Republic of Rwanda
Ministry of Education

RTB | RWANDA TVET BOARD

BUILDING MODEL

PFABM401

PRODUCE BUILDING MODEL

Competence

RQF Level: 4

Learning Hours 50

Credits: 5

Sector: ARTS AND CRAFTS

Trade: Plastic and Fine Arts

Module Type: Specific

Curriculum: ARCPFA401- TVET Certificate 4 in PLASTIC AND FINE ARTS

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Kigali, May 2023

<table>
<tr><td>Purpose statement</td><td colspan="6">This module offers knowledge, skills and attitudes to produce build model. At the end of this module, the learners will be able to perform preliminary activities, create draft and Construct model.</td></tr>
<tr><td>Learning assumed to be in place</td><td colspan="6">Sketch fauna, flora and parts of human body, perform artistic drawing</td></tr>
<tr><td rowspan="6">Delivery modality</td><td colspan="2">Training delivery</td><td>100%</td><td colspan="2">Assessment</td><td>Total 100%</td></tr>
<tr><td colspan="2">Theoretical content</td><td>30%</td><td rowspan="4">Formative assessment</td><td>30%</td><td rowspan="4">50%</td></tr>
<tr><td colspan="2">Practical work:</td><td rowspan="3">70%</td><td rowspan="3">70%</td></tr>
<tr><td>• Group work and presentation</td><td>30%</td></tr>
<tr><td>• Individual work</td><td>40%</td></tr>
<tr><td colspan="2"></td><td colspan="2">Summative Assessment</td><td>50%</td></tr>
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Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
1. Perform preliminary activities	1.1. The topic is appropriately identified referring to the types of building model.
	1.2. The tools and materials are properly identified according to their uses.
	1.3. The work is properly prepared according to standardized conventions.
2. Create draft	2.1. The site information is properly gathered according to the location characteristics.
	2.2. The building elements are properly sketched according to client needs and requirements.
	2.3. The building plan is properly developed according to the dimensions standards.
3. Construct model	3.1. The building plans are adequately enlarged on the prototype working surface as per enlargement techniques.

	3.2. The building model is properly constructed according to the procedures.
	3.3. The building model is effectively finished according to the process.

Knowledge	Skills	Attitudes
ESSENTIAL KNOWLEDGE • Identify the theme • Identify tools and materials of • Explain the work preparation standards • Describe the site information • Enumerate the building elements • Describe the building plan • Explain procedures of the building model • Describe the model	**ESSENTIAL SKILLS** • Perform preliminary work • Prepare tools and materials • Prepare the work as per standards • Use tools and materials • Adapt standards conventions • Sketch the building elements • Draw the building plan • Apply procedures of the building model • Construct the model	**WORKER BEHAVOUR/ATTITUDES** ✓ Pay attention to identify the theme/client needs ✓ Use creativity and innovation throughout creating the draft ✓ Demonstrate punctuality during the implementation of the creating draft ✓ Demonstrate resourcefulness in the building plan ✓ Pay attention in in identifying procedures of building model

Course content

Learning outcomes	At the end of the module, the learner will be able to: 1. **Perform preliminary activities** 2. **Create Draft** 3. **Construct model**

Learning outcome 1: Perform preliminary activities	Learning hours: 10

Indicative content

- **Identification of building types**
  - ✓ Residential
  - ✓ Industrial
  - ✓ Commercial
  - ✓ Heavy civil construction
- **Identification of tools, materials and equipment**
  - ✓ Tools
    - Sharpening tools
    - Cutting tools
    - Drawing tools
    - Measuring, calculating tools
  - ✓ Materials
    - Drawing materials
    - Fixing materials
    - Cleaning materials
    - Adhesive materials
    - Finishing materials
- **Preparation of the work**

- ✓ Selection of space size
- ✓ Placement of views

Resources required for the learning outcome	
Equipment	▪ drawing board, drawing tables, seats, ruler, compass tool, , lettering stencils, French curves, geometrical tools,
Materials	▪ Papers, protractor, Eraser rubber, scale ruler,
Tools	▪ Pens, crayons, pencil, ink, Isograph
Facilitation techniques	▪ Demonstration, individual and group work, practical exercise.
Formative assessment methods /(CAT)	▪ Written assessment, oral presentation, performance assessment, product-based assessment, project based assessment.

Learning outcome 2: Create Draft	**Learning hours: 15**

Indicative content

- **Location characteristics**
  - ✓ Landforms
  - ✓ Climate
  - ✓ Soils
  - ✓ Hydrology
- **Sketching of building elements**
  - ✓ Views
  - ✓ Sections
  - ✓ Details
- **Dimensioning**
  - ✓ Types
  - ✓ Rules

- ✓ Standards

Resources required for the learning outcome	
Equipment	▪ Drawing board, drawing tables, seats, ruler, compass tool, scale, French curves, geometrical tools
Materials	▪ Papers, ruler, protractor, Eraser rubber, lettering stencils
Tools	▪ Pens, crayons, pencil, ink, Isograph
Facilitation techniques	▪ Demonstration, Individual and group work, Practical exercise.
Formative assessment methods /(CAT)	▪ Written assessment, oral presentation, performance assessment, product-based assessment, project based assessment.

Learning outcome 3: Construct model	**Learning hours: 25**
Indicative content	

- **Enlargement techniques of the building plan**
  - ✓ Reducing Scale
  - ✓ Enlarged Scale
  - ✓ Ratio Scale
- **Construction of building model procedures**
  - ✓ Design
  - Sketch
  - Scaling
  - Trace each elevation
  - ✓ Cutting
  - Cut out elevations
  - Cut out score openings like doors and windows

- Fold or score the roof
  - ✓ Assembling
- Glue elevations together
- Carve texture and fine details

- **Finishing process of the building model**
  - ✓ Cleaning
  - ✓ Painting
  - ✓ Decorating

Resources required for the learning outcome	
Equipment	▪ Eraser rubber, drawing board, drawing tables, seats, ruler, compass tool, scale ruler, protractor, lettering stencils, French curves, geometrical tools
Materials	▪ Papers, ink, papers, ruler, protractor, Eraser rubber, lettering stencils
Tools	▪ Pens, crayons, pencil, Isograph
Facilitation techniques	▪ Demonstration and simulation, Individual and group work, Practical exercise.
Formative assessment methods /(CAT)	▪ Written assessment, oral presentation, performance assessment, project based assessment

Integrated/Summative assessment

Integrated situation

Rwanda Investment Company (RIC Ltd) is consultancy business located at Nyarutarama.
They just hired 3 permanent consultants but there is a problem of not having a house to accommodate them. The management decided to build a house to host those consultants but first they seek a proposal design of a house that can accommodate 3 consultants. As a draftsman you are required to design and build a model with following technical specifications:

- Three bedroomed house; with Two bedrooms self-contained (with bathrooms), one shared bathroom and one in-house kitchen and one living room
- 100cmx100cm windows on each bedroom, one on the kitchen and two windows on the living room; all windows with air ventilations
- 210cmx100cm external doors with the design of your choice
- An attractive garden of 1000cmx800cm with floral elements of your choice
- A parking of three cars ≥950cmx600cm
- Proposed furniture and sanitaries arrangement in the house
- The drawing must be presented on A0 paper size using reducing scale
- The model must be presented

Duration: 3 days

Resources

Tools	▪ Pens, crayons, pencil, ink, Isograph, white glue, super glue, sprue cutter, super glue accelerator, super glue debonder, budget brushes, hobby knife
Equipment	▪ Eraser rubber, drawing board, drawing tables, seats, ruler, compass tool, scale ruler, protractor, lettering stencils, French curves, geometrical tools.
Materials/ Consumables	▪ Papers, ink, foam boards, plywood, card board, metal, wood, Plexiglas

Assessable outcomes	Assessment criteria (Based on performance criteria)	Indicator	Observation		Marks allocation
			Yes	No	
	1.1. The topic is appropriately identified	Three bedroomed houses; with Two bedrooms self-contained (with bathrooms), one shared			3

Learning outcome 1: Perform preliminary activities (30%)		referring to the clients' needs/requirements	bathroom and one in-house kitchen and one living room are identified on the building model.			
			Windows on each bedroom, one on the kitchen and two windows on the living room; all windows with air ventilations are identified on the building model.			3
			External doors are identified on the building model.			2
			One in-house kitchen is identified.			1
			One living room is identified.			1
			An attractive garden is identified.			1
			A parking of three cars is identified.			1
			Furniture arrangement is proposed.			2
			Drawing is presented on A0 paper.			1
			Measurements are respected.			3
			Timing is respected.			2
	1.2.	Tools, materials and equipment are properly identified according to the task(s)	Appropriate tools are identified.			2
			Appropriate equipment are identified.			2
			Appropriate materials are identified.			2
	1.3.	The work is properly prepared according to	Space size are selected.			2
			Views are placed.			2

		standardized conventions				
Learning outcome 2: Create Draft (30%)	**2.1.**	The site information is properly gathered according to the location characteristics	Information on landforms are gathered.			2
			Information on Climate are gathered.			2
			Information on Soils are gathered.			2
			Information on hydrology are gathered.			2
	2.2.	The building plan is properly developed according to the international standards	Sections are sketched.			7
			Building elements are named.			5
			Title block is filled.			5
	2.3.	The building plan is properly developed according to the dimension's standards	Dimension's standards are respected.			5
Learning outcome 3: Construct model (40%)	**3.1.**	The building plans are adequately enlarged on the prototype working surface as per enlargement techniques	Appropriate enlargement techniques are used.			5

	3.2. Building model is properly constructed according to the procedures	Elevations are cut.			5
		Doors and windows are cut.			5
		The roof is folded.			5
		Assembling is performed.			5
		Details are performed.			5
	3.3. The building model is well finished according to the process	Building model is cleaned.			3
		Building model is painted.			4
		Building model is decorated.			4
Total marks					100
Percentage Weightage					100%
Minimum Passing line % (Aggregate):					70%

List of abbreviations

CAT: Continuous Assessment Test

RTB: Rwanda Tvet Board

SHE: Safety Healthy Environment

TVET: Technical Vocational Education and Training

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