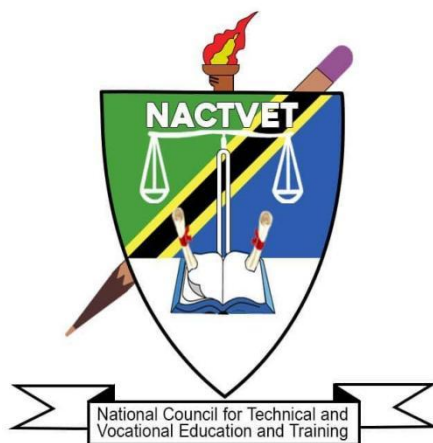


**NATIONAL COUNCIL FOR TECHNICAL AND VOCATIONAL EDUCATION AND
TRAINING**



MARCH 2023

PROPOSED OCCUPATIONAL STANDARDS

OCCUPATION: DIGITAL MEDIA TECHNICIAN

LEVEL: NTA 4

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ABBREVIATIONS

BRD	Business Requirement Document
BTU	Business Feasibility, Technical Feasibility, and User Center
CAD	Computer Aided Design
CBET	Competency Based Education and Training
CIS	Corporate Identity System
ICT	Information Computer Technology
MG	Motion Graphic
MRD	Market Requirement Document
MVP	Minimum Viable Product
NACTVET	National Council for Technical and Vocational Education and Training
NOS	National Occupational Standards
OS	Occupational Standards
PRD	Product Requirements Document
SEO	Search Engine Optimization
TET	Technical Education and Training
TVET	Technical and Vocational Education and Training
UX/UE	User Experience
UI	User Interface
UCD	User-centered Design
VIS	Visual Identification System

VLOG

Video Log

GLOSSARY OF TERMS

Circumstantial Knowledge:	Detailed knowledge, which allows the decision-making in regard to different circumstances and cross-cutting issues.
Competence:	The ability to use knowledge, understanding, practical and thinking skills to perform effectively to the workplace standards required in employment.
Competency:	A description of the ability one possesses when able to perform a given occupational task effectively and efficiently.
Competency-based Education:	An instructional programme that derives its content from validated tasks and bases assessment on the learner's performance.
Curriculum:	A description or composite of statements about "what is to be learned" by the trainee/student in a particular instructional programme; a product that states the "intended learning outcomes".
Educational/Training Programme:	The complete curriculum and instruction (what and how) that is designed to prepare a person for employment in a job or other particular performance situation.
Occupation:	A specific position requiring the performance of specific tasks - essentially the same tasks are performed by all employees having the same title. (Example: baker)
Occupational Area:	This is a broad grouping of related jobs. (Example: catering service)
Occupational Standards:	Specific requirements of competences people are expected to demonstrate in a particular occupational area, including knowledge and relevant attitudes. They also act as performance tools of assessment of the prescribed outcomes.
Occupational/Job Analysis:	A process used to identify the tasks that are important to employees in any given occupation.
Performance Criteria:	Indicate the expected end results or outcome in form of evaluative statements.
Skills:	The ability to perform occupational tasks with a high degree of proficiency within a given occupation. Skill is conceived of as a composite of three completely interdependent components: cognitive, affective, and psychomotor.
Standards:	A set of statements, which, if proved true under working conditions, means that an individual is meeting an expected level and type of

performance.

Task Analysis:	The process of analysing each task to determine the steps, circumstantial knowledge, attitudes, performance criteria, tools and materials needed, and safety concerns required of employees performing it.
Task:	A work activity that has a definite beginning and ending, is observable or measurable, consists of two or more definite steps, and leads to a product, service, or decision.
Underpinning Knowledge:	Crucial knowledge that an individual must acquire in order to perform a given task.
Verification Process:	The process of experts reviewing and confirming the statements of tasks (competency) through occupational analysis. Other questions such as the degree of task learning difficulty are also frequently asked. This process is sometimes referred to as validation.
Occupational Competence:	The application of knowledge and skills that consistently meet the standards required by the work context.

1.0. INTRODUCTION

Technical Education and Training (TET) is one of the most important education sub-sectors in Tanzania, responsible for developing a skilled workforce to support the country's industrialization economic agenda. Tanzania's *Development Vision 2025* intends to raise the country's economy to a middle-income status. This requires a skilled workforce that is aligned with the needs of the public and private sectors of the economy. The National Council for Technical Education has begun the job of drafting Occupational Standards that will eventually be adopted as National Occupational Standards for TET in order to ensure that it meets the needs of the labour market and the country's economic agenda.

National Occupational Standards (NOS) are performance criteria that are matched with labour market demands. Each National Occupation Standard describes functions, performance standards, and knowledge/understanding for one important function or task. They combine skills, knowledge, and attitudes to describe best practice. They are useful tools for establishing job roles, personnel recruiting, supervision, and appraisal, as well as TET standards. They're also helpful for benchmarking and harmonizing qualifications on a national and international level. Standards, in general, provide a solid framework for high-quality TET that is labour market-relevant, current, and consistent in delivery across all public and private institutions.

However, it must be noted that, Occupational Standards and Training standards/qualifications standards are different. Occupational standards are defined in terms of activities performed by a person in a selected occupation (e.g., an electrical engineer designs electrical wiring circuits, performs troubleshooting in electrical wiring, etc.) and they are usually defined by employers following procedures agreed upon by all stakeholders. Education and training standards are developed from the activities defined in occupational standards, and they include learning objectives to ensure that the necessary skills and knowledge are developed by a person to enable him or her to function at an agreed level in an occupation. Education and Training standards are used to define curricula in training institutions. It is however critical that there must be a direct link between the occupational standards and the training standards to respond to demands of the labour market.

In TET delivery, Tanzania adopted the Competence Based Education and Training (CBET) approach. The CBET approach focuses on providing learners with the skills and knowledge required to meet the occupational standards. Occupational standards are thus the starting point for developing competency-based training (CBET) programmes. TET institutions will be required to benchmark their curricula with relevant occupational standards.

Occupational Standards are developed based on a given occupation's current and future demands. As a result, they serve as a means of bridging the gap between the worlds of employment and technical education and training (TET).

The Digital Media Technician Occupation has its own set of occupational standards. The document explains how the occupational standards were developed, as well as the scope, the occupational profile in the form of DACUM charts, and the Occupational Standards.

2.0. OCCUPATIONAL STANDARDS DEVELOPMENT PROCESS

The Occupational standards development process began with an examination of major documents that guide Tanzanian skill development. The *10-year National Skills Development Strategy (2016-2026)* was one of the documents reviewed, and it outlined six (6) economic sectors that should be prioritized when developing skills development programmes.

These sectors include: Transport and logistics, Tourism and Hospitality, Agribusiness, Construction, Energy and ICT. NACTE labour market reports were also used in the literature review to determine the skills demand in the Tanzanian labour market as a whole.

After the literature review, a workshop comprised of expert workers and educators with substantial knowledge and experience in the occupation conducted an occupational analysis utilizing the DACUM approach to produce the occupational profile. The analysis resulted in DACUM Charts, which are attached as **Appendix 1** to this document.

The occupational standards were then developed. Experts in Occupational Analysis and the Development of Occupational Standards facilitated the workshop. Interviews, online surveys, and a stakeholder forum were used to validate the Occupational Standards. Engineers, supervisory technicians on the job, and experienced Digital Media Technicians were key informants in the survey to discover occupational trends. This information was used to gain insight from the workplaces regarding trends and changes in the profession, including how well graduates are prepared for working in the occupation. A total of online surveys were completed by experts from the labour market across the country. Apart from the survey aiding in defining the scope for the occupational analysis, they also served to engage a wide cross-section of experts in the occupation. Apart from this, the stakeholders' forum was attended by participants from different parts of the country representing various companies.

3.0. THE SCOPE AND OVERVIEW OF THE OCCUPATIONAL STANDARDS FOR DIGITAL MEDIA TECHNICIANS

These standards cover a broad range of duties and tasks that can be performed by a Digital Media Technician. However, the occupational standards are not meant to replace individual job

descriptions. Instead, they are to be used for guidance in defining skill levels and knowledge for the technician in specific settings or positions. The Digital Media Technician may perform tasks in a number of key areas of the occupational standards, but not necessarily in all areas. For example, in large operations, other individuals may be employed or designated to perform specific tasks.

The Digital Media Technician works under the direction of the Senior Technician or the Design Director to perform graphic design and production, film and TV production, and webpage design and optimization. During the design practices, the Technician can complete graphic image processing, font design, advertisement design, webpage layout, and brand design of integrated enterprises. The Digital Media Technician works on the basis of graphic design to perform image acquisition, video post-editing, special effect production, webpage design and optimization, and creation and maintenance of integrated projects. Generally, the Digital Media Technician performs the following responsibilities:

- a) Informationization in office business
- b) Drawing and designing pictures
- c) Photographic modelling and shooting
- d) Processing the digital images
- e) Creating the basic graphic designs
- f) Designing and making webpages
- g) Operating and using the photographic devices
- h) Making and merging videos
- i) Designing digital brands
- j) Making 3D special effects for films and TV programs
- k) Making film and TV episodes
- l) Making graphic designs for e-commerce
- m) Designing the user interfaces

The Occupational Standards have been clustered into NTA qualification levels, i.e. NTA level 4, 5 and 6.

4.0. VALIDITY PERIOD

Due to the rapid development of technology, the validity period of occupational standards is 3-5 years. The review will proceed in the same manner as the one before it, with new occupational standards being developed based on current trends of the labour market.

5.0. OCCUPATIONAL STANDARDS

5.1 OCCUPATIONAL STANDARDS OF DIGITAL MEDIA TECHNICIANS - NTA 4

OCCUPATION	DIGITAL MEDIA TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PROCESSING THE OFFICE INFORMATION	DUTY NO.	401
TASK TITLE	WRITING, TYPESETTING AND EDITING DOCUMENTS	TASK NO.	4011
PERFORMANCE CRITERIA	The person performing this task must be able to write and typeset documents using an office automation software of document editing in accordance with customer requirements.		
RANGE STATEMENT	The task can be performed in the network-based office place under the supervision of a Senior Technician. The tools and equipment to be used include: 1. Office computers; 2. Office software of document editing.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following: 1. Create and edit the image-text mixed typesetting documents containing sheets; 2. Customize the settings of paper, layout, view, column, header, and footer; 3. Generate a directory index using chapters; 4. Create, modify and use styles to set formats quickly; 5. Merge emails.		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Create and edit the documents; 1.2 Typeset the general and long documents of image-text mixed typesetting. 2.0 Principle The person performing this task must be able to explain the following principles: 2.1 Regulatory of image-text typesetting; 2.2 Regulatory of common office documents. 3.0 Theories The person performing this task must be able to explain the following: 3.1 Basic operations of document editing software; 3.2 Functions of document editing work interface; 3.3 Preparation process of common office documents; 3.4 Design and application of common office document templates and styles; 3.5 Types and applications of common documents; 3.6 Circumstantial knowledge of layout design , operating system , information search and printout.	

	4.0 Essential Skills 4.1 Operation skills of the document editing software; 4.2 Document editing and optimization skills; 4.3 Problem solving and analysis skills; 4.4 Team cooperation and communication skills.
DESCRIPTION OF THE END PRODUCT / SERVICE	Create and edit the documents according to customer requirements.
CIRCUMSTANTIAL KNOWLEDGE	Detailed knowledge about: 1. Safety and health knowledge.

OCCUPATION	DIGITAL MEDIA TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PROCESSING THE OFFICE INFORMATION	DUTY NO.	401
TASK TITLE	COLLECTING, ANALYSING, AND PROCESSING THE DATA	TASK NO.	4012
PERFORMANCE CRITERIA	The person performing this task must be able to input and analyse the data using an office software of spreadsheet in accordance with customer requirements.		
RANGE STATEMENT	The task can be performed in the network-based office place under the supervision of a Senior Technician. The tools and equipment to be used include: 1. Office computers; 2. Office software of spreadsheet.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following: 1. Input the data, and set its format; 2. Screen and rank the data; 3. Summarize and calculate the classified and consolidated data sheets; 4. Perform statistical calculations with formulas and common functions; 5. Prepare the sheet data; 6. Create and design charts; 7. Make PivotTables; 8. Make dynamic charts.		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Create and edit spreadsheets; 1.2 Collect, process and analyse the data; 1.3 Create and edit worksheets. 2.0 Principle The person performing this task must be able to explain the following principles: 2.1 Binding of data acquisition; 2.2 General data processing; 2.3 Regulatory of data analysis. 3.0 Theories The person performing this task must be able to explain the following: 3.1 Knowledge of data acquisition and statistical theory; 3.2 Processing and analysis of the data; 3.3 Chart visualization methods; 3.4 Underpinning knowledge of spreadsheets and charts; 3.5 Types and applications of common sheets; 3.6 Circumstantial knowledge of writing of data analysis reports , operating system , information search , printout. 4.0 Essential Skills 4.1 Operation skills of the sheet editing software;	

	4.2 Data processing and analysis skills; 4.3 Chart visualization skills; 4.4 Problem solving and analysis skills; 4.5 Team cooperation and communication skills.
DESCRIPTION OF THE END PRODUCT / SERVICE	Complete the data acquisition and analysis according to customer requirements.
CIRCUMSTANTIAL KNOWLEDGE	Detailed knowledge about: 1. Safety and health knowledge .

OCCUPATION	DIGITAL MEDIA TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PROCESSING THE OFFICE INFORMATION	DUTY NO.	401
TASK TITLE	PREPARING AND MAKING PRESENTATIONS	TASK NO.	4013
PERFORMANCE CRITERIA	The person performing this task must be able to prepare and make presentations using office automation software for presentation.		
RANGE STATEMENT	The task can be performed in the network-based office place under the supervision of a Senior Technician. The tools and equipment to be used include: 1. Office computers; 2. Office software of presentation.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following: 1. Create presentations and insert images and texts; 2. Choose the colour matching and layout schemes for presentations; 3. Edit and apply master presentations; 4. Create charts in presentations; 5. Insert frequent objects in presentations; 6. Create and edit animations in presentations; 7. Set the slideshow mode; 8. Optimize the presentations and rehearse them.		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Create and edit presentations; 1.2 Choose the colour matching and layout schemes for presentations; 1.3 Make presentation templates and styles; 1.4 Create and edit the animations in presentations; 1.5 Rehearse the presentation slideshows. 2.0 Principle The person performing this task must be able to explain the following principles: 2.1 Integrity of page settings; 2.2 Contrast of page layout; 2.3 Proportionality of colour matching. 3.0 Theories The person performing this task must be able to explain the following: 3.1 Underpinning knowledge of colour matching in presentations; 3.2 Underpinning knowledge of typesetting in presentations; 3.3 Common presentation types and applications; 3.4 Circumstantial knowledge of design , operating system , information search , printout. 4.0 Essential Skills	

	4.1 Operation skills of the presentation editing software; 4.2 Presentation editing and optimization skills; 4.3 Technical problem solving and analysis skills; 4.4 Team cooperation and communication skills.
DESCRIPTION OF THE END PRODUCT / SERVICE	Make and show elaborate presentations according to customer requirements.
CIRCUMSTANTIAL KNOWLEDGE	Detailed knowledge about: 1. Safety and health knowledge.

OCCUPATION	DIGITAL MEDIA TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	DRAWING AND DESIGNING PICTURES	DUTY NO.	402
TASK TITLE	MODELLING AND DRAWING	TASK NO.	4021
PERFORMANCE CRITERIA	The person performing this task must be able to portray and express objects independently using sketch painting tools.		
RANGE STATEMENT	The task can be performed in the art studio or workshop under the supervision of a Senior Artist. The tools and equipment to be used include: 1. Sketching tools, such as pencils, charcoal pencils, erasers, sketchbooks, and drawing boards; 2. Plasters of geometry and still lives.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following: 1. Prepare and use sketch painting tools; 2. Observe the objects regularly, and complete the preliminary sketches carefully with pencils; 3. Compose the paintings properly, and portray the objects in the right proportions; 4. Create sketch lines, depict the perspective relations accurately, and construct the forms and structures; 5. Draw proper hatches, and depict the light and shadow tones of black, white and grey accurately; 6. Create a detailed depiction carefully, construct the forms with lines, and complete the painting and artistic processing.		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Use the sketch painting tools; 1.2 Complete the holistic construction of forms with proper drawing postures; 1.3 Observe and depict the relations between part and whole; 1.4 Depict the perspective relations through the proper composition forms. 2.0 Principle The person performing this task must be able to explain the following principles: 2.1 Composition of forms; 2.2 Perspective of forms; 2.3 Expression of light and shadow in sketches. 3.0 Theories The person performing this task must be able to explain the following: 3.1 Forms, structures and perspective theories; 3.2 Knowledge of composition and light and shadow expression; 3.3 Use and maintenance of sketch painting tool; 3.4 Circumstantial knowledge of sketch materials and texture expression; 3.5 Artistic accomplishment and aesthetics.	

	4.0 Essential Skills 4.1 Self-learning and summarization skills; 4.2 Communication and teamwork skills; 4.3 Painting observation, thinking, expression skills; 4.4 Common hatching techniques in sketches.
DESCRIPTION OF THE END PRODUCT / SERVICE	Complete the sketch modelling and painting creation according to customer requirements.
CIRCUMSTANTIAL KNOWLEDGE	Detailed knowledge about: 1. Safety and health knowledge.

OCCUPATION	DIGITAL MEDIA TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	DRAWING AND DESIGNING PICTURES	DUTY NO.	402
TASK TITLE	PLANE GRAPHS AND FORMS	TASK NO.	4022
PERFORMANCE CRITERIA	The person performing this task must be able to complete the painting and typesetting of creative graphics using graphic hand-drawing skills.		
RANGE STATEMENT	The task can be performed in the workshop or art studio under the supervision of a Senior Artist. The tools and equipment to be used include: 1. Drawing tools, such as pencils, erasers, pens, mark pens, sketchbooks, black and white paperboards, straightedges, and compasses; 2. Office computers.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following: 1. Prepare and use graphic painting tools; 2. Think about the elements of pictures in accordance with the creative requirements for plane graphs; 3. Compose the paintings properly, and portray the objects in the right modelling; 4. Draw sketch lines, complete the creation of graphic lines, and complete the preliminary composition; 5. Determine the picture ideas and elements, and complete the picture layout reasonably and properly; 6. Apply colours to the black-white-grey background based on the creative theme to complete the painting and artistic processing.		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Use the graphic painting tools; 1.2 Draw the creative sketches of plane images; 1.3 Observe and depict the relations between the elements of pictures; 1.4 Depict the pictures using points, lines and planes. 2.0 Principle The person performing this task must be able to explain the following principles: 2.1 Composition of plane elements; 2.2 Modelling of plane forms; 2.3 Expression of black, white and grey. 3.0 Theories The person performing this task must be able to explain the following: 3.1 Thematic summarization and expression of pictures; 3.2 Design theories of plane composition (points, lines and planes); 3.3 Use and maintenance of painting tools; 3.4 Circumstantial knowledge of layout design; 3.5 Artistic accomplishment and aesthetics.	

	4.0 Essential Skills 4.1 Self-learning and summarization skills; 4.2 Communication and teamwork skills; 4.3 Painting observation, thinking, expression skills; 4.4 Common depiction techniques of plane composition.
DESCRIPTION OF THE END PRODUCT / SERVICE	Complete the thematic plane painting and creation according to customer requirements.
CIRCUMSTANTIAL KNOWLEDGE	Detailed knowledge about: 1. Safety and health knowledge

OCCUPATION	DIGITAL MEDIA TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	DRAWING AND DESIGNING PICTURES	DUTY NO.	402
TASK TITLE	COLOR MATCHING AND EMOTION EXPRESSZION	TASK NO.	4023
PERFORMANCE CRITERIA	The person performing this task must be able to express his/her emotions of creation through colour organizing and matching.		
RANGE STATEMENT	The task can be performed in the workshop or art studio under the supervision of a Senior Artist. The tools and equipment to be used include: 1. Drawing tools, such as pencils, erasers, roller pens, gouache brushes, gouache paints, brush-rinsing pots, black and white paperboards, and sketchbooks; 2. Office computer.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to: 1. Prepare and use colour painting tools; 2. Think about the elements of pictures in accordance with the creative requirements for colourful plane graphs; 3. Compose the paintings properly, and choose the proper modelling and colours; 4. Draw pattern lines, complete the creation of graphic lines, and complete the preliminary composition; 5. Determine the picture ideas and elements, and complete the picture layout reasonably and properly; 6. Apply colours to the background based on the creative theme to complete the painting and artistic processing.		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Use the colour painting tools; 1.2 Draw the creative sketches of colourful images; 1.3 Observe and depict the colour relations between part and whole; 1.4 Depict the pictures and emotions creatively through hue, brightness and purity. 2.0 Principle The person performing this task must be able to explain the following principles: 2.1 Colour matching and tone organizing; 2.2 Colour and emotion expression. 3.0 Theories The person performing this task must be able to explain the following: 3.1 Thematic summarization and expression of pictures; 3.2 Conceptions of hue, brightness and purity and applications of colour expression; 3.3 Use and maintenance of painting tools; 3.4 Circumstantial knowledge of colour psychology; 3.5 Artistic accomplishment and aesthetics.	

	4.0 Essential Skills 4.1 Self-learning and summarization skills; 4.2 Communication and teamwork skills; 4.3 Painting observation, thinking, expression skills; 4.4 Common depiction techniques of colour composition.
DESCRIPTION OF THE END PRODUCT / SERVICE	Complete the thematic plane painting and creation according to customer requirements.
CIRCUMSTANTIAL KNOWLEDGE	Detailed knowledge about: 1. Safety and health knowledge.

OCCUPATION	DIGITAL MEDIA TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	DRAWING AND DESIGNING PICTURES	DUTY NO.	402
TASK TITLE	DETERMINATION OF THE MATERIAL TEXTURE AND SPACE CONSTRUCTION	TASK NO.	4024
PERFORMANCE CRITERIA	The person performing this task must be able to make 3D creative modelling works using materials.		
RANGE STATEMENT	The task can be performed in the workshop or art studio under the supervision of a Senior Artist. The tools and equipment to be used include: 1. Making tools, such as pencils, erasers, pens, mark pens, paper materials, fabric, clay, utility knives, scissors, double-sided tapes, straightedges, and compasses for 3D construction; 2. Office computers.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to: 1. Prepare and use 3D construction tools; 2. Think about the modelling materials in accordance with the creative requirements for 3D modelling; 3. Select the materials properly, and choose the proper modelling and colours; 4. Draw modelling patterns, complete the creation of graphic lines, and complete the preliminary composition; 5. Determine the 3D ideas and elements, and complete the material producing reasonably and properly; 6. Make 3D modelling based on the creative themes, and complete the material producing and artistic processing.		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Use 3D construction tools; 1.2 Select and process the appropriate materials based on modelling requirements, and draw the creative sketches of colourful images; 1.3 Depict the relations between part and whole through the modelling forms and ways of points, lines, planes, blocks, and lights. 2.0 Principle The person performing this task must be able to explain the following principles: 2.1 Expression of 3D construction forms and space construction; 2.2 Modelling of 3D construction spaces; 2.3 Matching of 3D construction materials. 3.0 Theories The person performing this task must be able to explain the following: 3.1 Basic conceptions, creative forms and expression characteristics of 3D construction; 3.2 Expression and production of 3D construction; 3.3 Basic expression processes of 3D construction;	

	3.4 Use and maintenance of painting tools; 3.5 Space modelling and material characteristics; 3.6 Artistic accomplishment and aesthetics. 4.0 Essential Skills 4.1 Self-learning and summarization skills; 4.2 Communication and teamwork skills; 4.3 Graphic creativity and space modelling skills; 4.4 Common depiction techniques of 3D construction.
DESCRIPTION OF THE END PRODUCT / SERVICE	Design and complete the modelling of space construction according to customer requirements.
CIRCUMSTANTIAL KNOWLEDGE	Detailed knowledge about: 1. Safety and health knowledge.

OCCUPATION	DIGITAL MEDIA TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PHOTOGRAPHIC MODELLING AND SHOOTING	DUTY NO.	403
TASK TITLE	USING DIGITAL CAMERAS	TASK NO.	4031
PERFORMANCE CRITERIA	The person performing this task must be able to take digital photos using a Digital SLR camera or phone skillfully in accordance with customer requirements.		
RANGE STATEMENT	The task can be performed in the photographic studio or workshop under the supervision of a Senior Photographer. The tools and equipment to be used include: 1. Photographic devices, such as digital SLR cameras, phones, HDMI cables, and shooting tables; 2. Still lives and items for shooting practice; 3. High-performance computers.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to: 1. Prepare photographic devices; 2. Develop shooting themes in accordance with shooting requirements; 3. Create the picture atmosphere based on the shooting theme, and complete the picture composition; 4. Set the camera settings, test lighting and shooting; 5. Capture images, and perform film management and artistic processing.		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Select the appropriate photographic devices; 1.2 Set the professional modes for SLR cameras and mobile photography applications; 1.3 Compose the picture based on demands; 1.4 Set the camera settings according to the shooting environment. 2.0 Principle The person performing this task must be able to explain the following principles: 2.1 Photographic imagery; 2.2 Photographic modelling. 3.0 Theories The person performing this task must be able to explain the following: 3.1 Common photographic devices and their characteristics; 3.2 Common photographic compositions and applicable scenarios; 3.3 Relations between parameter settings (e.g., aperture, shutter speed and light sensitivity) and imaging effects (e.g., exposure and control of depth of field); 3.4 Use and maintenance of photographic devices;	

	<p>3.5 Structures and characteristics of photographic devices;</p> <p>3.6 Artistic accomplishment and aesthetics.</p> <p>4.0 Essential Skills</p> <p>4.1 Self-learning and summarization skills;</p> <p>4.2 Communication and teamwork skills;</p> <p>4.3 Skills to select photographic devices and set their parameters;</p> <p>4.4 Common photographic compositions and shooting skills.</p>
DESCRIPTION OF THE END PRODUCT / SERVICE	Use appropriate photographic devices to complete the thematic shooting according to customer needs.
CIRCUMSTANTIAL KNOWLEDGE	<p>Detailed knowledge about:</p> <p>1. Safety and health knowledge.</p>

OCCUPATION	DIGITAL MEDIA TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PHOTOGRAPHIC MODELLING AND SHOOTING	DUTY NO.	403
TASK TITLE	MAKING PHOTOGRAPHIC COMPOSITIONS AND UTILIZING LIGHTS	TASK NO.	4032
PERFORMANCE CRITERIA	The person performing this task must be able to complete the shooting with proper lighting and composition using a SLR camera or phone in accordance with customer requirements.		
RANGE STATEMENT	The task can be performed in the photographic studio or on the site under the supervision of a Senior Photographer. The tools and equipment to be used include: <div><div>1.</div><div>Photographic devices, such as digital SLR cameras, phones, HDMI cables, and shooting tables;</div></div> <div><div>2.</div><div>Lighting devices, such as video lights, lens hoods, honeycomb grid spot filters, beauty dishes, beam tubes, soft light boxes, and reflector panels;</div></div> <div><div>3.</div><div>High-performance computers.</div></div>		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to: <div><div>1.</div><div>Prepare photographic devices;</div></div> <div><div>2.</div><div>Develop shooting themes and lighting schemes in accordance with shooting requirements;</div></div> <div><div>3.</div><div>Select and arrange lighting devices, adjust the ambient light exposure, and create a picture atmosphere;</div></div> <div><div>4.</div><div>Set the camera settings, test lighting and shooting;</div></div> <div><div>5.</div><div>Capture images, and perform film management and artistic processing.</div></div>		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: <div><div>1.1</div><div>Select the appropriate photographic devices and lighting tools;</div></div> <div><div>1.2</div><div>Make a composition according to the subjects;</div></div> <div><div>1.3</div><div>Arrange lighting devices and test lighting;</div></div> <div><div>1.4</div><div>Set the camera settings according to the shooting environment.</div></div> 2.0 Principle The person performing this task must be able to explain the following principles: <div><div>2.1</div><div>Photographic photometry;</div></div> <div><div>2.2</div><div>Photographic lighting;</div></div> <div><div>2.3</div><div>Photographic composition.</div></div> 3.0 Theories The person performing this task must be able to explain the following: <div><div>3.1</div><div>Common photographing and lighting devices;</div></div> <div><div>3.2</div><div>Common lightings and applicable scenarios;</div></div> <div><div>3.3</div><div>Use and maintenance of photographic and lighting devices;</div></div>	

	<p>3.4 Structures and characteristics of lighting devices;</p> <p>3.5 Artistic accomplishment and aesthetics.</p> <p>4.0 Essential Skills</p> <p>4.1 Self-learning and summarization skills;</p> <p>4.2 Communication and teamwork skills;</p> <p>4.3 Skills to select photographic and lighting devices;</p> <p>4.4 Common lighting skills.</p>
DESCRIPTION OF THE END PRODUCT / SERVICE	Develop the shooting themes and lighting schemes according to customer needs, and use appropriate shooting and lighting devices.
CIRCUMSTANTIAL KNOWLEDGE	<p>Detailed knowledge about:</p> <p>1. Safety and health knowledge.</p>

OCCUPATION	DIGITAL MEDIA TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PROCESSING THE DIGITAL IMAGES	DUTY NO.	404
TASK TITLE	MANAGING THE GRAPHIC IMAGES	TASK NO.	4041
PERFORMANCE CRITERIA	The person performing this task must be able to capture, transform and create the graphic images using image processing software in accordance with customer requirements.		
RANGE STATEMENT	The task can be performed in the office or at home with network support under the supervision of a Graphic Designer. The tools and equipment to be used include: 1. High-performance computers; 2. Graphic image editing software; 3. Professional photographic cameras; 4. Image scanning devices.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to: 1. Capture shooting materials from different sources, and complete the storage and backup; 2. Classify, name, preview and view the information on graphic images; 3. Convert the images to adaptive formats according to the range of application; 4. Create adaptive images according to the domain of application; 5. Use the latest technologies to complete the graphic image management in accordance with customer needs.		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Capture shooting materials from different sources; 1.2 Complete safe storage and backup; 1.3 Classify the graphic images; 1.4 Create adaptive graphic images; 1.5 Import the images in different formats; 1.6 Convert the colour modes. 2.0 Principle The person performing this task must be able to explain the following principles: 2.1 Thematic applicability; 2.2 Consistency in contrast; 2.3 Coordination of images; 2.4 Consistency of formats. 3.0 Theories The person performing this task must be able to explain the following: 3.1 Bitmap images and vector graphics; 3.2 Basic conceptions of image processing; 3.3 Basic formats of image files; 3.4 Basic conceptions of colours; 3.5 Colour patterns of images;	

	<p>3.6 Colour psychology;</p> <p>3.7 Underpinning knowledge of graphic creativity;</p> <p>3.8 Colour models;</p> <p>3.9 Printing knowledge.</p> <p>4.0 Essential Skills</p> <p>4.1 Information technology operation skills;</p> <p>4.2 Problem analysis and solving skills;</p> <p>4.3 Customer service skills;</p> <p>4.4 New technology learning skills;</p> <p>4.5 Communication skills;</p> <p>4.6 Teamwork skills.</p>
DESCRIPTION OF THE END PRODUCT / SERVICE	Manage and deliver graphic images according to customer needs.
CIRCUMSTANTIAL KNOWLEDGE	<p>Detailed knowledge about:</p> <p>1. Safety and health knowledge.</p>

OCCUPATION	DIGITAL MEDIA TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PROCESSING THE DIGITAL IMAGES	DUTY NO.	404
TASK TITLE	CORRECTING AND RETOUCHING THE IMAGES	TASK NO.	4042
PERFORMANCE CRITERIA	The person performing this task must be able to correct and retouch the images with the graphic image processing software in accordance with customer requirements.		
RANGE STATEMENT	The task can be performed in the office or at home with network support under the supervision of a Graphic Designer. The tools and equipment to be used include: 1. High-performance computers; 2. Graphic image editing software; 3. Professional photographic cameras; 4. Image scanning devices.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to: 1. Adjust or correct the colours of the images with the appropriate colour tools, commands, or methods; 2. Remove the blemishes or distractions on the images with appropriate tools, commands, or methods; 3. Correct the optical or perspective distortions caused by the lens; 4. Perform the cutouts with the appropriate tools, commands, or methods; 5. Adjust the structures of images with distortion ways; 6. Correct and retouch the images in accordance with customer needs.		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Correct the images with standard colour cards; 1.2 Fix tone defects by adjusting the colours; 1.3 Correct the optical or perspective distortions; 1.4 Remove the blemishes or distractions; 1.5 Perform the cutouts; 1.6 Adjust the structures of images. 2.0 Principle The person performing this task must be able to explain the following principles: 2.1 Graphic image correction; 2.2 Graphic image retouching. 3.0 Theories The person performing this task must be able to explain the following: 3.1 Colour range and deviation of images; 3.2 Tone defects determined by column diagrams; 3.3 Basic theories of area selection, path and painting; 3.4 Colour psychology; 3.5 Underpinning knowledge of graphic creativity; 3.6 Colour models; 3.7 Printing knowledge.	

	4.0 Essential Skills 4.1 Information technology operation skills; 4.2 Problem analysis and solving skills; 4.3 Customer service skills; 4.4 New technology learning skills; 4.5 Communication skills; 4.6 Teamwork skills.
DESCRIPTION OF THE END PRODUCT / SERVICE	Correct, retouch, and deliver images according to customer needs.
CIRCUMSTANTIAL KNOWLEDGE	Detailed knowledge about: 1. Safety and health knowledge.

OCCUPATION	DIGITAL MEDIA TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PROCESSING THE DIGITAL IMAGES	DUTY NO.	404
TASK TITLE	IMPROVING THE VISUAL EFFECTS	TASK NO.	4043
PERFORMANCE CRITERIA	The person performing this task must be able to analyse the images and improve the visual effects with the image processing software.		
RANGE STATEMENT	The task can be performed in the office or at home with network support under the supervision of a Graphic Designer. The tools and equipment to be used include: 1. High-performance computers; 2. Graphic image editing software; 3. Professional photographic cameras; 4. Image scanning devices.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to: 1. Highlight the subjects through secondary composition, reconstruction of contrasting colours, and special effects; 2. Improve the image details with drawing tools, darken and dodge tools, sharpening tools, and local contrast; 3. Improve the tone of images with curves, colour scales, shadows and highlights, and HDR; 4. Compose the images by creating full focus, collaging, global matching, and masking; 5. Complete the image effects through filter groups and smart filters; 6. Design fonts by creating, editing, typesetting, and adding text effects; 7. Design the layer styles through adding, presetting, and customizing the layer styles; 8. Improve the visual effects of the images with the latest technologies in accordance with customer needs.		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Highlight the subjects through many methods; 1.2 Improve the image details through many methods; 1.3 Improve the image tone through many methods; 1.4 Compose new images from different sources through many methods; 1.5 Complete the image effects through many methods; 1.6 Design fonts through many methods; 1.7 Design the layer styles through many methods. 2.0 Principle The person performing this task must be able to explain the following principles: 2.1 Graphic image toning; 2.2 Secondary graphic image composition; 2.3 Layout of graphics, images and texts. 3.0 Theories The person performing this task must be able to explain the following: 3.1 Correct information of visual transmission; 3.2 Amount of visual information; 3.3 Visual effects resulting from matching degree; 3.4 Unique matching between visual inspection and information; 3.5 Colour psychology;	

	<p>3.6 Underpinning knowledge of graphic creativity; 3.7 Colour models; 3.8 Printing knowledge.</p> <p>4.0 Essential Skills 4.1 Information technology operation skills; 4.2 Problem analysis and solving skills; 4.3 Consumer service skills; 4.4 New technology learning skills; 4.5 Communication skills; 4.6 Teamwork skills.</p>
DESCRIPTION OF THE END PRODUCT / SERVICE	Improve and deliver the visual effects of images according to customer needs.
CIRCUMSTANTIAL KNOWLEDGE	<p>Detailed knowledge about:</p> <ol style="list-style-type: none"> 1. Safety and health knowledge.

OCCUPATION	DIGITAL MEDIA TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PROCESSING THE DIGITAL IMAGES	DUTY NO.	404
TASK TITLE	RENDERING AND OUTPUTTING THE IMAGES	TASK NO.	4044
PERFORMANCE CRITERIA	The person performing this task must be able to render and output the images using the image processing software in accordance with customer requirements.		
RANGE STATEMENT	The task can be performed in the office or at home with network support under the supervision of a Graphic Designer. The tools and equipment to be used include: 1. High-performance computers; 2. Image editing software; 3. Graphic editing software.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to: 1. Perform bulk automatic operations for group drawings; 2. Implement the appropriate output scheme according to the requirements; 3. Implement the appropriate image storage scheme according to the requirements; 4. Use the latest technologies to render and output images in accordance with customer needs; 5. Output high quality lossless images, high compression Web images, and unique files.		Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Perform bulk automatic operations; 1.2 Perform output of files in different formats; 1.3 Select the appropriate output schemes, and perform the calibration of safety colours; 1.4 Set the image resolutions and formats. 2.0 Principle The person performing this task must be able to explain the following principles: 2.1 Graphic image rendering; 2.2 Graphic image output. 3.0 Theories The person performing this task must be able to explain the following: 3.1 Bulk operations of images; 3.2 Categories of image output; 3.3 Categories of image storage; 3.4 Colour psychology; 3.5 Underpinning knowledge of graphic creativity; 3.6 Colour models; 3.7 Printing knowledge. 4.0 Essential Skills 4.1 Information technology operation skills;	

	4.2 Problem solving and analysis skills; 4.3 Customer service skills; 4.4 New technology learning skills; 4.5 Communication skills; 4.6 Teamwork skills.
DESCRIPTION OF THE END PRODUCT / SERVICE	Rendered, output and deliver the images according to customer needs.
CIRCUMSTANTIAL KNOWLEDGE	Detailed knowledge about: 1. Safety and health knowledge.

TABLE 1: DACUM CHARTS FOR DIGITAL MEDIA TECHNICIAN - NTA 4

DUTIES	TASKS	ENABLERS
1.0 Handling official businesses automatically	1.1 Writing, typesetting and editing documents	Generic skills and knowledge <ul style="list-style-type: none"> • Problem analysis and solving skills • Consumer service skills • Communication skills • Installation, practice and maintenance of office software • Basic computer operations • Use instructions of office software Tools and equipment <ul style="list-style-type: none"> • Computers, such as laptops and desktops • Internet devices, such as routers and networking optical fiber cables • Office automation software, such as Word, Excel, and PPT • Portable storage devices, such as mobile hard disks and USB flash disks Materials <ul style="list-style-type: none"> • Texts, data, and pictures Worker behaviors <ul style="list-style-type: none"> • Be dedicated, pragmatic, innovative, honest, and cooperative, and be respectful of copyrights and laws.
	1.2 Collecting, analysing and processing the data	
	1.3 Preparing and making presentations	
2.0 Drawing and designing pictures	2.1 Modelling and drawing	Generic skills and knowledge <ul style="list-style-type: none"> • Problem analysis and solving skills • Consumer service skills • Communication skills • Usage, practice and maintenance of painting and hand drawing tools • Underpinning knowledge of sketch painting • Expression techniques of three composition forms Tools and equipment <ul style="list-style-type: none"> • Computers, such as laptops and desktops • Pencils, erasers, pens, mark pens • Gouache brushes, gouache paints, brush-rinsing pots
	2.2 Plane graphs and forms	
	2.3 Color matching and emotion expresszion	
	2.4 Determination of the material texture and space construction	

DUTIES	TASKS	ENABLERS
		<ul style="list-style-type: none"> Mark pens, paper materials, fabric, clay, and wood Sheets of 8vo and 16mo <p>Materials</p> <ul style="list-style-type: none"> Materials, tools, and pictures <p>Requirements for employees</p> <ul style="list-style-type: none"> Be dedicated, pragmatic, innovative, honest, and cooperative, and be respectful of copyrights and laws.
3.0 Photographic modelling and shooting	3.1 Using digital cameras	<p>Generic skills and knowledge</p> <ul style="list-style-type: none"> Problem analysis and solving skills Consumer service skills Communication skills Usage, practice and maintenance of photographing and lighting tools Underpinning knowledge of shooting practice Expression techniques of photographic composition, lighting and setting <p>Tools and equipment</p> <ul style="list-style-type: none"> Digital SLR cameras and phones Data cables and storage cards Indoor video lights, such as lens hoods, honeycomb grid spot filters, and beauty dishes Beam tubes, soft light boxes, and reflector panels Still lives and items for shooting practice <p>Materials</p> <ul style="list-style-type: none"> Devices, tools, and pictures <p>Requirements for employees</p> <ul style="list-style-type: none"> Be dedicated, pragmatic, innovative, honest, and cooperative, and be respectful of copyrights and laws.
	3.2 Making a photographic composition and utilizing lights	
	3.3 Arranging the settings and shooting	
4.0 Processing the digital images	4.1 Managing the graphic images	<p>Generic skills and knowledge</p> <ul style="list-style-type: none"> Problem analysis and solving skills Consumer service skills
	4.2 Correcting and retouching the images	

DUTIES	TASKS	ENABLERS
	4.3 Improving the visual effects	<ul style="list-style-type: none"> • Communication skills • Installation, practice and maintenance of the image processing software • Underpinning knowledge of image processing • Tools and usage of image processing <p>Tools and equipment</p> <ul style="list-style-type: none"> • Computers, such as laptops and desktops • Internet devices, such as routers and networking optical fiber cables • Graphic image processing and making software • Portable storage devices, such as mobile hard disks and USB flash disks <p>Materials</p> <ul style="list-style-type: none"> • Pictures <p>Requirements for employees</p> <ul style="list-style-type: none"> • Be dedicated, pragmatic, innovative, honest, and cooperative, and be respectful of copyrights and laws.
	4.4 Rendering and outputting the images	