



**COMPETENCY STANDARD**  
**FOR**  
**3D ANIMATION FOR FREELANCERS**  
**(3D Character Animation)**

**(ICT Sector)**

**Level: 04**

Competency Standard Code: ICTCS031-L3V1

**National Skills Development Authority**  
**Prime Minister's Office, Bangladesh**

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## Introduction

The National Skills Development Authority aims to enhance an individual's employability by certifying completeness with skills. NSDA works to expand the skilling capacity of identified public and private training providers qualitatively and quantitatively. It also aims to establish and operationalize a responsive skill ecosystem and delivery mechanism through a combination of well-defined set of mechanisms and necessary technical supports.

Key priority economic growth sectors identified by the government have been targeted by NSDA to improve current job skills along with existing workforce to ensure required skills to industry standards. Training providers are encouraged and supported to work with industry to address identified skills and knowledge to enable industry growth and increased employment through the provision of market responsive inclusive skills training program.

"**3D Animation for Freelancers (3D Character Animation)**" is selected as one of the priority occupations of **Information and Communication Technology** Sector. This standard is developed to adopt a demand driven approach to training with effective inputs from Industry Skills Councils (ISC's), employer associations and employers.

Generally, a competency standard informs curriculum, learning materials, assessment and certification of students enrolled in skills sector. Students who successfully pass the assessment will receive a qualification in the National Skills Qualification Framework (NSQF) and will be listed on the NSDA's online portal.

This competency standard is developed to improve skills and knowledge in accordance with the job roles, duties and tasks of the occupation and ensure that the required skills and knowledge are aligned to industry requirements. A series of stakeholder consultations, workshops were held to develop this document.

The document also details the format, sequencing, wording and layout of the Competency Standard for an occupation which is comprised of Units of Competence and its corresponding Elements.

## Overview

A **competency standard** is a written specification of the knowledge, skills and attitudes required for the performance of an occupation, trade or job corresponding to the industry standard of performance required in the workplace.

The purpose of a competency standards is to:

- provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- enable industry recognised qualifications to be awarded through direct assessment of workplace competencies
- encourage the development and delivery of flexible training which suits individual and industry requirements
- encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes

Competency standards are developed by a working group comprised of representative from NSDA, Key Institutions, ISC, and industry experts to identify the competencies required of an occupation in **Information and Communication Technology** sector.

Competency standards describe the skills, knowledge and attitude needed to perform effectively in the workplace. CS acknowledge that people can achieve technical and vocational competency in many ways by emphasizing what the learner can do, not how or where they learned to do it.

With competency standards, training and assessment may be conducted at the workplace or at training institute or any combination of these.

Competency standards consist of a number of units of competency. A unit of competency describes a distinct work activity that would normally be undertaken by one person in accordance with industry standards.

Units of competency are documented in a standard format that comprises of:

- unit title
- nominal duration
- unit code
- unit descriptor
- elements and performance criteria
- variables and range statement
- curricular content guide
- assessment evidence guides

Together, all the parts of a unit of competency:

- describe a work activity
- guide the assessor to determine whether the candidate is competent or not yet competent

The ensuing sections of this document comprise of a description of the relevant occupation, trade or job with all the key components of a unit of competency, including:

- a chart with an overview of all Units of Competency for the relevant occupation, trade or job including the Unit Codes and the Unit of Competency titles and corresponding Elements
- the Competency Standard that includes the Unit of Competency, Unit Descriptor, Elements and Performance Criteria, Range of Variables, Curricular Content Guide and Assessment Evidence Guide



**Competency Standards for National Skill Certificate –4 in  
3D Animation for Freelancers (3D Character Animation) in ICT Sector**

**Level Descriptors of NSQF (BNQF 1-6)**

Level & Job classification	Knowledge Domain	Skills Domain	Responsibility Domain
6-Mid-Level Manager/ Sub Assistant Engineer	Comprehensive actual and theoretical knowledge within a specific work or study area with an awareness of the validity and limits of that knowledge, able to analyse, compare, relate and evaluate.	Specialised and wider range of cognitive and practical skills required to provide leadership in the development of creative solutions to defined problems. Communicate professional issues and solutions to the team and to external partners/users.	Work under broad guidance and self-motivation to execute strategic and operational plan/s. Lead lower-level management. Diagnose and resolve problems within and among work groups.
5-Supervisor	Broad knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to scrutinize and break information into parts by identifying motives or causes.	Broad range of cognitive and practical skills required to generate solutions to specific problems in one or more work or study areas. Communicate practice-related problems and possible solutions to external partners.	Work under guidance of management and self-direction to resolve specific issues. Lead and take responsibility for the work and actions of group/team members. Bridge between management.
4-Highly Skilled Worker	Broader knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to solve problems to new situations by comparing and applying acquired knowledge.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying the full range of methods, tools, materials and information. Communicate using technical terminology and IT technology with partners and users as per workplace requirements.	Work under minimal supervision in specific contexts in response to workplace requirements. Resolve technical issues in response to workplace requirements and lead/guide a team/ group.
3-Skilled Worker	Moderately broad knowledge in a specific work or study area, able to perceive ideas and abstract from drawing and design according to workplace requirements.	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools. Communicate with his team and limited external partners upholding the values, nature and culture of the workplace	Work or study under supervision with considerable autonomy. Participate in teams and responsible for group coordination.
2-Semi Skilled Worker	Basic understanding of underpinning knowledge in a specific work or study area, able to interpret and apply common occupational terms and instructions.	Skills required to carry out simple tasks, communicate with his team in the workplace presenting and discussing results of his work with required clarity.	Work or study under supervision in a structured context with limited scope of manipulation
1 –Basic Skilled Worker	Elementary understanding of ability to interpret the underpinning knowledge in a specific study area, able to interpret common occupational terms and instructions.	Specific Basic skills required to carry out simple tasks. Interpret occupational terms and present the results of own work within guided work environment/ under supervision.	Work under direct supervision in a structured context with limited range of responsibilities.



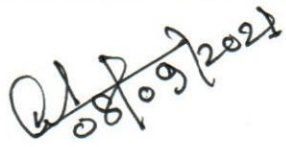

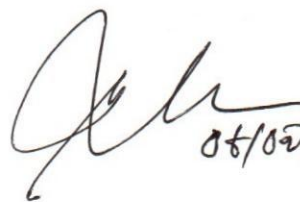
## List of Abbreviations

<b>CS</b>	– Competency Standard
<b>CSS</b>	- Cascade style sheet
<b>HTML</b>	- Hypertext markup language
<b>ISC</b>	– Industry Skills Council
<b>NSDA</b>	- National Skills Development Authority
<b>NSQF</b>	– National Skills Qualifications Framework
<b>OSH</b>	– Occupational Safety and Health
<b>PPE</b>	– Personal Protective Equipment
<b>SCVC</b>	– Standards and Curriculum Validation Committee
<b>TSC</b>	- Technical sub-committee
<b>STP</b>	– Skills Training Provider
<b>SOP</b>	– Standard Operating Procedures
<b>UoC</b>	– Unit of Competency



## Approval of Competency Standard

Members of the Approval Committee:

Member	Signature
<b>Dulal Krishna Saha</b> Executive Chairman ( Secretary ) National Skills Development Authority	 08/09/2021
<b>Md. Nurul Amin</b> Member ( Admin & Finance ) Member ( Registration & Certification ) Member ( Coordination & Assessment ) Joint Secretary National Skills Development Authority	 08.09.21
<b>Alif Rudaba</b> Member ( Planning & Skills Standard ) Joint Secretary National Skills Development Authority	 08/09/2021

  
08/09/21

**Dulal Krishna Saha**

Executive Chairman ( Secretary )

National Skills Development Authority

:Date

**Competency Standards for National Skill Certificate – Level 4  
in  
3D Animation for Freelancers (3D Character Animation) in ICT Sector**

**Course Structure**

SL	Unit Code and Title		UoC Level	Nominal (Hours)
<b>Generic Competencies</b>				<b>40</b>
1	GU010L3V1	Demonstrate work values	3	20
2	GU011L4V1	Lead small team	4	20
<b>Sector Specific Competencies</b>				
<b>Occupation Specific Competencies</b>				<b>260</b>
1	ICT3D005L3V1	Perform pre-production activities for 3D character animation	3	60
2	ICT3D006L3V1	Produce 3D character animation	3	150
3	ICT3D007L3V1	Post production of 3D character animation	3	50
<b>Total Nominal Learning Hours</b>				<b>300</b>

## Units & Elements at Glance

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### Generic Competencies

Code	Unit of Competency	Elements of Competency	Duration (Hours)
GU010L3V1	Demonstrate work values	<ol style="list-style-type: none"><li>1. Define the purpose of work</li><li>2. Apply work values / ethics</li><li>3. Deal with ethical problems</li></ol> <ol style="list-style-type: none"><li>1. Maintain integrity of conduct in the workplace</li></ol>	20
GU011L4V1	Lead small team	<ol style="list-style-type: none"><li>1. Provide team leadership</li><li>2. Assign responsibilities</li><li>3. Set performance expectations for team members</li></ol> <ol style="list-style-type: none"><li>1. Supervise team performance</li></ol>	20
Total Hours:			40

## Occupation Specific Competencies

Code	Unit of Competency	Elements of Competency	Duration (Hours)
ICT3D005L3V1	Perform pre-production activities for 3D character animation	<ol style="list-style-type: none"> <li>1. Creative brief (Use script to develop creative brief)</li> <li>2. Storyboard</li> <li>3. Referencing</li> <li>4. Acting for animation</li> </ol>	80
ICT3D006L3V1	Produce 3D character animation	<ol style="list-style-type: none"> <li>1. Develop 3D animations</li> <li>2. Tune created 3D animation and render</li> <li>3. Apply lighting, shading and rendering</li> </ol>	100
ICT3D007L3V1	Post production of 3D character animation	<ol style="list-style-type: none"> <li>1. Finalize animation according to design specification</li> <li>2. Deliver work to client</li> </ol>	50
Total Hour:			230

## **Generic Competencies**

<b>Unit Code and Title</b>	<b>GU005L3V1: Carryout Workplace Interaction in English</b>
<b>Nominal Hours</b>	<b>15 Hours</b>
<b>Unit Descriptor</b>	This unit covers the knowledge, skills and attitudes required to carry out workplace interaction. It specifically includes – interpreting workplace communication and etiquette; reading and understand workplace documents; participating in workplace meetings and discussions; and practicing professional ethics at workplace.
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables Training Components
1. Interpret workplace communication and etiquette	<p>1.1 Workplace code of conducts are interpreted as per organizational guidelines</p> <p>1.2 Appropriate lines of communication are maintained with supervisors and colleagues</p> <p>1.3 Workplace interactions are conducted in a <b><u>courteous manner</u></b> to gather and convey information</p> <p>1.4 Questions about routine <b><u>workplace procedures and matters</u></b> are asked and responded as required</p>
2. Interpret Workplace Documents	<p>2.1 Workplace documents are interpreted as per standard.</p> <p>2.2 Assistance is taken to aid comprehension when required from peers / supervisors</p> <p>2.3 Visual information / symbols / signage's are understood and followed</p> <p>2.4 Specific and relevant information are accessed from <b><u>appropriate sources</u></b></p> <p>2.5 Appropriate medium is used to transfer information and ideas</p>
3. Participate in workplace meetings and discussions	<p>3.1 Team meetings are attended on time and followed meeting procedures and etiquette</p> <p>3.2 Own opinions are expressed and listened to those of others without interruption</p> <p>3.3 Inputs are provided consistent with the meeting purpose and interpreted and implemented meeting outcomes</p>
4. Practice professional ethics at workplace	<p>4.1 Responsibilities as a team member are demonstrated and kept promises and commitments made to others</p> <p>4.2 Tasks are performed in accordance with workplace procedures</p> <p>4.3 Confidentiality is respected and maintained</p> <p>4.4 Situations and actions considered inappropriate or which present a conflict of interest are avoided</p>
<b>Range of Variables</b>	

Variable	Range (may include but not limited to):
1. Courteous Manner	1.1 Effective questioning 1.2 Active listening 1.3 Speaking skills
2. Workplace Procedures and Matters	2.1 Notes 2.2 Agenda 2.3 Simple reports such as progress and incident reports 2.4 Job sheets 2.5 Operational manuals 2.6 Brochures and promotional material 2.7 Visual and graphic materials 2.8 Standards 2.9 OSH information 2.10 Signs
3. Appropriate Sources	3.1 HR Department 3.2 Managers 3.3 Supervisors
<b>Evidence Guide</b> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency	
1. Critical Aspects of Competency	Assessment required evidence that the candidate: <ul style="list-style-type: none"> <li>1.1 followed workplace code of conducts is as per organizational guidelines</li> <li>1.2 maintained workplace documents as per standard</li> <li>1.3 followed workplace instructions and symbols</li> <li>1.4 followed and implemented meeting outcomes</li> </ul>
2. Underpinning Knowledge	<ul style="list-style-type: none"> <li>2.1 Workplace communication and etiquette</li> <li>2.2 Workplace documents, signs and symbols</li> <li>2.3 meeting procedure and etiquette</li> </ul>
3. Underpinning Skills	<ul style="list-style-type: none"> <li>3.1 Interpreting performance of workplace communication and etiquette</li> <li>3.2 Interpreting workplace instructions and symbol</li> <li>3.3 Interpreting workplace code of conducts is as per organizational guidelines</li> <li>3.4 Interpreting workplace documents as per standard</li> <li>3.5 Interpreting and implementing meeting outcomes</li> </ul>
4. Underpinning Attitudes	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety</li> <li>4.2 Promptness in carrying out activities</li> <li>4.3 Sincere and honest to duties</li> <li>4.4 Environmental concerns</li> <li>4.5 Eagerness to learn</li> <li>4.6 Tidiness and timeliness</li> <li>4.7 Respect for rights of peers and seniors in workplace</li> <li>4.8 Communication with peers and seniors in workplace</li> </ul>

5. Resource Implications	<p>The following resources must be provided:</p> <p>5.1 Relevant tools, Equipment, software and facilities needed to perform the activities.</p> <p>5.2 Required learning materials.</p>
6. Methods of Assessment	<p>Methods of assessment may include but not limited to:</p> <p>6.1 Written Test</p> <p>6.2 Demonstration</p> <p>6.3 Oral Questioning</p> <p>6.4 Portfolio</p>
7. Context of Assessment	<p>7.1 Competency assessment must be done in a NSDA accredited assessment centre</p> <p>7.2 Assessment should be done by an NSDA certified/nominated assessor</p>
<p><b>Accreditation Requirements</b></p> <p>National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NSQF qualification must accredit training Providers. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p>	



<b>Unit Code and Title</b>	<b>GU013L3V1: Carryout Communication with Clients</b>
<b>Nominal Hours</b>	<b>15 Hours</b>
<b>Unit Descriptor</b>	<p>This unit covers the knowledge, skills and attitudes required to carry out workplace interaction.</p> <p>It specifically includes interpreting workplace communication and etiquette; reading and understand workplace documents; participating in workplace meetings and discussions; and practicing professional ethics at workplace.</p>
<b>Elements of Competency</b>	<p><b>Performance Criteria</b>  <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables Training Components</p>
1. Interpret client-based communication and etiquette	<p>1.1 Code of conduct of communication are interpreted as per working environment/platform</p> <p>1.2 Manners and etiquette of communication is interpreted as</p> <p>1.3 Questions about routine <b><u>working environment/platform procedures and matters</u></b> are explained as required</p>
2. Prepare documents for endeavor/working environment/platform	<p>2.1 Relevant <b><u>documents</u></b> are prepared for effective communication with work environment</p> <p>2.2 <b><u>Validated sources</u></b> are identified as per client's requirements</p> <p>2.3 Documents are validated by the authentic sources as per client's requirements</p> <p>2.4 Documents are submitted as per standard procedure</p>
3. Conduct communication	<p>3.1 Appropriate means/method/<b><u>way of communication</u></b> are maintained as per working environment/platform</p> <p>3.2 <b><u>Channels of communication</u></b> are identified and followed</p> <p>3.3 Communication is conducted in a <b><u>courteous manner</u></b> to gather and convey information</p> <p>3.4 Appropriate non-verbal communication is used as required</p>
<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> (may include but not limited to):
1. Courteous Manner	<p>1.1 Effective questioning</p> <p>1.2 Active listening</p> <p>1.3 Speaking skills</p>

2. Workplace Procedures and Matters	2.1 Notes 2.2 Agenda 2.3 Simple reports such as progress and incident reports 2.4 Job sheets 2.5 Operational manuals 2.6 Brochures and promotional material 2.7 Visual and graphic materials 2.8 Standards 2.9 OSH information 2.10 Signs
3. Way of Communication	3.1 Verbal 3.2 Written 3.3 Online communication
4. Channels of communication	4.1 Marketplace messenger 4.2 Zoom 4.3 Google meet 4.4 Microsoft team 4.5 Go meeting 4.6 Boithok 4.7 Webex 4.8 Skype 4.9 Whatsapp
5. Documents	5.1 Personnel identification document 5.2 Portfolio 5.3 Financial document 5.4 Task proposal
6. Validated sources	6.1 Chamber of commerce 6.2 Related association 6.3 High commission 6.4 Related Bank 6.5 Local authority 6.6 Related legal entities
<b>Evidence Guide</b> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency	
1. Critical Aspects of Competency	Assessment required evidence that the candidate: 1.1 Interpreted client-based communication and etiquette 1.2 Prepared documents for endeavour/working/environment/platform 1.3 Conducted communication

2. Underpinning Knowledge	<ul style="list-style-type: none"> <li>1.1 Working platform</li> <li>1.2 Terms and condition in platform</li> <li>1.3 Documents for communication</li> <li>1.4 Validated sources</li> <li>1.5 Way of communication</li> <li>1.6 Channel of communication</li> <li>1.7 Courteous manner</li> </ul>
2. Underpinning Skills	<ul style="list-style-type: none"> <li>3.1 Handling personal computer/laptop</li> <li>3.2 Interpreting communication needs</li> <li>3.3 Using channels of communication</li> <li>3.4 Logging with online platform</li> <li>3.5 Interpreting terms and condition</li> </ul>
4. Underpinning Attitudes	<ul style="list-style-type: none"> <li>1.1 Commitment to occupational health and safety</li> <li>1.2 Promptness in carrying out activities</li> <li>1.3 Sincere and honest to duties</li> <li>1.4 Environmental concerns</li> <li>1.5 Eagerness to learn</li> <li>1.6 Tidiness and timeliness</li> <li>1.7 Respect for rights of peers and seniors in workplace</li> <li>1.8 Communication with peers and seniors in workplace</li> </ul>
2. Resource Implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>4.1 Relevant tools, Equipment, software and facilities needed to perform the activities.</li> <li>4.2 Required learning materials.</li> </ul>
5. Methods of Assessment	<p>Methods of assessment may include but not limited to:</p> <ul style="list-style-type: none"> <li>3.1 Written Test</li> <li>3.2 Demonstration</li> <li>3.3 Oral Questioning</li> <li>3.4 Portfolio</li> </ul>
4. Context of Assessment	<ul style="list-style-type: none"> <li>7.1 Competency assessment must be done in a NSDA accredited assessment centre</li> <li>7.2 Assessment should be done by an NSDA certified/ nominated assessor</li> </ul>

### **Accreditation Requirements**

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under National Skills Qualification (NSQF). Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

## **Occupation Specific Competencies**

<b>Unit Code and Title</b>	<b>ICT3D011L4V1: Perform Pre-Production Activities for 3D Character Animation</b>
<b>Nominal Hours</b>	<b>80 Hours</b>
<b>Unit Descriptor</b>	<p>This unit covers the knowledge, skills, and attitudes required to perform pre-production activities for 3D Character Animation.</p> <p>It specifically includes developing creative brief for 3D character animation project, articulating Storyboard, and performing acting for animation.</p>
<b>Elements of Competency</b>	<p><b>Performance Criteria</b>  <b><u>Bold and Underlined</u></b> terms are elaborated in the Range of Variables</p>
1. Develop creative brief for 3D character animation project.	<p>1.1 Script is analyzed for creative brief.</p> <p>1.2 Creative brief is drafted as per standard procedure.</p> <p>1.3 Feedback is taken from relevant personnel and creative brief is finalized.</p>
2. Determine animation requirements	<p>2.1 <b><u>Animation</u></b> requirements are determined, including <b><u>design specifications</u></b> and script of storyboard.</p> <p>2.2 Target users/audience and requirements are clarified with regard to <b><u>output formats</u></b> and <b><u>delivery/distribution platforms</u></b>.</p> <p>2.3 Output size, resolution and aspect ratio are confirmed from clients.</p> <p>2.4 Work flow sequence is determined in consultation with <b><u>relevant personnel</u></b>.</p>
3. Articulate Storyboard	<p>3.1 Creative brief is analyzed to recognize storyboard elements.</p> <p>3.2 Moodboard is developed matching brand qualities to content with ideas and dimensions.</p> <p>3.3 Storyboard is created matching brand qualities and requirements of creative brief.</p> <p>3.4 Reference images for props and products are gathered and applied to create storyboard.</p>
4. Generate animation layout and animatic	<p>4.1 Story is analyzed.</p> <p>4.2 Reference images for creating 3D project are gathered.</p> <p>4.3 Animations, artworks, other creative sources and additional information are reviewed.</p>

	<p>4.4 Storyboard is created based on the ideas.</p> <p>4.5 Voiceover and narration are recorded as required</p> <p>4.6 Animation ideas are generated that are technically feasible, respond to specifications and provide creative solutions to all design issues.</p> <p>4.7 Animation layout is designed.</p> <p>4.8 Animation layout is presented to the client and relevant personnel.</p>
5. Perform acting for animation	<p>5.1 Characteristics of characters are identified.</p> <p>5.2 Acting script is adopted for acting.</p> <p>5.3 <b><u>CROW</u></b> is recognized for acting.</p> <p>5.4 <b><u>WOFAIM</u></b> is addressed for acting.</p> <p>5.5 Acting is performed and recorded video for review.</p> <p>5.6 Recorded acts are reviewed and improved to reach animation requirement for characters.</p>
<b>Range of Variables</b>	
<b>Variables</b>	<b>Range</b> (may include but not limited to):
1. Animation	<p>1.1 Games</p> <p>1.2 Characters</p> <p>1.3 Illustrations</p> <p>1.4 Logos</p> <p>1.5 Objects</p> <p>1.6 Puzzles</p> <p>1.7 Cartoons</p> <p>1.8 Movies</p> <p>1.9 Text</p> <p>1.10 Loop animation</p> <p>1.11 GIF animation</p> <p>1.12 Slide animation</p> <p>1.13 White board animation</p> <p>1.14 Stop motion animation</p> <p>1.15 Social media ads</p> <p>1.16 TVC</p> <p>1.17 OVC</p> <p>1.18 AV</p> <p>1.19 Promo</p> <p>1.20 Info-graphics</p> <p>1.21 Vfx</p> <p>1.22 Explainer video</p>
2. Design specifications	<p>2.1 3D design specification</p> <p>□ Characters, props, gadgets, effects and environments</p>

	<ul style="list-style-type: none"> <li>□ Key frames</li> <li>□ Objects and object manipulation</li> <li>□ References</li> <li>□ Samples</li> <li>□ Script</li> <li>□ Storyboard</li> <li>□ 3D modeling</li> <li>□ Technical specifications, including: <ul style="list-style-type: none"> <li>- output file format</li> <li>- output file size</li> <li>- operating system</li> <li>- hardware specifications, including memory size, RAM</li> <li>- delivery platform</li> <li>- media form.</li> </ul> </li> </ul>
3. Output formats	<ul style="list-style-type: none"> <li>3.1 mov</li> <li>3.2 mp4</li> <li>3.3 png/tga</li> <li>3.4 dir/dcr</li> <li>3.5 fla/swf</li> <li>3.6 gif</li> </ul>
4. Delivery/ distribution platforms	<ul style="list-style-type: none"> <li>4.1 Games console</li> <li>4.2 Online platform</li> <li>4.3 Social Media</li> <li>4.4 TV</li> <li>4.5 Digital Board</li> <li>4.6 Mobile Applications</li> </ul>
5. Relevant personnel	<ul style="list-style-type: none"> <li>5.1 Art director</li> <li>5.2 Creative Director</li> <li>5.3 Generalist</li> <li>5.4 Animation supervisor</li> <li>5.5 Lead animator</li> <li>5.6 Character Artist</li> <li>5.7 Technical Artist</li> <li>5.8 Environment artist</li> <li>5.9 Project/production manager</li> <li>5.10 Project lead</li> <li>5.11 Animator</li> <li>5.12 Audio asset creator</li> <li>5.13 Video Editor</li> </ul>
6. CROW	<ul style="list-style-type: none"> <li>6.1 Character</li> <li>6.2 Relationship</li> <li>6.3 Obstacle</li> <li>6.4 World</li> </ul>

7. WOFAIM	<ul style="list-style-type: none"> <li>7.1 Want</li> <li>7.2 Obstacle</li> <li>7.3 Feeling As If</li> <li>7.4 Intentions</li> <li>7.5 Moment Before</li> </ul>
<p><b>Evidence Guide</b> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency</p>	
1. Critical aspects of competency	<ul style="list-style-type: none"> <li>1.1 Developed creative brief for 3D character animation project.</li> <li>1.2 Determined animation requirements</li> <li>1.3 Articulated Storyboard</li> <li>1.4 Generated animation layout</li> <li>1.5 Performed acting for animation</li> </ul>
2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 Script</li> <li>2.2 Moodboard</li> <li>2.3 Storyboard</li> <li>2.4 Core principles and concept of acting</li> <li>2.5 Fundamental acting skills</li> <li>2.6 Voicing</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1 Collecting resources required for asset and design ideas</li> <li>3.2 Referencing images and objects</li> <li>3.3 Acting (voicing and acting)</li> </ul>
4. Required attitude	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety</li> <li>4.2 Promptness in carrying out activities</li> <li>4.3 Sincere and honest to duties</li> <li>4.4 Environmental concerns</li> <li>4.5 Eagerness to learn</li> <li>4.6 Addressing and accepting feedback</li> <li>4.7 Tidiness and timeliness</li> <li>4.8 Respect for rights of peers and seniors in workplace</li> <li>4.9 Communication with peers and seniors in workplace</li> </ul>
5. Resource Implication	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1 Well-equipped computer lab with audio visual accessories</li> <li>5.2 Uninterrupted internet facilities</li> <li>5.3 Relevant tools, Equipment, software and facilities needed to perform the activities</li> <li>5.4 Uninterrupted powers supply source</li> <li>5.5 Required learning materials</li> </ul>



6. Methods of assessment	<p>Methods of assessment may include but not limited to:</p> <ul style="list-style-type: none"> <li>6.1 written test</li> <li>6.2 demonstration</li> <li>6.3 oral questioning</li> <li>6.4 portfolio</li> </ul>
7. Context of assessment	<ul style="list-style-type: none"> <li>7.1 Competency assessment will be done in NSDA accredited center or in online platform</li> <li>7.2 Assessment should be done by NSDA certified/nominated assessor</li> </ul>
<p><b>Accreditation Requirements</b></p> <p>Training Providers must be accredited by NSDA, the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of national skills qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p>	

<b>Unit Code and Title</b>	<b>ICT3D012L4V1: Produce 3D Character Animation</b>
<b>Nominal Hours</b>	<b>100 Hours</b>
<b>Unit Descriptor</b>	<p>This unit covers the knowledge, skills, and attitudes required to developing 3D Character Animation.</p> <p>It specifically includes creating 3D assets, creating rigs for 3D assets, developing 3D animations, tuning created 3D animation and render, applying lighting, shading and rendering.</p>
<b>Elements of Competency</b>	<p><b>Performance Criteria</b>  <b><u>Bold and Underlined</u></b> terms are elaborated in the Range of Variables</p>
1 Create 3D assets	<p>1.1 <b><u>3D animation Software</u></b> is selected.</p> <p>1.2 Appropriate tools and features of the selected program is identified and applied.</p> <p>1.3 Characters, models (props) and environment layout are created.</p> <p>1.4 UV for props and characters are generated.</p> <p>1.5 Pre-defined textures are applied adjusting <b><u>environment mapping parameters</u></b>.</p> <p>1.6 Model and texture are optimized.</p> <p>1.7 Back-up of models and images are prepared and stored.</p> <p>1.8 Feedback from client is taken on model and texture and finalized.</p>
2 Develop 3D animations	<p>2.1 Created assets and rigs are used for animation.</p> <p>2.2 Script/expresso for animation is used.</p> <p>2.3 First pass is animated, applying <b><u>relevant animation principles</u></b> and experimenting with techniques to produce required creative effects.</p> <p>2.4 Draft camera animation is applied.</p> <p>2.5 First pass is submitted to relevant personnel for review and comments.</p>
3 Tune created 3D animation and render	<p>3.1 Adjustments are made as required and refined animation in passes until production requirements are met.</p> <p>3.2 Secondary animations (final pass) are created and saved matching with the requirements.</p> <p>3.3 Facial features and lip-syncing are applied to match with</p>

	audio and design requirements. 3.4 Camera animation is finalized with associate character/ props.
4 Apply lighting and shading	4.1 Scenes are assembled. 4.2 <b>Lighting</b> is adjusted according to mood-board or concept art. 4.3 Appropriate texture and material are applied.
5 Perform rendering	5.1 Camera control options and appropriate rendering parameters are defined and applied. 5.2 Scene is optimized for minimum render time for desired output quality 5.3 Draft rendering is performed using appropriate <b>rendering engine</b> . 5.4 Rendered animation sequences are presented to relevant personnel for detailed responses and recommendations. 5.5 Required design changes are discussed and identified. 5.6 Design changes are incorporated to finalize the 3D animations. 5.7 Final rendering is performed with optimal render setting.
<b>Range of Variables</b>	
<b>Variables</b>	<b>Range</b> (may include but not limited to):
1. 3D animation software	1.1 Maya 1.2 3D Studio Max 1.3 Cinema4D 1.4 Blender 3D
2. Environment mapping parameters	2.1 Lighting 2.2 HDRI 2.3 Shadows
3. Relevant animation principles	3.1 Squash and stretch 3.2 Anticipation 3.3 Staging 3.4 Straight ahead action and pose to pose 3.5 Follow through and overlapping action 3.6 Slow in and slow out 3.7 Arc 3.8 Secondary action 3.9 Timing 3.10 Exaggeration 3.11 Solid drawing 3.12 Appeal

4. Lighting	4.1 Studio light 4.2 Exterior light
5. Rendering engine	5.1 V-ray 5.2 Arnold 5.3 Red shift 5.4 Octane 5.5 Mental ray 5.6 Render man 5.7 Cycle 5.8 EV render 5.9 Corona render
<b>Evidence Guide</b>	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency	
1. Critical aspects of competency	1.1 Created 3D assets 1.2 Created rigs for 3D assets 1.3 Developed 3D animations 1.4 Tuned created 3D animation and render 1.5 Applied lighting, shading and rendering
2. Underpinning knowledge	2.1 Characters 2.2 Models (props) 2.3 Environment layout 2.4 UV map 2.5 Texture 2.6 Pass 2.7 Rendering
3. Underpinning skills	3.1 Working with 3D Animation software 3.2 Setting camera composition 3.3 Rendering created work
4. Required attitude	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Addressing and accepting feedback 4.7 Tidiness and timeliness 4.8 Respect for rights of peers and seniors in workplace 4.9 Communication with peers and seniors in workplace
5. Resource Implication	The following resources must be provided: 5.1 Well-equipped computer lab with audio visual accessories 5.2 Uninterrupted internet facilities

	<p>5.3 Relevant tools, Equipment, software and facilities needed to perform the activities</p> <p>5.4 Uninterrupted powers supply source</p> <p>5.5 Required learning materials</p>
6. Methods of assessment	<p>6.1 Written test</p> <p>6.2 Demonstration</p> <p>6.3 Oral questioning</p> <p>6.4 Portfolio</p>
7. Context of assessment	<p>7.1 Competency assessment will be done in NSDA accredited center or in online platform</p> <p>7.2 Assessment should be done by NSDA certified/ nominated assessor</p>

### **Accreditation Requirements**

Training Providers must be accredited by NSDA, the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of national skills qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

<b>Unit Code and Title</b>	<b>ICT3D013L4V1: Perform Post-Production Activities for 3D Character Animation</b>
<b>Nominal Hours</b>	<b>50 hours</b>
<b>Unit Descriptor</b>	<p>This unit covers the knowledge, skills, and attitudes required to perform post-production activities for 3D Character Animation.</p> <p>It specifically includes finalizing product animation according to design specification, and delivering work to client.</p>
<b>Elements of Competency</b>	<p><b>Performance Criteria</b></p> <p><b><u>Bold and Underlined</u></b> terms are elaborated in the Range of Variable</p>
1. Finalize animation according to design specification	<p>1.1 Project settings are confirmed as per design specification.</p> <p>1.2 Compositing and multi-pass compositing animation is done.</p> <p>1.3 Render errors are fixed.</p> <p>1.4 <b><u>Visual effects (VFX)</u></b> are applied to animation.</p> <p>1.5 <b><u>Color grading</u></b> is applied to animation.</p> <p>1.6 <b><u>Sound and music</u></b> are created using <b><u>sound editing software</u></b>.</p> <p>1.7 Sound and music are applied to animation</p> <p>1.8 Rendering is committed using <b><u>compositing/editing software</u></b>.</p>
2. Deliver work to client	<p>2.1 Animations are reviewed to assess creative solutions to design specifications, appropriateness to users/audience and technical feasibility.</p> <p>2.2 Additional requirements or modifications to overall designs or animations are discussed and confirmed with relevant personnel.</p> <p>2.3 Feedback is incorporated as per standard procedure</p> <p>2.4 Final animated work is submitted following required format and medium.</p>
<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> (May include but not limited to:)
1. Visual effects (VFX)	<p>1.1 Chroma keying</p> <p>1.2 Basics of rotoscope</p> <p>1.3 2D tracking</p> <p>1.4 3D tracking</p>

	<ul style="list-style-type: none"> <li>1.5 Matte painting</li> <li>1.6 3D Match moving</li> <li>1.7 3D Projection</li> <li>1.8 Set extension</li> <li>1.9 3D compositing</li> </ul>
2. Color Grading	<ul style="list-style-type: none"> <li>2.1 White balance</li> <li>2.2 Color correction/balance</li> <li>2.3 Color preset</li> <li>2.4 Color space</li> </ul>
3. Sound and music	<ul style="list-style-type: none"> <li>3.1 Voice over</li> <li>3.2 Music</li> <li>3.3 Sound effects</li> <li>3.4 Audio balance</li> </ul>
4. Sound editing software	<ul style="list-style-type: none"> <li>4.1 Audacity</li> <li>4.2 Adobe audition</li> </ul>
5. Compositing/editing software	<ul style="list-style-type: none"> <li>5.1 After effects</li> <li>5.2 Foundry nuke</li> <li>5.3 Premiere pro</li> </ul>
<p><b>Evidence Guide</b></p> <p>The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.</p>	
1. Critical aspects of competency	<ul style="list-style-type: none"> <li>1.1 Finalized product animation according to design specification</li> <li>1.2 Delivered product to client</li> </ul>
2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 Project setting Design specification Look development</li> <li>2.2 Color grading</li> <li>2.3 Sketching</li> <li>2.4 Anatomy</li> <li>2.5 Media platform</li> <li>2.6 Art direction</li> <li>2.7 Composition</li> <li>2.8 Final output</li> </ul>
3. Underpinning skill	<ul style="list-style-type: none"> <li>3.1. Adding lighting</li> <li>3.2. Applying visual effects</li> <li>3.3. Applying color grading</li> <li>3.4. Applying sound and music</li> <li>3.5. Submitting final product</li> </ul>
4. Required attitude	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety</li> <li>4.2 Promptness in carrying out activities</li> <li>4.3 Sincere and honest to duties</li> <li>4.4 Environmental concerns</li> <li>4.5 Eagerness to learn</li> </ul>

	<ul style="list-style-type: none"> <li>4.6 Addressing and accepting feedback</li> <li>4.7 Tidiness and timeliness</li> <li>4.8 Respect for rights of peers and seniors in workplace</li> <li>4.9 Communication with peers and seniors in workplace</li> </ul>
5. Resource implication	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1 Well-equipped computer lab with audio visual accessories</li> <li>5.2 Uninterrupted internet facilities</li> <li>5.3 Relevant tools, Equipment, software and facilities needed to perform the activities</li> <li>5.4 Uninterrupted powers supply source</li> <li>5.5 Required learning materials</li> </ul>
6. Methods of assessment	<ul style="list-style-type: none"> <li>6.1 Demonstration with oral questioning</li> <li>6.2 Direct observation</li> <li>6.3 Written test</li> <li>6.4 Portfolio</li> </ul>
7. Context of assessment	<ul style="list-style-type: none"> <li>7.1 Competency assessment will be done in NSDA accredited center or in online platform</li> <li>7.2 Assessment should be done by NSDA certified/ nominated assessor</li> </ul>
<p><b>Accreditation Requirements</b></p> <p>Training Providers must be accredited by NSDA, the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of national skills qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p>	



## Development of Competency Standard by Technical Sub-Committee (TSC)

The Competency Standards for National Skills Certificate in Competency Standard on 3D Animation For Freelancers (3D Character Animation) **Level-4** Qualification is developed by TSC during August 8-12, 2021.

### Respectable members:

VIDEO ANIMATION FOR FREELANCER		
1.	Md. Sultan Mahmud, Database Administration, Dept. of ICT (DoICT)	Member
2.	Md. SELIM HOSSAIN, Head of the department Film and media, Creative IT Institute	Member
3.	MD. NURUDDOWLA AL NAIEM, Founder and CEO, Techdyno BD	Member
4.	Dr. Shaikh Muhammad Allayear, Associate Professor and Head, Dept. of Multimedia and Creative Technology. Daffodil International University	Member
5.	Murad Mahbub Abrar, Founder and CEO, Cycore Studios Limited	Member
6.	Rabi Hasan, Art Director, Havas Ipositive Communication Ltd.	Member
7.	Md. Parvez Alamgir, Manager, Client Service	Member
8.	Rumman Uddin Ahamed, Head of Business Development, Dhanshiri Communication Limited	Member
9.	Mahbubur Rahman Rubel, Lead Motion designer and VFX artist, Dreamcast marketing & Communication	Member
10.	Shahrin Ara, Freelancer	Member
11.	Zeenat Farzana, Managing Director, Techno magic	Member
12.	Mahbub Ul Huda, Specialist (CS, Curriculum, CBLM, Assessment), NSDA, Cell: 01735490491, email: huda73@gmail.com	Member
13.	Md. Amir Hossain, Process Expert (CS and Curriculum), NSDA. Cell: +88 01631670445, Email: razib.consultant@yahoo.com	Member
14.	Md. Quamruzzaman, Director (Skills Standard), NSDA, Cell: +88 01819189320 Email: qzaman40@yahoo.com	Member
15.		Member
16.		Member

## Validation of Competency Standard by SCVC

The Competency Standards for National Skills Certificate in Competency Standard on 3D Animation For Freelancers (3D Character Animation), is validated by SCVC on ----- 2021 and approved by NSDA.

Respectable members of the SCVC:

VIDEO ANIMATION FOR FREELANCER		
1.		
2.		Member
3.		Member
4.		Member
5.		Member
6.		Member
7.		Member
8.		Member
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14.	Md. Quamruzzaman, Director (Skills Standard), NSDA, Cell: +88 01819189320 Email: <a href="mailto:qzaman40@yahoo.com">qzaman40@yahoo.com</a>	Member
15.		Member
16.		Member

## Copyright

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This Competency Standard for **3D Animation for Freelancers (3D Character Animation)** is a document for the development of curricula, teaching and learning materials, and assessment tools. It also serves as the document for providing training consistent with the requirements of industry in order for individuals who graduated through the established standard via competency-based assessment to be suitably qualified for a relevant job.

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