for work	<p>1.1 Work instructions are used to determine job requirements, including design, quality, materials, equipment, and quantities.</p> <p>1.2 Cutting list and job specifications are read and interpreted.</p> <p>1.3 Workplace health and safety requirements, including personal protection needs, are observed throughout the work.</p> <p>1.4 Tools and materials for weaving are selected and inspected for quality</p> <p>1.5 Procedures are determined for minimizing waste material.</p> <p>1.6 Procedures are identified for maximizing energy efficiency while completing the job.</p>
2. Weave item	<p>2.1 Select materials based design specifications</p> <p>2.2 Determine the length of ribs to use based on size of the item</p> <p>2.3 Weave the item using basic weave in line with standard operating procedures.</p>
3. Inspect the quality of product	<p>3.1 Ensure that the woven product meets the specified requirements in terms of size and shape</p> <p>3.2 Ensure the weaves are tightly woven and repair if necessary</p> <p>3.3 Products are checked inline with company quality standards.</p>
4. Store woven products	<p>4.1 Finished products are stored in cool environment</p> <p>4.2 Finished product are stored properly in accordance to company standards</p>

5. Clean up work area	<p>5.1 Material that can be reused is collected and stored.</p> <p>5.2 Waste and scrap are removed following workplace procedures.</p> <p>5.3 Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures.</p>
-----------------------	--

Variable	Range
Tools	<ul style="list-style-type: none"> • Measuring instruments • Straight edge • Torque gauge
Materials	<ul style="list-style-type: none"> • Slats • Slivers • Wickers • Crush bamboo

Evidence Guide	
Critical Aspects of Competence	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> • Weave bamboo of given size neatly • Ensure finished products is inline with company quality standards • Adhere to required safety standards
Underpinning Knowledge and Attitudes	<p>Demonstrate knowledge and attitudes on:</p> <ul style="list-style-type: none"> • Identify and describe different types of weaves (e.g. ring basic, and twist weaves) • Know how to measure the size of bamboo • Know how to inspect weave • Know how to secure weave pattern stitching between types of weave
Underpinning Skills	<p>Demonstrate skills on:</p> <ul style="list-style-type: none"> • Reading skills required to interpret work instruction • Communication skills • Handling measuring instruments • Measure bamboo of different sizes • Visualizing objects and shapes • Interpreting formulae • Rectify loose weaves.
Resource Implication	<p>Access is required to real or appropriately simulated situations and place of assessment equipped with necessary tools and equipment appropriate for the assessment activity</p>
Method of Assessment	<p>Competence in this unit must be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Observation/Demonstration with Oral questioning
Context of Assessment	<p>Assessment may be conducted in the workplace or in a simulated work environment</p>

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Apply Basic Finishing
Unit Code	IND BFM2 10 0411
Unit Descriptor	This unit covers the knowledge, attitudes and skills required in to prepare surfaces of bamboo products for finishing and applying finishing materials.

Elements	Performance Criteria
1. Prepare product for finishing	1.1 Furniture product surface is cleaned and freed from foreign matters 1.2 Surface defects are corrected, sanded and smoothen 1.3 Characteristics of the surface and the required surface coating materials are identified 1.4 OHS requirements are observed throughout the work 1.5 Tools and equipment required are identified and set up 1.6 Sources of contamination in work area are identified and isolated
2. Prepare surfaces	2.1 Surfaces are prepared according to workplace procedures and specification 2.2 Surface preparation is checked for conformity with job specifications throughout the process 2.3 Products are inspected and approved for further processing 2.4 Defects and minor imperfections are rectified and/or reported in accordance with workplace procedures
3. Apply finishing materials	3.1 Use and apply finishing materials according to specification 3.2 Product item is dried according to specifications 3.3 Final checking is done
4. Clean up	4.1 Faulty and/or defective equipment is tagged and reported in accordance with workplace procedures 4.2 Waste and scrap are removed following OHS procedures 4.3 Tools and equipment used are cleaned, checked for serviceable condition and stored appropriately following OHS procedures 4.4 Work area are cleaned in accordance with workplace and OHS procedures

Variable	Range
Foreign Matters	May include but not limited to: <ul style="list-style-type: none"> • Substances/Chemicals <ul style="list-style-type: none"> • Grease • Oil • Alkaline • Dust • Rust • Exposed nails/wires • Welding spatters
Tools and Equipment	May include but not limited to: <ul style="list-style-type: none"> • Hand tools (Wrenches, screw drivers, chisel, pliers,...) • Finishing equipment (Air compressor, spray gun, sander.....) • Safety equipment
Surface	May include but not limited to: <ul style="list-style-type: none"> • Bamboo strips • Bamboo slats • Woven bamboo • Bamboo boards • Wood • Metal frames
Minor imperfection	May include but not limited to: <ul style="list-style-type: none"> • Minor cracks • Surface imperfection • Dents • Holes

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge in: <ul style="list-style-type: none"> • Surface preparation • Prepare finishing materials • Apply finishing materials
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: <ul style="list-style-type: none"> • machine operation • drying methods and operation • Finishing materials • Surface preparations • Types of surface defects and corrective remedy
Underpinning Skills	Demonstrates skills to: <ul style="list-style-type: none"> • Surface preparation • Prepare finishing materials • Apply finishing materials

Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Assessment Methods	Competency may be assessed through: <ul style="list-style-type: none"> • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competency may be assessed in the work place or in a simulated work place setting

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Maintain Simple Hand and Portable Power Tools
Unit Code	IND BFM2 11 0411
Unit Descriptor	This unit covers the knowledge, skills and attitudes needed to undertake operational maintenance of hand tools and portable power tools and does not include repair.

Elements	Performance Criteria
1. Prepare tools and equipment	<p>1.1 Maintenance tools selected are checked for safe operation and working condition</p> <p>1.2 Selected tools and equipments are checked for functionality</p> <p>1.3 Unsafe or faulty tools and equipments are marked for repair according to standard company procedure</p>
2. Use hand tools and equipment	<p>2.1 Tools and equipment are used according to tasks undertaken</p> <p>2.2 Safety procedures in using tools and equipment are observed at all times</p> <p>2.3 Appropriate personal protective equipment (PPE) are used during work operations</p> <p>2.4 Tools and equipment are handled without damage according to procedures</p> <p>2.5 Malfunctions, unplanned or unusual events are reported to the supervisor</p>
3. Maintain tools and equipment	<p>3.1 Tools and equipment are lubricated according to preventive maintenance plan or manufacturer's specifications</p> <p>3.2 Measuring instruments are checked and calibrated in accordance with manufacturer's instructions</p> <p>3.3 Tools and equipment are cleaned every after use and dried before storage</p> <p>3.4 Routine maintenance of tools and equipment is undertaken according to standard operational procedures, principles and techniques</p> <p>3.5 Tools are stored safely in appropriate locations according to manufacturer's specifications and standard operating procedures</p> <p>3.6 Inventory report of tools and equipment is accomplished in accordance to company standard operating procedures</p>

Variable	Range
Tools	<ul style="list-style-type: none"> • Hand tools for adjusting, dismantling, assembling and finishing • Hand tools such as knife, chisel, pliers and scissors • Tool set includes the following but not limited to: screw drivers, pliers, punches, wrenches, files, chisels • Cutting tools - hacksaw, crosscut saw, rip saw • Boring tools - auger, brace, grinlet, hand drill • Holding tools - vise grip, C-clamp, bench vise • Threading tools - die and stock, taps • Measuring tools
Equipments	<ul style="list-style-type: none"> • forklift • transport vehicle • cart and ladder • Finishing equipment (Air compressor, spray gun, sander.....) • Safety equipment • Kiln dryer • Blower • Jigs • Portable power machines (drill, grinder, sander.....) • Stationary machines (saw, grinder, splitter, ...)
Personal Protective Equipment (PPE)	<ul style="list-style-type: none"> • Gloves • Protective eyewear • Apron/overall
Maintenance	<ul style="list-style-type: none"> • Cleaning • Lubricating • Tightening • Simple tool repairs • Hand sharpening • Adjustment using correct procedures

Evidence Guide	
Critical Aspects of Competence	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> • selected and used appropriate tools and equipment to carry out task • identified functional and non-functional tools and equipment • checked, lubricated and calibrated tools, equipment and instruments according to manufacturer's specifications • replaced defective tools, equipment and their accessories • observed and applied safe handling of tools and equipment and safety work practices • prepared and submitted inventory report, where applicable

	<ul style="list-style-type: none"> • maintained workplace in accordance with OHS regulations • stored tools and equipment safely in appropriate locations and in accordance with company practices
Underpinning Knowledge and Attitudes	<ul style="list-style-type: none"> • Safety requirements in handling tools • Tools: Function, Operation, Common faults • Equipment: Uses, Specifications and Operations • Maintenance of tools and equipment • Types and uses of cleaning materials • Types and uses of lubricants • Storage and inventory of tools and equipments
Underpinning Skills	<ul style="list-style-type: none"> • Selecting and preparing tools and equipment • Using tools and equipment • Maintaining tools and equipment • Proper handling of materials, tools and equipment
Resource Implication	Access is required to real or appropriately simulated situations, including work areas, materials, tools and equipments, and to information on workplace practices and OHS practices.
Method of Assessment	Competence in this unit must be assessed through: <ul style="list-style-type: none"> • Interview/Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Assessment may be conducted in the workplace or in a simulated work environment

Occupational Standard: Spinning and Ginning Operations Level II	
Unit Title	Participate In Workplace Communication
Unit Code	IND BFM2 12 0411
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to gather, interpret and convey information in response to workplace requirements.

Elements	Performance Criteria
1. Obtain and convey workplace information	1.1 Specific and relevant information is accessed from appropriate sources 1.2 Effective questioning , active listening and speaking skills are used to gather and convey information 1.3 Appropriate medium is used to transfer information and ideas 1.4 Appropriate non- verbal communication is used 1.5 Appropriate lines of communication with supervisors and colleagues are identified and followed 1.6 Defined workplace procedures for the location and storage of information are used 1.7 Personal interaction is carried out clearly and concisely
2. Participate in workplace meetings and discussions	2.1 Team meetings are attended on time 2.2 Own opinions are clearly expressed and those of others are listened to without interruption 2.3 Meeting inputs are consistent with the meeting purpose and established protocols 2.4 Workplace interactions are conducted in a courteous manner 2.5 Questions about simple routine workplace procedures and matters concerning working conditions of employment are asked and responded 2.6 Meetings outcomes are interpreted and implemented
3. Complete relevant work related documents	3.1 Range of forms relating to conditions of employment are completed accurately and legibly 3.2 Workplace data is recorded on standard workplace forms and documents 3.3 Basic mathematical processes are used for routine calculations 3.4 Errors in recording information on forms/ documents are

	identified and properly acted upon
	3.5 Reporting requirements to supervisor are completed according to organizational guidelines

Variables	Range
Appropriate sources	<ul style="list-style-type: none"> • Team members • Suppliers • Trade personnel • Local government • Industry bodies
Medium	<ul style="list-style-type: none"> • Memorandum • Circular • Notice • Information discussion • Follow-up or verbal instructions • Face to face communication
Storage	<ul style="list-style-type: none"> • Manual filing system • Computer-based filing system
Protocols	<ul style="list-style-type: none"> • Observing meeting • Compliance with meeting decisions • Obeying meeting instructions
Workplace interactions	<ul style="list-style-type: none"> • Face to face • Telephone • Electronic and two way radio • Written including electronic, memos, instruction and forms, non-verbal including gestures, signals, signs and diagrams
Forms	<ul style="list-style-type: none"> • Personnel forms, telephone message forms, safety reports

Evidence Guide	
Critical Aspects of Competence	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> • Prepared written communication following standard format of the organization • Accessed information using communication equipment • Made use of relevant terms as an aid to transfer information effectively • Conveyed information effectively adopting the formal or informal communication
Underpinning Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • Effective communication • Different modes of communication, procedures and system • Organizational policies • Technology relevant to the enterprise and the individual's

	work responsibilities
Underpinning Skills	<p>Demonstrates skills of:</p> <ul style="list-style-type: none"> • Follow simple spoken language • Perform routine workplace duties following simple written notices • Participate in workplace meetings and discussions • Complete work related documents • Estimate, calculate and record routine workplace measures • Basic mathematical processes of addition, subtraction, division and multiplication • Ability to relate to people of social range in the workplace • Gather and provide information in response to workplace Requirements
Resource Implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> • Workplace or fully equipped assessment location with necessary tools and equipment as well as consumable material
Methods of Assessment	<p>Competence may be accessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Demonstration /Observation with Oral Questioning
Context of Assessment	<p>Competency may be assessed individually in the actual workplace or through accredited institution</p>

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Work in Team Environment
Unit Code	IND BFM2 13 0411
Unit Descriptor	This unit covers the skills, knowledge and attitudes to identify role and responsibility as a member of a team.

Elements	Performance Criteria
1. Describe team role and scope	<p>1.1 The role and objective of the team is identified from available sources of information</p> <p>1.2 Team parameters, reporting relationships and responsibilities are identified from team discussions and appropriate external sources</p>
2. Identify own role and responsibility within team	<p>2.1 Individual role and responsibilities within the team environment are identified</p> <p>2.2 Roles and responsibility of other team members are identified and recognized</p> <p>2.3 Reporting relationships within team and external to team are identified</p>
3. Work as a team member	<p>3.1 Effective and appropriate forms of communications used and interactions undertaken with team members who contribute to known team activities and objectives</p> <p>3.2 Effective and appropriate contributions made to complement team activities and objectives, based on individual skills and competencies and workplace context</p> <p>3.3 Observed protocols in reporting using standard operating procedures</p> <p>3.4 Contribute to the development of team work plans based on an understanding of team's role and objectives and individual competencies of the members.</p>

Variable	Range
Role and objective of team	<ul style="list-style-type: none"> Work activities in a team environment with enterprise or specific sector Limited discretion, initiative and judgment maybe demonstrated on the job, either individually or in a team environment

Sources of information	<ul style="list-style-type: none"> • Standard operating and/or other workplace procedures • Job procedures • Machine/equipment manufacturer's specifications and instructions • Organizational or external personnel • Client/supplier instructions • Quality standards • OHS and environmental standards
Workplace context	<ul style="list-style-type: none"> • Work procedures and practices • Conditions of work environments • Legislation and industrial agreements • Standard work practice including the storage, safe handling and disposal of chemicals • Safety, environmental, housekeeping and quality guidelines

Evidence Guide	Description
Critical Aspects of Competence	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> • Operated in a team to complete workplace activity • Worked effectively with others • Conveyed information in written or oral form • Selected and used appropriate workplace language • Followed designated work plan for the job • Reported outcomes
Underpinning Knowledge and Attitude	<p>Demonstrate knowledge and attitude on:</p> <ul style="list-style-type: none"> • Communication process • Team structure • Team roles • Group planning and decision making
Underpinning Skills	<ul style="list-style-type: none"> • Communicate appropriately, consistent with the culture of the workplace
Resource Implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> • Access to relevant workplace or appropriately simulated environment where assessment can take place • Materials relevant to the proposed activity or tasks
Methods of Assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> • Interview/Written Test • Demonstration/Observation with Oral Questioning
Context for Assessment	<ul style="list-style-type: none"> • Competency may be assessed in workplace or in a simulated workplace setting • Assessment shall be observed while task are being undertaken whether individually or in group

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Develop Business Practice
Unit Code	IND BFM2 14 0411
Unit Descriptor	This unit specifies the outcomes required to establish a business operation from a planned concept. It includes researching the feasibility of establishing a business operation, planning the setting up of the business, implementing the plan and reviewing operations once commenced.

Elements	Performance Criteria
1. Identify business opportunity	<p>1.1 Business opportunities are investigated and identified</p> <p>1.2 Feasibility study is undertaken to determine likely business viability</p> <p>1.3 Market research on product or service is undertaken</p> <p>1.4 Assistance with feasibility study of specialist and relevant parties is sought as required</p> <p>1.5 Impact of emerging or changing technology including e-commerce, on business operations are evaluated</p> <p>1.6 Practicability of business opportunity assessed in line with perceived risks, returns sought and resources available</p> <p>1.7 Business plan for operation is completed</p>
2. Identify personal business skills	<p>2.1 Financial and business skills available are identified and taken into account when business opportunities are researched</p> <p>2.2 Personal skills/attributes are assessed and matched against those perceived as necessary for a particular business opportunity</p> <p>2.3 Business risks are identified and assessed according to resources available and personal preferences</p>
3. Plan for establishment of business operation	<p>3.1 Business structure and operations are determined and documented</p> <p>3.2 Procedures to guide operations are developed and documented</p> <p>3.3 Financial backing for business operation is secured</p> <p>3.4 Business legal and regulatory requirements are identified and complied</p> <p>3.5 Human and physical resources required to commence business operation are determined</p>

	3.6 Recruitment strategies are developed and implemented
4. Implement establishment plan	<p>4.1 Marketing of business operation is undertaken</p> <p>4.2 Physical and human resources to implement business operation are obtained</p> <p>4.3 Operational unit to support and coordinate business operation is established</p> <p>4.4 Monitoring process for managing operation is developed and implemented</p> <p>4.5 Legal documents are carefully maintained and relevant records are kept and updated to ensure validity and accessibility</p> <p>4.6 Contractual procurement rights for goods and services including contracts with relevant people, negotiated and secured as required in accordance with the business plan</p> <p>4.7 Options for leasing/ownership of business premises identified and contractual arrangements completed in accordance with the business plan</p>
5. Review implementation process	<p>5.1 Review process for implementation of business operation is developed and implemented</p> <p>5.2 Improvements in business operation and associated management process are identified</p> <p>5.3 Identified improvements are implemented and monitored for effectiveness</p>

Variable	Range
Business opportunities maybe influenced by:	<ul style="list-style-type: none"> • expected financial viability • skills of operator • amount and types of finance available • returns expected or required by owners • likely return on investment • finance required • lifestyle issues
Business viability may include:	<ul style="list-style-type: none"> • opportunities available • market competition • timing/ cyclical considerations • skills available • resources available • location and/ or premises available • risk related to a particular business opportunity, especially

	<ul style="list-style-type: none"> • in regard to Occupational Health and Safety and • environmental considerations
Specialist and relevant parties	<ul style="list-style-type: none"> • Chamber of commerce • Financial planners and financial institution representatives, business planning specialists and marketing specialists • accountants • lawyers and providers of legal advice • government agencies • industry/trade associations • online gateways • business brokers/business consultants
Human and physical resources may include:	<ul style="list-style-type: none"> • software and hardware • office premises • communications equipment • specialist services through outsourcing, contracting and consultancy • staff • vehicles
Personal skills/attributes may include:	<ul style="list-style-type: none"> • technical and/ or specialist skills • business knowledge and skills • entrepreneurship • willingness to take risks
Business risks may be affected by and may include but are not restricted to:	<ul style="list-style-type: none"> • occupational health and safety and environmental considerations • relevant legislative requirements • security of investment • market competition • security of premises/ location • supply and demand • resources available
Resources may include:	<ul style="list-style-type: none"> • staff • money • time • equipment • space
Operational unit refers to:	<ul style="list-style-type: none"> • office location staffed with required personnel and equipped to service and support business • home-based site or other location such as leased or owned property

Legal documents may include:	<ul style="list-style-type: none"> • partnership agreements, • constitution documents, • statutory books for companies (Register of Members, Register of Directors and Minute Books), • Certificate of Incorporation, • Franchise Agreements and financial documentation, • appropriate software for financial records • recordkeeping including personnel, financial, taxation, OHS and environmental
Contracts with relevant people may include:	<ul style="list-style-type: none"> • owners, suppliers, • employees, landlords, • agents, distributors, • customers or any person with whom the business has, or seeks to have, a performance-based relationship

Evidence Guide	
Critical Aspects of Competence	<p>A person must be able to provide evidence:</p> <ul style="list-style-type: none"> • that a business operation has been planned and implemented from initial research into feasibility of the business and completion of the plan, through to implementing the plan and commencing operations • the ability to evaluate the results of research and assess the likely viability and practicability of a business opportunity, taking into account the current business/market climate and resources available
Underpinning Knowledge and Attitudes	<p>Demonstrate knowledge and attitudes on:</p> <ul style="list-style-type: none"> • Federal and regional government legislative requirements affecting business operations, especially in regard to occupational health and safety (OHS), equal employment opportunity (EEO), industrial relations and anti-discrimination • Technical or specialist skills relevant to the business operation • Financing options • Business systems and operations • Relevant marketing, management, sales and financial concepts • Methods for researching business opportunities • Principles of risk management relevant to the business • Methods of identifying relevant specialist services to complement the business • Forms and administrative systems • Services available and charges

	<ul style="list-style-type: none"> • Planning and control systems (sales, • Advertising and promotion, distribution and logistics • Financial recording systems • Legal rights and responsibilities • Record keeping duties • Operational factors relating to the business (provision of professional services, products)
Underpinning Skills	<p>Demonstrate skills on:</p> <ul style="list-style-type: none"> • Literacy skills to interpret legal requirements, company policies and procedures and immediate, day-to-day demands • Marketing skills • Business planning skills • Entrepreneurial skills • Problem-solving skills • OHS skills • Time management skills • Belief in services and products offered by the business • Communication skills including questioning, clarifying, reporting, and giving and receiving constructive feedback • Technical and analytical skills to interpret business documents, reports and financial statements and projections • Ability to relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities • Problem solving skills to develop contingency plans • Using computers and software packages to record and manage data and to produce reports • Literacy skills to enable interpretation of business information, numeracy skills for data analysis to aid research • Research skills to identify a business opportunity and to conduct a feasibility study • Analytical skills to assess personal attributes and to identify business risks • Observation skills for identifying appropriate people, resources and to monitor work
Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> • Access to relevant workplace documentation, financial records, and equipment
Methods of Assessment	<p>Competence may be assessed through:</p> <ul style="list-style-type: none"> • Interview / Written Test • Observation/Demonstration with Oral questioning
Context for Assessment	<p>Competence may be assessed in the workplace or in a simulated work environment</p>

Occupational Standard: Bamboo Furniture Making Level II	
Unit Title	Apply Continuous Improvement Processes (Kaizen)
Unit Code	IND BFM2 15 1012
Unit Descriptor	This unit of competence covers the exercise of good workplace practice and effective participation in quality improvement teams. Personnel are required to ensure the quality and integrity of their own work, detect non-conformances and work with others to suggest improvements in productivity and quality.

Elements	Performance Criteria
1. Satisfy quality system requirements in daily work	1.1 Access information on quality system requirements for own job function 1.2 Record and report quality control data in accordance with quality system 1.3 Follow quality control procedures to ensure products, or data, are of a defined quality as an aid to acceptance or rejection 1.4 Recognize and report non-conformances or problems 1.5 Conduct work in accordance with sustainable energy work practices 1.6 Promote sustainable energy principles and work practices to other workers
2. Analyze opportunities for corrective and/or optimization action	2.1 Compare current work practices, procedures and process or equipment performance with requirements and/or historical data or records 2.2 Recognize variances that indicate abnormal or sub-optimal performance 2.3 Collect and/or evaluate batch and/or historical records to determine possible causes for sub-optimal performance 2.4 Use appropriate quality improvement techniques to rank the probabilities of possible causes
3. Recommend corrective and/or optimization actions	3.1 Analyze causes to predict likely impacts of changes and decide on the appropriate actions 3.2 Identify required changes to standards and procedures and training 3.3 Report recommendations to designated personnel
4. Participate in the implementation of recommended actions	4.1 Implement approved actions and monitor performance following changes to evaluate results 4.2 Implement changes to systems and procedures to eliminate possible causes

	4.3 Document outcomes of actions and communicate them to <i>relevant personnel</i>
5. Participate in the development of continuous improvement strategies	<p>5.1 Review all relevant features of work practice to identify possible contributing factors leading to sub-optimal performance</p> <p>5.2 Identify options for removing or controlling the risk of sub-optimal performance</p> <p>5.3 Assess the adequacy of current controls, quality methods and systems</p> <p>5.4 Identify opportunities to continuously improve performance</p> <p>5.5 Develop recommendations for continual improvements of work practices, methods, procedures and equipment effectiveness</p> <p>5.6 Consult with appropriate personnel to refine recommendations before implementation of approved improvement strategies</p> <p>5.7 Document outcomes of strategies and communicate them to relevant personnel</p>

Variable	Range
Quality control procedures	<p>Quality control procedures may include:</p> <ul style="list-style-type: none"> • standards imposed by regulatory and licensing bodies • enterprise quality procedures • working to a customer brief or batch card and associated quality procedures • checklists to monitor job progress against agreed time, costs and quality standards • preparation of sampling plans • the use of hold points to evaluate conformance • the use of inspection and test plans to check compliance
Methods for statistical analysis	<p>Methods for statistical analysis may include:</p> <ul style="list-style-type: none"> • means • median • mode • ranges • standard deviations • statistical sampling procedures
Problem solving techniques	<p>Problem solving techniques may include:</p> <ul style="list-style-type: none"> • identifying inputs and outputs • sequencing a process • identifying and rectifying a problem step • root cause analysis • implementing preventative strategies

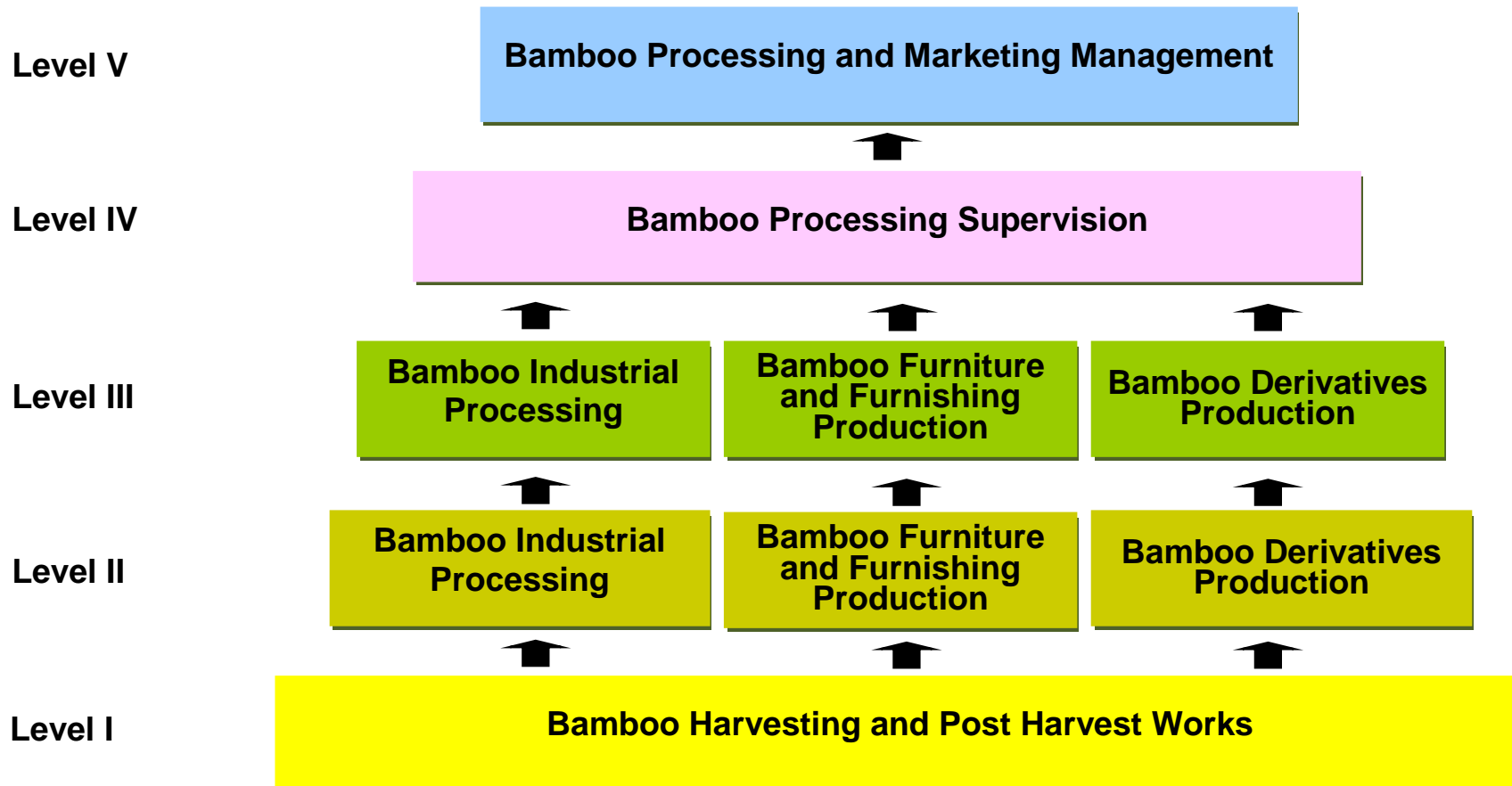
Quality improvement tools and techniques	<p>Quality improvement tools and techniques may include:</p> <ul style="list-style-type: none"> • run charts, control charts, histograms and scattergrams to present routine quality control data • plan, do, check, act (PDCA) • Ishikawa fishbone diagrams and cause and effect diagrams • logic tree • similarity/difference analysis • Pareto charts and analysis • force field/strength weakness opportunities threats (SWOT) analysis
Sustainable energy principles and work practices	<p>Sustainable energy principles and work practices may include:</p> <ul style="list-style-type: none"> • examining work practices that use excessive electricity • switching off equipment when not in use • regularly cleaning filters • insulating rooms and buildings to reduce energy use • recycling and reusing materials wherever practicable • minimizing process waste
Relevant personnel	<p>Communication to relevant personnel may involve:</p> <ul style="list-style-type: none"> • supervisors, managers and quality managers • administrative, laboratory and production personnel • internal/external contractors, customers and suppliers
Reporting	<p>Reporting may include:</p> <ul style="list-style-type: none"> • verbal responses • data entry into laboratory or enterprise database • brief written reports using enterprise proformas
Quality improvement opportunities	<p>Quality improvement opportunities could include improved:</p> <ul style="list-style-type: none"> • production processes • hygiene and sanitation procedures • reductions in waste and re-work • laboratory layout and work flow • safety procedures • communication with customers • methods for sampling, testing and recording data
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through regional or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the Ministry of Health

Evidence Guide	
Critical Aspects of Competence	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • use the enterprise's quality systems and business goals as a basis for decision making and action • apply all relevant procedures and regulatory requirements to ensure the quality and integrity of the products/services or data provided • apply and promote sustainable energy principles and work practices • detect non-conforming products or services in the work area • follow enterprise procedures for documenting and reporting information about quality • contribute effectively within a team to recognize and recommend improvements in productivity and quality • apply effective problem solving strategies • implement and monitor improved practices and procedures
Underpinning Knowledge and Attitudes	<p>Demonstrates knowledge of:</p> <ul style="list-style-type: none"> • specifications for laboratory products and services in the candidate's work area • quality requirements associated with the individual's job function and/or work area • scientific and technical knowledge underpinning the processes, procedures, equipment and instrumentation associated with the candidate's work tasks and duties • workplace procedures associated with the candidate's regular technical duties • sustainable energy principles • relevant health, safety and environment requirements • layout of the enterprise, divisions and laboratory • organizational structure of the enterprise • lines of communication • role of laboratory services to the enterprise and customers • methods of making/recommending improvements • Standards, procedures and/or enterprise requirements
Underpinning Skills	<p>Demonstrates skills to:</p> <ul style="list-style-type: none"> • applying problem solving techniques and strategies • applying statistical analysis and statistical sampling procedures • detecting non-conforming products or services in the work area • documenting and reporting information about quality • contributing effectively within a team to recognize and recommend improvements in productivity and quality • implementing and monitoring improved practices and procedures • organizing, prioritizing activities and items

	<ul style="list-style-type: none"> • reading and interpreting documents describing procedures • recording activities and results against templates and other prescribed formats • working with others
Resources Implication	<p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the candidate • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies • enterprise quality manual and procedures • quality control data/records • customer complaints and rectifications
Methods of Assessment	<p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • verified reports of improvements suggested and implemented by the candidate individually <p>Those aspects of competence dealing with improvement processes could be assessed by the use of suitable simulations and/or a pilot plant and/or a range of case studies and scenarios.</p> <p>In all cases, practical assessment should be supported by questions to assess essential knowledge and those aspects of competence which are difficult to assess directly.</p>
Context of Assessment	Competence may be assessed in the work place or in a simulated workplace setting / environment.

Sector: Industry Development

Sub-Sector: Bamboo and Craft Production



Acknowledgement

We wish to extend thanks and appreciation to the many representatives of business, industry, academe and government agencies who donated their time and expertise to the development of this occupational standard.

We would like also to express our appreciation to the Experts Ministry of Education (MoE) and Engineering Capacity Building Program (eCBP) who facilitated the development of this occupational standard.

This occupational standard was developed on April 2011 in Center of Excellence for Engineering (CEE) Addis Ababa Ethiopia.

Page 89 of 89	Ministry of Education Copyright	Bamboo Furniture Making Ethiopian Occupational Standard	Version 1 April 2011
---------------	------------------------------------	--	-------------------------