Republic of Rwanda
Ministry of Education

RTB | RWANDA TVET BOARD

SCULPTURE OF HUMAN BODY PARTS

PFASH401

Sculpt human body parts

Competence

RQF Level: 4

Learning Hours 70

Credits: 7

Sector: ART and Crafts

Trade: Plastic and Fine Arts

Module Type: **SPECIFIC**

Curriculum: ARCPFA4001- TVET Certificate 4 in Plastic and Fine Arts

KIGALI, May 2023

<table>
<tr><td>Purpose statement</td><td colspan="6">This module describes the skills, knowledge and attitude required to carve parts of human body. At the end of this module, learners will be able to prepare sculpture work, compose sculpture model and execute sculpture.</td></tr>
<tr><td>Learning assumed to be in place</td><td colspan="6"></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>
</table>

Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
1. Prepare sculpture work	1.1. The subject work/ theme is correctly identified according to the client requirement.
	1.2. Materials, tools and equipment are properly prepared with reference to their uses.
	1.3. The workplace is properly prepared in accordance with the SHE procedures.
2. Compose sculpture models	2.1. The sculpture designs are properly generated based on designing procedure.
	2.2. Sculpture model is properly selected as per rules of composition.
	2.3. Sculpture models are properly created as per canons of proportions.
3. Execute sculpture	3.1. Sculpture model is correctly enlarged in reference to the transferring methods.
	3.2. The artwork roughing is efficiently applied in reference to the techniques of sculpture

	3.3. The sculpture details are properly refined according to the finishing techniques.

Knowledge	Skills	Attitude
ESSENTIAL KNOWLEDGE ✓ Identify client's requirements ✓ Gather artistic drawing references ✓ Enumerate art principles ✓ Differentiate types of artistic drawing ✓ Enumerate Canons of proportion ✓	**ESSENTIAL SKILLS** ✓ Prepare a workplace ✓ Prepare tools, materials and equipment ✓ Apply SHE at workplace ✓ Apply rules of composition ✓ Generate the sculpture designs ✓ Create the sculpture model ✓ Enlarge the sculpture model ✓ Refine the sculpture details ✓ Perform sculpture model roughing ✓ Package the sculpture	**WORKER BEHAVOUR/ATTITUDES** ✓ Use creativity and innovation throughout the design works ✓ Pay attention to design projects details ✓ Demonstrate punctuality during the implementation of the design project ✓ Demonstrate resourcefulness in the new design trends

Elements of Competency and Performance Criteria

Learning outcomes	At the end of the module, the learner will be able to: 1. Prepare sculpture work 2. Compose sculpture models 3. Execute sculpture
Learning outcome 1: **Prepare sculpture work**	**Learning hours: 10**
Indicative content	
• **Identification of sculpture subjects** ✓ Parts of human body Bust	

- Hand
- Feet

- **Preparation of tools, materials and equipment**
  - ✓ Tools
    - Carving tools
    - Detailing tools
    - Finishing tools
  - ✓ Materials
    - Jacaranda
    - Ebony
    - Olivier
    - Libuyu
    - Muvura
    - Umusave
    - Stones
    - Metal
    - Glass
  - ✓ Equipment
    - Combined machine
    - Chain saw
    - Electric drills
    - Grinding machine, sander, electric metal planer
  - ✓ Preparation of tools, equipment, materials
    - Sharpening and cleaning tools
    - Lubrication
    - Surface preparation
    - Arranging/ organising equipment
- **Preparation of the workplace**
  - ✓ SHE procedures

Resources required for the learning outcome	
Equipment	Combine machine, Chain saw, Electric drills, grinding machine, sander, electric metal planer, Grinding wheel, Oilstone, Worker bench
Materials	Wood, stones, walnut stain, metal, wax, varnish, sand paper
Tools	kit of sculpture tools, mallet, clamps, mallet, rule, rasps knee pads, knives, hand presses
Facilitation techniques	• Demonstration • group work • Practical exercise • Individualized • Trainer guided • Group discussion
Formative assessment methods /(CAT)	• Written assessment • Oral presentation • Performance assessment

Learning outcome 2: Compose sculpture model	**Learning hours: 16**
Indicative content	

- **Generation of sculpture designs**
  - ✓ Designing procedures
    - Gather reference
    - Draft model design
    - Refine the model design
- **Selection of scripture model**
  - ✓ Rules of composition
    - Rule of thirds

- Diagonal lines

- **Creation of sculpture model**
  - ✓ Canons of proportion
    - Lysippe canon
    - Polyclete canon

Resources required for the learning outcome	
Equipment	Combined machine, Chain saw, Electric drills, Grinding machine, sander, electric metal planer, Grinding wheel
Materials	Wood, stones, walnut stain, metal, wax, varnish, sand paper
Tools	Pencils , rule , cutter , razor , eraser , feather birds , drawing board , drawing board , drawing paper and projector
Facilitation techniques	• Demonstration • group work • Practical exercise • Individualized • Trainer guided • Group discussion

Learning outcome 3: Execute sculpture work	**Learning hours: 44**

Indicative content

- **Enlarging sculpture model**
  - ✓ Transferring methods on different
    - Stencilling
    - Sketching
    - Gridding
- **Application of sculpture model roughing**

- ✓ Techniques of sculpture
  - Carving
  - Assembling
  - Modelling
  - Moulding/ casting
- **Refining of sculpture details**
  - ✓ Finishing techniques
    - Texturizing
    - sanding
    - vanishing

Resources required for the learning outcome	
Equipment	▪ Combined machine, Chain saw, Electric drills, grinding machine, sander, electric metal planer, Grinding wheel
Materials	Wood, stones, walnut stain, metal, wax, varnish, sand paper
Tools	▪ Pencils, rule, cutter, razor, eraser, feather birds, drawing board, drawing board, drawing paper and projector
Facilitation techniques	• Demonstration • group work • Practical exercise • Individualized • Trainer guided ▪ Group discussion
Formative assessment methods /(CAT)	• Written assessment • Oral presentation • Performance assessment

Integrated/Summative assessment

Text for integrated situation:

Rwanda Arts Council has launched an offer for making sculpture work of human bust made in Jacaranda or Muvura wood. Sankofa Creative Arts Ltd has signed a contract to accomplish this work. These artworks will be decorated in new office tables; dimensions are 50*50*25. As an Artist creator in the above-mentioned company, you have to complete this work within 10 days and you are required to use round boss as a type of sculpture, carving as technique and realism as style of sculpture and all materials and tools are available at the workplace.

Resources

Tools	Kit of sculpture tools, Mallet, Clamps, Mallet, Rule, Rasps Knee pads, Knives, hand presses, paper, transfer paper, glue
Equipment	Combined machine, Chain saw, Electric drills, grinding machine, sander, electric metal planer, Grinding wheel, Oilstone, Worker bench, pencil,
Materials/ Consumables	Wood, stones, walnut stain, metal, wax, varnish, sand paper

Assessable outcomes	Assessment criteria (Based on performance criteria)	Indicator	Observation		Marks allocation
			Yes	No	
Learning outcome 1: Prepare sculpture work **(30%)**	1.1. The subject work/ theme is correctly identified according to the client requirement.	Human Bust is identified			2
		The artwork is made in the client chosen wood (Jacaranda or Muvura)			2
		Artwork is decorated in new office tables			2
		50*50*25 dimensions are respected			2
	1.2. Materials, tools and equipment are selected with reference to their uses	Carving tools are selected			2
		Detailing tools are selected			2
		Finishing tools are selected			2
		Needed machines and equipment are selected			2
		Sharpening is done where need be			3
		Tools are cleaned			3

	1.3. Materials, tools and equipment are properly prepared in accordance with the procedures	Lubrication is done where need be			3
		The surface is prepared			3
		Tools, material and equipment are arranged			3
Learning outcome 2: Compose sculpture models	2.1 The sculpture designs are properly generated based on designing procedure	References are gathered			4
		Draft model is designed			4
		Model design is refined			4
	2.2. Sculpture model is properly selected as per rules of composition	Rule of thirds is respected			3
		Iconic rule is respected			3
		Golden mean is respected			3
	1.3. Sculpture models are properly created as per canons of proportions.	Lysippe canon is respected			4
		Polyclete canon is respected			4
Learning outcome 3: Execute sculpture **(40%)**	3.1. Sculpture model is correctly enlarged in reference to the transferring methods	Stencilling is applied			5
		Sketching is performed			5
		Gridding is performed			5
	3.2. The artwork roughing is efficiently applied in reference to the	Carving is performed			5
		Assembling is performed			5
		Modelling is performed			7
		Moulding/ casting is performed			5

	techniques of sculpture				
	3.3. The sculpture details are properly refined according to the finishing techniques.	Detailing is performed			5
		Signing is performed			2
		Drying is performed			5
		Colourings is performed			3
		Firing is performed			3
Total marks					**100**
Percentage Weight age					**100%**
Minimum Passing line % (Aggregate): 70%					

List of abbreviations

1. **CAT:** Continuous Assessment Test
2. **IND:** Indicator
3. **RTB:** Rwanda Tvet Board
4. **TVET:** Technical Vocational Education and Training
5. **SHE:** Safety Health Environment

REFERENCES:

1. **Art and Designer, 1988/1989**, Obonyo O. DIGOLO and Elizabeth C. ORCHARDSON
2. **Fine Wood working Tools 2006/2007**, Yvon ROY, ONTARIO- OTTAWA ISBN 10:897030-58-4 ISBN 13:978-1-897030-58-5

3. **Imigongo of Rwanda** Catalogue, Realise avec l'appui de la GTZ Rwanda Programme Promotion de l'Economie et de l'Emploi

4. **Rwanda Nziza,** Sous la Direction de Thierry Mesas, Texte de Faustin Kagame/ Photographies de Gilles Tordjeman Sipia urukundo

Glossary

Activity: Activities include releases, events, and deployment plans that you develop, start, and complete with the product.

API: An interface that allows an application program that is written in a high-level language to use specific data or functions of the operating system or another program.

Application environment: A user-defined collection of resources that hosts an application. These application environments refer to environments that are created to be in the product.

Application process: A process that is associated with an application. Unlike a component or generic process, an application process is created from application-level steps.

Application: One or more computer programs or software components that provide a function in direct support of a specific business process or processes. See also application server.

Architecture: The internal structure of a computer system or a chip that determines its operational functionality and performance.

Artifact: A deployable item such as a file, image, database, configuration material, or anything else that is associated with a software project. By default, artifacts are stored in Code Station repository.

ASIC: Application Specific Integrated Circuit. A chip that is designed to fulfill a specific task in a computer system.

Cache: Small, fast memory close to the CPU that can hold a part of the data or instructions to be processed. The primary or level 1 cache are virtually always located on the same chip as the CPU and are divided in a cache for instructions and one for data. A secondary or level 2 cache is mostly located off-chip and holds both data and instructions. Caches are put into the system to hide the large latency that occurs when data have to be fetched from memory. By loading data and or instructions into the caches that are likely to be needed, this latency can be significantly reduced.

Capability computing: A type of large-scale computing in which one wants to accommodate very large and time

consuming computing tasks. This requires that parallel machines or clusters are managed with the highest priority for this type of computing possibly with the consequence that the computing resources in the system are not always used with the greatest efficiency.

Capacity computing: A type of large-scale computing in which one wants to use the system (cluster) with the highest possible throughput capacity using the machine resources as efficient as possible. This may have adverse effects on the performance of individual computing tasks while optimising the overall usage of the system.

Clock cycle: Fundamental time unit of a computer. Every operation executed by the computer takes at least one and possibly multiple cycles. Typically, the clock cycle is now in the order of one to a few nanoseconds.

Clock frequency: Reciproke of the clock cycle: the number of cycles per second expressed in Hertz (Hz). Typical clock frequencies nowadays are 400 MHz--1 GHz.

Component process: A process defined for the deployment of components.

Component: A representation of deployable items and the user-defined processes that operate on them, usually by deploying them.

Control processor: The processor in a processor array machine that issues the instructions to be executed by all the processors in the processor array. Alternatively, the control processor may perform tasks in which the processors in the array are not involved, e.g., I/O operations or serial operations.

Deployment: The activities used to deliver a software project to a deployment target. Typically, you run deployments for each stage of your release lifecycle, ending with the production stage when the software becomes generally available.

Duration: The time a task takes to run. Duration is measured from the time a task starts until it is resolved. When you create some task types, you can estimate its expected duration. Duration is reported in minutes.

Environment: A collection of resources that identify the components that can be deployed by the parent application and the agents that do the work.

EPIC: Explicitly Parallel Instruction Computing. This term is coined by Intel for its IA-64 chips and the Instruction Set that is defined for them. EPIC can be seen as Very Large Instruction Word computing with a few enhancements. The gist of it is that no dynamic instruction scheduling is performed as is done in RISC processors but rather that instruction scheduling and speculative execution of code is determined beforehand in the compilation stage of a program. This simplifies the chip design while potentially many instructions can be executed in parallel.

Events: Release-related activities that are applied to releases and tracked with a calendar. You can use events to organize your releases and other time-dependent activities, such as holidays and blackouts.

Functional unit: Unit in a CPU that is responsible for the execution of a predefined function, e.g., the loading of data in the primary cache or executing a floating-point addition.

Initative: An action to take for the change occurred.

Insights: A set of related features such as metric data dashboards, reports, and the application portfolio.

Instruction Set Architecture: The set of instructions that a CPU is designed to execute. The Instruction Set Architecture (ISA) represents the repertoire of instructions that the designers determined to be adequate for a certain CPU. Note that CPUs of different making may have the same ISA. For instance, the AMD processors (purposely) implement the Intel IA-32 ISA on a processor with a different structure.

Integration: Regular communication between IBM UrbanCode Velocity and external products and services. Communication with integrated products can be bidirectional.

Lifecycle: The phases in a release. A lifecycle is a template for the stages of work in a release.

Multithreading: A capability of a processor core to switch to another processing thread, i.e., a set of logically connected instructions that make up a (part of) a process. This capability is used when a process thread stalls, for instance because necessary data are not yet available. Switching to another

thread that has instructions that can be executed will yield a better processing utilization.

PCI bus: Bus on PC node, typically used for I/O, but also to connect nodes with a communication network. The bandwidth varies with the type from 110-480 MB/s. Newer upgraded versions PCI-X and PCI Express are (becoming) available presently.

Plugin: A separately installable software module that adds function to an existing program, application, or interface.

Register file: The set of registers in a CPU that are independent targets for the code to be executed possibly complemented with registers that hold constants like 0/1, registers for renaming intermediary results, and in some cases a separate register stack to hold function arguments and routine return addresses.

Resource: A user-defined construct that is based on the architectural model of IBM Urban Code Velocity. A resource represents a deployment target.

RISC: Reduced Instruction Set Computer. A CPU with its instruction set that is simpler in comparison with the earlier Complex Instruction Set Computers (CISCs) ne cycle.

Role: A job function that identifies the tasks that a user can perform and the resources to which a user has access. A user can be assigned one or more roles.

Segment: A period of time in a deployment plan. Deployment plans can group tasks into segments to specify when tasks are run relative to each other.

Shared Memory (SM): Memory configuration of a computer in which all processors have direct access to all the memory in the system. Because of technological limitations on shared bandwidth generally not more than about 16 processors share a common memory.

Task: Represents a business-meaningful activity that has starting and ending points and a measurable duration. Durations are used to estimate deployment times. You add tasks to deployment plans. When you run a deployment, you complete the tasks in the plan

User: A representation of an account on the server. Users can be members of teams and groups. User can be created in IBM UrbanCode Velocity server or import users

from an external authentication realm, including an LDAP, Active Directory, or SSO provider.

Version: A representation of an IBM UrbanCode Deploy application snapshot.

Virtual Shared Memory: The emulation of a shared memory system on a distributed memory machine by a software layer.