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National Competency Standards

For

PATWA

Introduction

The National Competency Standards are written specifications of skill and knowledge competencies required in a particular trade. The competency standards are developed in collaboration with United Nations Industrial Development Organization (UNIDO), GIZ and National Vocational & Technical Training Commission (NAVTTTC).

Industry experts from the relevant industries from different geographical locations across Pakistan were consulted during the development process of these competency standards to ensure input and ownership of all the stakeholders. NAVTTTC approves these competency standards on the recommendation of Industry Advisory Group (IAG) for the Gemstone & Jewelry Sector.

The National Competency Standards could be used as a referral document for the development of curricula to be used by training institutions.

Table of Contents

STRUCTURE OF COMPETENCY STANDARDS	4
Competency Unit	4
Overview	4
Performance Criteria	4
Knowledge and Understanding	4
Tools & Equipment	4
COMPETENCY MAP	5
1. Duty A: Provide Material	6
2. Duty B: Design Development & Sketching	7
3. Duty C: Identify type of Jewelry	8
4. Duty D: Perform arrangements of Lose Material	10
5. Duty E: Perform Hanging	12
6. Duty F: Make Dholna	13
7. Duty G: Apply Dori Making	15
8. Duty H: Observe all the Health & Safety Measures	16

STRUCTURE OF COMPETENCY STANDARDS

Competency Standards are performance specifications that identify the knowledge and competencies an individual needs to succeed in the workplace. A competency standard has the following elements:

Competency Unit

A competency unit is a statement which points to an outcome that employers will value and is observable and assessable. The competency unit is derived during the process of Occupational Analysis and is called 'Task Statement' in a DACUM Chart.

Overview

An overview is a description of the competency standard. It briefly describes the purpose and linkage of the competency unit with a job role.

Performance Criteria

Performance criteria statements set the standard of performance of a task in a job role. It describes 'how well' a task or competency unit is to be performed. It should be observable and written in a measurable term. It is one of the basic criteria for conducting assessment of the performance of a tradesman.

Knowledge and Understanding

Supporting knowledge and understanding statements include the essential knowledge and understanding, covering facts, principles, procedures, processes and methods. These statements cover the basic knowledge and understanding that is required to master a competency unit in an occupation.

Tools & Equipment

All the related tools, equipment and machinery that are required to perform a particular competency unit or task are listed under this heading.

COMPETENCY MAP

A. Provide Material

A1 Identify the type of required material	A2 Approach to the market of raw materials	A3 Purchase of required material	A4	A5	A6	A7
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B. Design Development and Sketching

B1: Basic Shapes	B2: Making designs with basic shapes	B3: Perspective and proportions				
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C. Identify the type of jewelry

C1: Make Necklace	C2: Make Ear Piece	C3: Make Bracelets	C4: Make Finger Rings	C5:	C6:	C7:
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D. Perform arrangements of Loose Material

D1: Identify the colors	D2: Collect Required Material	D3: Identify Design	D4: Apply Loose Beading		
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E. Perform Hanging

E1: Perform Cluster Hanging	E2: Perform Bead Stringing	E3: Perform crystal Hanging	E4: Perform Tumble Hanging		
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F. Make Dholna

F1: Identify the design of dholna	F2: Apply beading of Dholna	F3: Apply threading of Dholna			
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G. Apply Dori Making

G1: Collect material	G2: Identify the Design	G3: Make Multani Dori	G4: Make sarswati dori	G5: Make Nauratan Dori	G6: Make Indian Dori	G7: Make twisted Dori
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H. Observe all the Health & Safety Measures

H1: Provide Proper Work Bench	H2: Ensure general workplace safety	H3: Apply personal safety	H4: Securing Wastage			
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1. Duty A: Provide Material

Title	Overview	Performance Criteria	Knowledge & Understanding	Tools & Equipment
A1: Identify the type of required material	This unit of competency is performed to identify the type, quality and quantity of required material.	<i>You must be able to;</i> P1. Identify the type and quality of material as per specification. P2. Ensure affordability and loss of acquired material. P3. Assess the quality and quantity of required material P4. Estimate the cost of raw material correctly.	<i>You must know and understand;</i> K1. Basic knowledge of precious, semi precious stones, beads and crystals. K2. Use of tools and equipments as per specification.	<ol style="list-style-type: none"> 1. Cutter of different sizes 2. Tweezers 3. Salai 4. Salama-Dabka 5. Thread 6. Beads 7. Tumbles 8. Crystals 9. Weighing machine 10. Loop (Magnifying glass)
A2: Approach to the market of raw materials	This unit of competency is performed to visit the market and avail the information collected during survey	<i>You must be able to;</i> P1. Ensure that market identified for raw material is appropriate. P2. Survey of check list/price list of material required as per specification. P3. Identify the right suppliers for the raw material.	<i>You must know and understand;</i> K1. Knowledge of market of raw material. K2. Ability to use all raw materials of different sizes to create new designs.	<ol style="list-style-type: none"> 1. Beads 2. Threads 3. Sooti 4. Elfy 5. Different sizes of cutters. 6. Salma

				7. Chimney 8. Plier 9. Siley 10. Ring
A3: Purchase of different type of material	This unit of competency is performed to explore existing variety of different material required.	You must be able to; P1. Ensure the weight of the raw material according to the requirements P2. Describe the types and properties of raw material. P3. Differentiate between precious, semi precious materials. P4. Explain the process the of purchasing raw material.	You must know and understand; K1. Knowledge of precious, semi precious stones, beads and crystals. K2. Knowledge of required quality and quantity as per specification. K3. Use of tools and equipments. K4. Knowledge of raw material and prices.	Same as above

2. Duty B: Design Development & Sketching

Title	Overview	Performance Criteria	Knowledge & Understanding	Tools & Equipment
B1 Basic Shapes	This unit of competency is performed to recognize and draw all basic shapes.	You must be able to; P1. Draw shapes as per design. P2. ensure the proportion and balance in sketching of drawing. P3. Recognition of exact shapes P4. Ensure use of rulers in drawing P5. Maintain neatness of work P6. Ensure the exact measurements of shapes	You must know and understand; K1. The accuracy of drawing and sketching of basic shapes. K2. The accuracy of measurement of basic shapes.	1) A3 papers 2) Pencils 3) Eraser 4) Ruler 5) Drawing board 6) Fixed table
B2: Making design with basic shapes	This unit of competency is performed to draw and sketch jewelry	You must be able to; P1. Ensure the accuracy of basic shapes P2. Use of basic shapes in design P3. Ensure the neatness of work	You must know and understand; K1. The use of basic shapes in jewelry designs.	1) A3 papers 2) Pencils 3) Eraser 4) Ruler

	designs as per specification.		K2. To create floral, geometrical designs for jewelry.	5) Drawing board 6) Fixed table
B3: Perspective & Proportion	This unit of competency is performed to attain knowledge to create depth and proportions in designs.	You must be able to; P1. Create perspectives and proportions in jewelry designs sketching. P2. Create accuracy in line work.	You must know and understand; K1. Perspective and proportions. K2. Size of jewelry articles.	1) A3 papers 2) Pencils 3) Eraser 4) Ruler 5) Drawing board 6) Fixed table

3. Duty C: Identify type of Jewelry

Title	Overview	Performance Criteria	Knowledge & Understanding	Tools & Equipment
C1: Make Necklace	This unit of competency is performed to make different designs of necklace in bead stringing.	You must be able to; P1. Use beads in appropriate direction. P2. Make all styles of necklaces. P3. Use finding on appropriate place.	You must know and understand; K1. The types of necklace that is Mala, Chokar and Y-length as per SOPs. K2. The length of necklace styles. K3. Required weight of necklace as per requirements.	1) Precious, semi-precious and synthetic beads stones or crystals. 2) Findings 3) Thread 4) Cutter 5) Tray 6) Ruler 7) Lust 8) Work bench 9) Table lamp 10) Needle
C2: Make Ear Piece	This unit of competency is performed to make	You must be able to; P1. Make earrings using mirror techniques.	You must know and understand; K1. Knowledge of different designs and styles of ear	1) Precious, semi-precious and synthetic beads stones or crystals.

	ear rings of different sizes and styles in bead stringing.	P2. Accuracy of both earrings of same size as per SOPs. P3. Make lock of premium quality	piece. K2. The weight of ear ring.	2) Findings 3) Thread 4) Cutter 5) Tray 6) Ruler 7) Lust 8) Work bench 9) Table lamp 10) Needle
C3: Make Bracelets	This unit of competency is performed to make exact sizes of bracelet in bead stringing.	<i>You must be able to;</i> P1. Ensure the appropriate circular manner of required material. P2. Ensure the weight of bracelets as per requirements. P3. Ensure the knots of thread.	<i>You must know and understand;</i> K1. French knots of threads. K2. Weight of stones and beads. K3. Accurate lock of bracelets. K4. Durability of threads.	1) Precious, semi-precious and synthetic beads stones or crystals. 2) Findings 3) Thread 4) Cutter 5) Tray 6) Ruler 7) Lust 8) Work bench 9) Table lamp 10) Needle
C4. Bindi And Tikka	This unit of competency is performed to make bindi or tikka for forehead in bead stringing.	<i>You must be able to;</i> P1. Make bindi for forehead. P2. Use of appropriate findings for bindi.	<i>You must know and understand;</i> K1. The weight of beads used for bindi K2. Appropriate length of bindi. K3. Center point of bindi	1) Precious, semi-precious and synthetic beads stones or crystals. 2) Findings 3) Thread 4) Cutter 5) Tray 6) Ruler 7) Lust 8) Work bench 9) Table lamp

				10) Needle
C5: Make Jhoomar/Silsila	This unit of competency is performed to make silsila, jhumur, for head in bead stringing.	You must be able to; P1. To make jhoomar/silsila for head. P2. To make head accessories with accurate length.	You must know and understand; K1. The weight of beads used for jhoomar or silsila. K2. Center point of jhoomar or silsila K3. The accurate lengths and styles of jhoomar or silsila.	1) Precious, semi-precious and synthetic beads stones or crystals. 2) Findings 3) Thread 4) Cutter 5) Tray 6) Ruler 7) Lust 8) Work bench 9) Table lamp 10) Needle

4. Duty D: Perform arrangements of Lose Material

Title	Overview	Performance Criteria	Knowledge & Understanding	Tools & Equipment
D1: Identify the colors and color combination	This unit of competency is performed to use of colors according to customer demands	You must be able to; P1: Adjust the material in combination and isolation P2: Ensure creativity of material used P3. Ensure that color combination of materials used are in contrast or shades P4. Ensure the quality of synthetic material	You must know and understand; K1. Appropriate color wheel (Warm colors, Cool colors, Combinations, Shades)	1) Color wheel chart 2) Fixed table.
D2: Collect	This unit of	You must be able to;	You must know and understand;	1) Precious, semi-precious and

Required Material	competency is performed to collect all required material as per specification.	<p>P1. Ensure the quality of thread as per specifications</p> <p>P2. Ensure the sizes of findings (Accessories and metals)</p> <p>P3. Ensure the size and weight of beads and crystals according to specifications</p>	<p>K1. Use of tools and equipment.</p> <p>K2. Quantity of acquired material</p>	<p>synthetic beads stones or crystals.</p> <p>2) Color wheel chart</p> <p>3) Findings</p> <p>4) Cutter</p> <p>5) Tray</p> <p>6) Ruler</p> <p>7) Lust</p> <p>8) Fixed table</p> <p>9) Weighing machine</p>
D3: Sketch of design	This unit of competency is performed to draw a technical sketch of jewelry articles.	<p><i>You must be able to;</i></p> <p>P1. Draw jewelry according as per customer demand.</p> <p>P2. Maintain the position of material on accurate size according to article of jewelry</p> <p>P3. Maintain the size of required material according to jewelry article</p>	<p><i>You must know and understand;</i></p> <p>K1. Technical drawing and rendering of jewelry articles.</p> <p>K2. Sizes of jewelry articles.</p>	<p>1) A3 papers</p> <p>2) Pencils</p> <p>3) Eraser</p> <p>4) Ruler</p> <p>5) Drawing board</p> <p>6) Fixed table</p>
D4: Apply loose Beading	This unit of competency is performed to design jewelry article in loose form.	<p><i>You must be able to;</i></p> <p>P1. Place the loose material on its appropriate positions on already sketched design</p> <p>P2. Ensure the color combination as per requirement</p>	<p><i>You must know and understand;</i></p> <p>K1. Proper placement of beads and crystals.</p> <p>K2. Proportion of jewelry articles.</p> <p>K3. Size and weight of</p>	<p>1) Precious, semi-precious and synthetic beads stones or crystals.</p> <p>2) Findings</p> <p>3) Tray</p> <p>4) Ruler</p> <p>5) Work bench</p> <p>6) Table lamp</p>

		P3. Maintain the color balance of loose material	jewelry articles. K4. Loose beads stringing on paper.	Paper
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5. Duty E: Perform Hanging

Title	Overview	Performance Criteria	Underpinning Knowledge & Skills	Tools & Equipment
E1: Perform cluster hanging	This unit of competency is performed to make clusters of different designs.	<p>You must be able to;</p> <p>P1. Use of cluster as per design requirement</p> <p>P2. Ensure accurate color combination used in clusters.</p> <p>P3. Ensure the design of clusters</p> <p>P4. Maintain the neatness and finishing of clusters.</p>	<p>You must know and understand;</p> <p>K1. All types of clusters e.g. grapes clusters, single, double or triple bead clusters.</p>	<ol style="list-style-type: none"> 1) Precious, semi-precious and synthetic beads stones or crystals. 2) Findings 3) Tray 4) Ruler 5) Work bench 6) Table lamp 7) Lust tweezers
E2: Perform Bead Stringing	This unit of competency is performed to connect findings beads or crystals in string form.	<p>You must be able to;</p> <p>P1. Ensure the durability of threads in strings</p> <p>P2. Ensure the durability in knots of strings</p> <p>P3. Maintain the length according to specifications of designs</p>	<p>You must know and understand;</p> <p>K1. Size, weight, shapes and colors of precious, semi precious and synthetic stones.</p>	<ol style="list-style-type: none"> 1) Precious, semi-precious and synthetic beads stones or crystals. 2) Findings 3) Tray 4) Ruler 5) Work bench 6) Table lamp 7) Lust

		P4. Perform beads stringing according to design requirements.		8) tweezers
E3: Perform Crystal Hanging	This unit of competency is performed to make hangings for jewelry.	<i>You must be able to;</i> P1. Ensure the hardness of stones in contact with each other. P2. Maintain the sizes of crystals according to jewelry article.	<i>You must know and understand;</i> K1. Weight of crystals. K2. Size of crystals. K3. Size of lust.	1) Crystals 2) Lust 3) Tweezers 4) Tray 5) Lamp 6) Work bench 7) Findings
E4: Perform Tumble Hanging	This unit of competency is performed to use tumblers in jewelry articles.	<i>You must be able to;</i> P1) Ensure that tumblers used are not damaged or not cracked. P2) Ensure the drill size of tumblers according to specification P3) Ensure the polishing and finishing of tumblers.	<i>You must know and understand;</i> K1. The sizes of tumblers. K2. Weight of tumblers.	1) tumblers 2) Lust 3) Tweezers 4) Tray 5) Lamp 6) Work bench 7) Findings 8) Cutter

6. Duty F: Make Dholna

Title	Overview	Performance Criteria	Underpinning Knowledge & Skills	Tools & Equipment
F1: Identify the design on Dholna	This unit of competency is performed to make dholna with its	<i>You must be able to;</i> P1. Ensure the size of dholna as per requirement. P2. Ensure the weight of dholna as per	<i>You must know and understand;</i> K1. Accurate position of dholna. K2. Weight of dholna.	1) Crystals 2) Lust 3) Tweezers 4) Tray 5) Lamp 6) Work bench

	accurate size and weight.	specifications. P3. Use of dholna at its accurate position. P4. Use of clusters on dholna as per requirement.		7) Findings 8) Cutter 9) Thread 10) Dabka 11) Dholna
F2: Apply beading on Dholna	This unit of competency is performed to apply beads to dholna.	<i>You must be able to;</i> P1. Maintain the weight of beads. P2. Ensure finishing of knots of threads.	<i>You must know and understand;</i> K1. Use of clusters, strings in beading the dholna	1) Crystals 2) Lust 3) Tweezers 4) Tray 5) Lamp 6) Work bench 7) Findings 8) Cutter 9) Thread 10) Dabka 11) Dholna
F3: Apply threading of Dholna	This unit of competency is performed to apply technical thread work on dholna.	<i>You must be able to;</i> P1. Ensure the number of strings as per design requirements. P2. Ensure the durability of thread P3. Perform dholna threading from center to one end than from center to other end.	<i>You must know and understand;</i> K1. Durability of thread. K2. To put knots and beads on dholna.	1) Crystals 2) Lust 3) Tweezers 4) Tray 5) Lamp 6) Work bench 7) Findings 8) Cutter 9) Thread 10) Dabka 11) Dholna

7. Duty G: Apply Dori Making

Title	Overview	Performance Criteria	Underpinning Knowledge & Skills	Tools & Equipment
G1: Collect material	This unit of competency is performed to collect required material for dori making	<p><i>You must be able to;</i></p> <p>P1. Ensure the quality of thread as per SOPs.</p> <p>P2. Ensure the quality of colors of thread.</p>	<p><i>You must know and understand;</i></p> <p>K1. Identify all types of threads and colors.</p> <p>K2. Difference in silk and cotton threads.</p> <p>K3. Combination of threads and colors.</p>	<p>1) Thread</p> <p>2) Nylon</p> <p>3) Needle</p> <p>4) scissor</p>
G2: Make Multani Dori	This unit of competency is performed to make multani dori with its color specification.	<p><i>You must be able to;</i></p> <p>P1. Ensure colors are durable and fast colors.</p> <p>P2. Ensure basic colors of threads.</p>	<p><i>You must know and understand;</i></p> <p>K1. Types of threads.</p> <p>K2. Basic colors of thread.</p>	<p>1) Basic colors threads</p> <p>2) Needle</p> <p>3) Table lamp</p> <p>4) Fixed table</p>
G3: Make Sarswati dori	This unit of competency is performed to make dori in seven colors.	<p><i>You must be able to;</i></p> <p>P1. Ensure the seven colors in thread.</p>	<p><i>You must know and understand;</i></p> <p>K1. Seven colors of thread.</p> <p>K2. Quality of thread color.</p>	<p>1) Seven colors thread</p> <p>2) Needle</p> <p>3) Table lamp</p> <p>4) Fixed table</p> <p>5) Scissor</p>
G5: Make Nauratan Dori	This unit of competency is performed dori in nine colors.	<p><i>You must be able to;</i></p> <p>P1. Nine colors in thread.</p> <p>P2. Quality of thread.</p>	<p><i>You must know and understand;</i></p> <p>K1. Nine colors of thread.</p> <p>K2. Quality of thread color.</p>	<p>1) Nine colors thread</p> <p>2) Needle</p> <p>3) Table lamp</p> <p>4) Fixed table</p>

				5) Scissor
G6: Make Indian Dori	This unit of competency is performed in order to make dori with threads and beads.	<p><i>You must be able to;</i></p> <p>P1. Ensure the threads and colors are appropriate.</p> <p>P2. Ensure right and fast colors of threads</p> <p>P3. Ensure length and width of threads in different designs.</p> <p>P3. Ensure the size of beads.</p>	<p><i>You must know and understand;</i></p> <p>K1. Types of beads.</p> <p>K2. Sizes of beads.</p> <p>K3. Colors of beads and threads.</p>	<p>1) Thread</p> <p>2) Needle</p> <p>3) Beads</p> <p>4) Table lamp</p> <p>5) Elfy</p> <p>6) Cutters</p>
G7: Make twisted Dori	This unit of competency is performed in order to make twisted dori with threads.	<p><i>You must be able to;</i></p> <p>P1. Ensure appropriate size of the twisted dori.</p> <p>P2. Ensure durability and colors of dori.</p>	<p><i>You must know and understand;</i></p> <p>K1. Types of thread.</p> <p>K2. Quality of thread.</p>	<p>1. Silk threads</p> <p>2. Nylon threads</p> <p>3. Cateera</p> <p>4. Elfi</p> <p>5. Champti</p> <p>6. Multani bera</p>

8. Duty H: Observe all the Health & Safety Measures

Duty: Observe all the Health & Safety Measure.

Title	Overview	Performance Criteria	Underpinning	Tools and
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			Knowledge and Skills	Equipment
F1. Ensure proper work bench	This unit of competency is performed to ensure proper working environment with comfort	<p>P1. Arrange tools as per standard operating procedure (SOP) of goldsmith</p> <p>P2. Store precious metals in special made lockers to keep material safe</p> <p>P3. Work with hand tools as per standard operating procedure (SOP)</p> <p>P4 Follow personal safety precautions as per requirement of work</p>	<p>K1. Basic knowledge of hand tools.</p> <p>K2. Use of tool/equipment</p> <p>K3. Types of work bench</p>	<ol style="list-style-type: none"> 1. Goldsmith hand tool kit. 2. Gloves 3. Goggles. 4. Gas Masks. 5. Fire safety equipment
F2. Ensure general workplace safety	This unit of competency is performed to ensure general safety at workplace	<p>P1. Wear safety gloves as per requirements.</p> <p>P2. Wear safety goggles as per requirement</p> <p>P3. Perform safety steps during work as per standard operating procedure (SOP)</p> <p>P4. Follow personal safety precautions as per requirement of work</p>	<p>K1. Procedures of using first aid kit</p> <p>K2. Use of fire fighting equipment</p> <p>K3. Safety precautions.</p>	<ol style="list-style-type: none"> 1. Gloves 2. Goggles 3. Masks 4. Fire safety equipment
F3. Apply personal safety	This unit of competency is performed in order to keep yourself safe from any possible hazards	<p>P1. Ensure the safe usage of potentially dangerous substances (HCL, HNO₃, H₂SO₄, Natural gas) in a controlled environment.</p> <p>P2. Ensure safety measures before using any sharp apparatus according to SOPs.</p> <p>P3. Usage of proper tools/chemicals.</p>	<p>K1. Understanding of acid usage.</p> <p>K2. Use of tools and equipments.</p>	<ol style="list-style-type: none"> 1. Safety Goggles. 2. Gloves (when using acid) 3. Mask (to minimize)

		P4. Ensure acid handling with immense care (use of gloves and goggles)		e exposure to gasses when treating gold with chemicals)
F4. Secure handle the wastage	This unit of competency is performed to dispose off the wastage for recycling and minimizes the environmental hazard.	P1. Ensure precious metals recovered. P2. Perform chemical test as per standard operating procedure (SOP) P3. Wear safety gloves as per requirements. P4. Wear safety goggles as per requirement P5. Perform safety steps during work as per standard operating procedure (SOP) P6. Follow personal safety precautions as per requirement of work	K1. Procedure for recovery of precious metals K2. Chemical properties and characteristics of metals K3. Safety precautions	1. Crucible 2. Killen 3. Acid resistant cover bowels. 4. Refractometer 5. Gloves 5. Goggles 6. Masks 7. Fire safety equipment