REPUBLIC OF KENYA

COMPETENCY BASED CURRICULUM

FOR

CARPENTRY AND JOINERY

LEVEL 5

PROGRAMME CODE:0722 554B

TVET CDACC

P.O BOX 15745-00100
NAIROBI

WINDOWS & WINDOW FRAMES

UNIT CODE:CON/CU/CAJ/CR/02/5/B

Relationship to Occupational Standards

This unit addresses the unit of competency: construct windows and window frames

Duration of Unit: 100 hours

Unit Description

This Unit describes the competencies required to construct windows and window frames. It involves interpreting working drawing, preparing construction materials, constructing ordinary casement windows &window frames, constructing special windows and window frames, performing finishing processes, examining quality of the finished product and performing workplace housekeeping.

Summary of Learning Outcomes

1. Interpret working drawing
2. Prepare Construction materials
3. Construct ordinary casement windows and window frames
4. Construct special windows and window frames
5. Perform finishing processes
6. Examine quality of the finished product
7. Perform workplace Housekeeping

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Interpret working drawing	• Elevation • Sections • Dimensions • Scale • Symbols	• Practical assignment • Oral Questioning/Written Tests

2. Prepare Construction materials	• Interpretation of working drawing
	• Preparation of a cutting list
	• Types of construction materials
	  • Timber
	  • Ply wood
	  • Nails and screws
		• Practical assignment
		• Oral Questioning
		• Written Tests

	• Wood glue
	• Sand paper
	• Uses and specifications of materials, tools and equipment
	• Safety Practices
	  • PPE
	  • Handling of tools, materials and equipment
	  • Good housekeeping	

3. Construct ordinary casement windows and window frames	• Side hung windows
	• Top hung windows
	• Bottom hung windows
	• Double hung windows
	• Marking out tools
	  • Tape measure
	  • Try square
	  • Marking gauge
	  • Workshop rod
	• Marking out procedures
	  • Mark mortise
	  • Mark tenons
	  • Mark grooves
	  • Mark rebate
	  • Mark chamfer
	• Types of cutting out tools
	  • Saws
	  • Chisels
	  • Mallet
	  • Planes
	• Cutting procedure
	  • Cut out mortises
	  • Cut out tenons
	  • Cut out the grooves
	  • Cut out rebates
	  • Cut out chamfers
	• Types of fitting tools
	  • Hammers
	  • Screw drivers
	  • Wood glue
		• Practical assignment
		• Oral Questioning
		• Written Tests

	• Nails • Screws • Clamps • Dowels • Types of joints • Mortise and tenon • Tongue and grooves • Scribes joints • Rebate • Procedure of fitting joints • Apply glue to tenons and mortises • Fit tenons to mortises • Fit battens to grooves • Fit stiles • Clamp the window • Fix the joints • Fixing window in the frame • Fixing ironmongery /hardware • Hinges • Stays • fasteners	
4. Construct special windows and window frames	• Horizontal sliding • Vertical sliding • Centre pivoted • Bay window • Marking out tools • Tape measure • Try square • Marking gauge • Workshop rod • Marking out procedures • Mark mortise • Mark tenons • Mark grooves • Mark rebate	• Practical assignment • Oral Questioning • Written Tests

	• Mark chamfer
	• Types of cutting out tools
	  • Saws
	  • Chisels
	  • Mallet
	  • Planes
	• Cutting procedure
	  • Cut out mortises
	  • Cut out tenons
	  • Cut out the grooves
	  • Cut out rebates
	  • Cut out chamfers
	• Types of fitting tools
	  • Hammers
	  • Screw drivers
	  • Wood glue
	  • Nails
	  • Screws
	  • Clamps
	  • Dowels
	• Types of joints
	  • Mortise and tenon
	  • Tongue and grooves
	  • Scribes joints
	  • Rebate
	• Procedure of fitting joints
	  • Apply glue to tenons and mortises
	  • Fit tenons to mortises
	  • Fit battens to grooves
	  • Fit stiles
	  • Clamp the window
	  • Fix the joints
	• Fixing window in the frame
	• Fixing ironmongery /hardware
	  • Hinges	

	• Stays • fasteners	

5. Perform finishing processes	• Types of finishing processes
	  • Wipe excessive glue
	  • Apply filler to any dent
	  • Sanding
	  • Varnishing or painting
		• Written Tests
		• Oral Questioning
		• practical assignment

6. Examine quality of the finished product	• Fitness and joint quality • Final appearance • Function ability of the window	• Oral Questioning • practical assignments • Written Tests

7. Perform workplace Housekeeping	• Housekeeping procedures
	  • Gather off cuts
	  • Gather shavings/ saw dust
	  • Clean the floor
	  • Return tools to the store
		• Oral Questioning
		• practical assignments
		• Written Tests

Suggested Methods of Instruction

- Demonstration by trainer
- Practical work by trainee
- Demonstration videos
- Group discussions

Recommended Resources

Tools and equipment

- Carpentry and joinery hand tools
  - Saws
  - Hammers
  - Planes
  - Gauges

- Chisels
- Squares
- Tape measure

Materials and supplies

- Codes of practice
- Reference books
- Timber
- Screws
- Nails
- Wood glue
- Varnish

Personal protective equipment (PPEs)

- dust coat
- First aid kits
- Overalls
- Gum boots
- Safety goggles
- Helmets
- Gloves