TRAINING REGULATIONS

3D ANIMATION NC III

INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT) SECTOR

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY
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ICT SECTOR

3D ANIMATION

NATIONAL CERTIFICATE LEVEL III

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TRAINING REGULATIONS FOR
3D ANIMATION NC III

Section 1 3D ANIMATION NC III QUALIFICATIONS

The **3D ANIMATION NC III** Qualification consists of competencies that a person must achieve to produce 3D digital animation, multimedia and special effects for film and television/video in both production and post-production stages.

This Qualification is packaged from the competency map of the Information and Communication Technology (ICT) Industry as shown in Annex A.

The units of competency comprising this qualification include the following:

UNIT CODE	BASIC COMPETENCIES
5 00 311 1 09	Lead workplace communication
5 00 311 1 10	Lead small teams
5 00 311 1 11	Develop and practice negotiation skills
5 00 311 1 12	Solve problems related to work activities
5 00 311 1 13	Use mathematical concepts and techniques
5 00 311 1 14	Use relevant technologies

Code	COMMON COMPETENCIES
ICT 315 2 02	Apply quality standards
ICT 311 2 03	Operate a personal computer

Code	CORE COMPETENCIES
ICT313316	Produce key drawings for animation
ICT313320	Create 3D digital animation
ICT313323	Use an authoring tool to create an interactive sequence

A person who has achieved this Qualification is competent to be:

- Animation Checker
- 3D Animator
- Animation Designer
- Multimedia Artist

SECTION 2 COMPETENCY STANDARDS

This section gives the details of the contents of the basic, common and core units of competency required in **3D ANIMATION NC III.**

BASIC COMPETENCIES

UNIT OF COMPETENCY : LEAD WORKPLACE COMMUNICATION

UNIT CODE : 500311109

UNIT DESCRIPTOR **:** This unit covers the knowledge, skills and attitudes required to lead in the dissemination and discussion of ideas, information and issues in the workplace.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables
1. Communicate information about workplace processes	1.1. Appropriate ***communication method*** is selected 1.2. Multiple operations involving several topics areas are communicated accordingly 1.3. Questions are used to gain extra information 1.4. Correct sources of information are identified 1.5. Information is selected and organized correctly 1.6. Verbal and written reporting is undertaken when required 1.7. Communication skills are maintained in all situations
2. Lead workplace discussions	2.1. Response to workplace issues are sought 2.2. Response to workplace issues are provided immediately 2.3. Constructive contributions are made to workplace discussions on such issues as production, quality and safety 2.4. Goals/objectives and action plan undertaken in the workplace are communicated
3. Identify and communicate issues arising in the workplace	3.1. Issues and problems are identified as they arise 3.2. Information regarding problems and issues are organized coherently to ensure clear and effective communication 3.3. Dialogue is initiated with appropriate personnel 3.4. Communication problems and issues are raised as they arise

RANGE OF VARIABLES

VARIABLE	RANGE
1. Methods of communication	1.1. Non-verbal gestures 1.2. Verbal 1.3. Face to face 1.4. Two-way radio 1.5. Speaking to groups 1.6. Using telephone 1.7. Written 1.8. Internet

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1. Dealt with a range of communication/information at one time 1.2. Made constructive contributions in workplace issues 1.3. Sought workplace issues effectively 1.4. Responded to workplace issues promptly 1.5. Presented information clearly and effectively written form 1.6. Used appropriate sources of information 1.7. Asked appropriate questions 1.8. Provided accurate information
2. Underpinning knowledge	2.1. Organization requirements for written and electronic communication methods 2.2. Effective verbal communication methods
3. Underpinning Skills	3.1. Organize information 3.2. Understand and convey intended meaning 3.3. Participate in variety of workplace discussions 3.4. Comply with organization requirements for the use of written and electronic communication methods
4. Resource Implications	The following resources **MUST** be provided: 4.1. Variety of Information 4.2. Communication tools 4.3. Simulated workplace
5. Methods of Assessment	Competency may be assessed through: 5.1. Competency in this unit must be assessed through 5.2. Direct Observation 5.3. Interview
6. Context for Assessment	6.1. Competency may be assessed in the workplace or in simulated workplace environment

UNIT OF COMPETENCY : LEAD SMALL TEAMS

UNIT CODE : 500311110

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes to lead small teams including setting and maintaining team and individual performance standards.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables
1. Provide team leadership	1.1. ***Work requirements*** are identified and presented to team members 1.2. Reasons for instructions and requirements are communicated to team members 1.3. ***Team members' queries and concerns*** are recognized, discussed and dealt with
2. Assign responsibilities	2.1. Duties, and responsibilities are allocated having regard to the skills, knowledge and aptitude required to properly undertake the assigned task and according to company policy 2.2. Duties are allocated having regard to individual preference, domestic and personal considerations, whenever possible
3. Set performance expectations for team members	3.1. Performance expectations are established based on client needs and according to assignment requirements 3.2. Performance expectations are based on individual team members duties and area of responsibility 3.3. Performance expectations are discussed and disseminated to individual team members
4. Supervise team performance	4.1. ***Monitoring of performance*** takes place against defined performance criteria and/or assignment instructions and corrective action taken if required 4.2. Team members are provided with ***feedback***, positive support and advice on strategies to overcome any deficiencies 4.3. ***Performance issues*** which cannot be rectified or addressed within the team are referenced to appropriate personnel according to employer policy 4.4. Team members are kept informed of any changes in the priority allocated to assignments or tasks which might impact on client/customer needs and satisfaction 4.5. Team operations are monitored to ensure that employer/client needs and requirements are met 4.6. Follow-up communication is provided on all issues affecting the team 4.7. All relevant documentation is completed in accordance with company procedures

RANGE OF VARIABLES

VARIABLE	RANGE
1. Work requirements	1.1. Client Profile 1.2. Assignment instructions
2. Team member's concerns	2.1. Roster/shift details
3. Monitor performance	3.1. Formal process 3.2. Informal process
4. Feedback	4.1. Formal process 4.2. Informal process
5. Performance issues	5.1. Work output 5.2. Work quality 5.3. Team participation 5.4. Compliance with workplace protocols 5.5. Safety 5.6. Customer service

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1. Maintained or improved individuals and/or team performance given a variety of possible scenario 1.2. Assessed and monitored team and individual performance against set criteria 1.3. Represented concerns of a team and individual to next level of management or appropriate specialist and to negotiate on their behalf 1.4. Allocated duties and responsibilities, having regard to individual's knowledge, skills and aptitude and the needs of the tasks to be performed 1.5. Set and communicated performance expectations for a range of tasks and duties within the team and provided feedback to team members
2. Underpinning Knowledge	2.1. Company policies and procedures 2.2. Relevant legal requirements 2.3. How performance expectations are set 2.4. Methods of Monitoring Performance 2.5. Client expectations 2.6. Team member's duties and responsibilities
3. Underpinning Skills	3.1. Communication skills required for leading teams 3.2. Informal performance counseling skills 3.3. Team building skills 3.4. Negotiating skills
4. Resource Implications	The following resources **MUST** be provided: 4.1. Access to relevant workplace or appropriately simulated environment where assessment can take place 4.2. Materials relevant to the proposed activity or task
5. Methods of Assessment	Competency may be assessed through: 5.1. Direct observations of work activities of the individual member in relation to the work activities of the group 5.2. Observation of simulation and/or role play involving the participation of individual member to the attainment of organizational goal 5.3. Case studies and scenarios as a basis for discussion of issues and strategies in teamwork
6. Context of Assessment	6.1. Competency assessment may occur in workplace or any appropriately simulated environment 6.2. Assessment shall be observed while task are being undertaken whether individually or in-group

UNIT OF COMPETENCY: **DEVELOP AND PRACTICE NEGOTIATION SKILLS**

UNIT CODE **:** **500311111**

UNIT DESCRIPTOR **:** This unit covers the skills, knowledge and attitudes required to collect information in order to negotiate to a desired outcome and participate in the negotiation.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables
1. Plan negotiations	1.1 Information on ***preparing for negotiation*** is identified and included in the plan 1.2 Information on creating ***non verbal environments*** for positive negotiating is identified and included in the plan 1.3 Information on ***active listening*** is identified and included in the plan 1.4 Information on different ***questioning techniques*** is identified and included in the plan 1.5 Information is checked to ensure it is correct and up-to- date
2. Participate in negotiations	2.1 Criteria for successful outcome are agreed upon by all parties 2.2 Desired outcome of all parties are considered 2.3 Appropriate language is used throughout the negotiation 2.4 A variety of questioning techniques are used 2.5 The issues and processes are documented and agreed upon by all parties 2.6 Possible solutions are discussed and their viability assessed 2.7 Areas for agreement are confirmed and recorded 2.8 Follow-up action is agreed upon by all parties

RANGE OF VARIABLES

VARIABLE	RANGE
1. Preparing for negotiation	1.1 Background information on other parties to the negotiation 1.2 Good understanding of topic to be negotiated 1.3 Clear understanding of desired outcome/s 1.4 Personal attributes 1.4.1 self awareness 1.4.2 self esteem 1.4.3 objectivity 1.4.4 empathy 1.4.5 respect for others 1.5 Interpersonal skills 1.5.1 listening/reflecting 1.5.2 non verbal communication 1.5.3 assertiveness 1.5.4 behavior labeling 1.5.5 testing understanding 1.5.6 seeking information 1.5.7 self disclosing 1.6 Analytic skills 1.6.1 observing differences between content and process 1.6.2 identifying bargaining information 1.6.3 applying strategies to manage process 1.6.4 applying steps in negotiating process 1.6.5 strategies to manage conflict 1.6.6 steps in negotiating process 1.6.7 options within organization and externally for resolving conflict
2. Non-verbal environments	2.1 Friendly reception 2.2 Warm and welcoming room 2.3 Refreshments offered 2.4 Lead in conversation before negotiation begins
3. Active listening	3.1 Attentive 3.2 Don't interrupt 3.3 Good posture 3.4 Maintain eye contact 3.5 Reflective listening
4. Questioning techniques	4.1 Direct 4.2 Indirect 4.3 Open-ended

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Demonstrated sufficient knowledge of the factors influencing negotiation to achieve agreed outcome 1.2 Participated in negotiation with at least one person to achieve an agreed outcome
2. Underpinning Knowledge and Attitude	2.1 Codes of practice and guidelines for the organization 2.2 Organizations policy and procedures for negotiations 2.3 Decision making and conflict resolution strategies procedures 2.4 Problem solving strategies on how to deal with unexpected questions and attitudes during negotiation 2.5 Flexibility 2.6 Empathy
3. Underpinning Skills	3.1 Interpersonal skills to develop rapport with other parties 3.2 Communication skills (verbal and listening) 3.3 Observation skills 3.1 Negotiation skills
4. Resource Implications	The following resources **MUST** be provided: 4.1 Room with facilities necessary for the negotiation process 4.2 Human resources (negotiators)
5. Methods of Assessment	Competency may be assessed through: 5.1 Observation/demonstration and questioning 5.2 Portfolio assessment 5.3 Oral and written questioning 5.4 Third party report
6. Context for Assessment	6.1 Competency to be assessed in real work environment or in a simulated workplace setting.

UNIT OF COMPETENCY : SOLVE PROBLEMS RELATED TO WORK ACTIVITIES

UNIT CODE : 500311112

UNIT DESCRIPTOR : This unit of covers the knowledge, skills and attitudes required to solve problems in the workplace including the application of problem solving techniques and to determine and resolve the root cause of problems.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables
1. Identify the problem	1.1. Variances are identified from normal operating parameters; and product quality 1.2. Extent, cause and nature are of the problem are defined through observation, investigation and ***analytical techniques*** 1.3. ***Problems*** are clearly stated and specified
2. Determine fundamental causes of the problem	2.1. Possible causes are identified based on experience and the use of problem solving tools **/** analytical techniques. 2.2. Possible cause statements are developed based on findings 2.3. Fundamental causes are identified per results of investigation conducted
3. Determine corrective action	3.1. All possible options are considered for resolution of the problem 3.2. Strengths and weaknesses of possible options are considered 3.3. Corrective actions are determined to resolve the problem and possible future causes 3.4. **Action *plans*** are developed identifying measurable objectives, resource needs and timelines in accordance with safety and operating procedures
4. Provide recommendation/s to manager	4.1. Report on recommendations are prepared 4.2. Recommendations are presented to appropriate personnel. 4.3. Recommendations are followed-up, if required

RANGE OF VARIABLES

VARIABLE	RANGE
1. Analytical techniques	1.1. Brainstorming 1.2. Intuitions/Logic 1.3. Cause and effect diagrams 1.4. Pareto analysis 1.5. SWOT analysis 1.6. Gant chart, Pert CPM and graphs 1.7. Scattergrams
2. Problem	2.1. Non – routine process and quality problems 2.2. Equipment selection, availability and failure 2.3. Teamwork and work allocation problem 2.4. Safety and emergency situations and incidents
3. Action plans	3.1. Priority requirements 3.2. Measurable objectives 3.3. Resource requirements 3.4. Timelines 3.5. Co-ordination and feedback requirements 3.6. Safety requirements 3.7. Risk assessment 3.8. Environmental requirements

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1. Identified the problem 1.2. Determined the fundamental causes of the problem 1.3. Determined the correct / preventive action 1.4. Provided recommendation to manager These aspects may be best assessed using a range of scenarios / case studies / what ifs as a stimulus with a walk through forming part of the response. These assessment activities should include a range of problems, including new, unusual and improbable situations that may have happened.
2. Underpinning Knowledge	2.1. Competence includes a thorough knowledge and understanding of the process, normal operating parameters, and product quality to recognize non-standard situations 2.2. Competence to include the ability to apply and explain, sufficient for the identification of fundamental cause, determining the corrective action and provision of recommendations 2.2.1. Relevant equipment and operational processes 2.2.2. Enterprise goals, targets and measures 2.2.3. Enterprise quality, OHS and environmental requirement 2.2.4. Principles of decision making strategies and techniques 2.2.5. Enterprise information systems and data collation 2.2.6. Industry codes and standards
3. Underpinning Skills	3.1. Using range of formal problem solving techniques 3.2. Identifying and clarifying the nature of the problem 3.3. Devising the best solution 3.4. Evaluating the solution 3.5. Implementation of a developed plan to rectify the problem

4. Resource Implications	4.1. Assessment will require access to an operating plant over an extended period of time, or a suitable method of gathering evidence of operating ability over a range of situations. A bank of scenarios / case studies / what ifs will be required as well as bank of questions which will be used to probe the reason behind the observable action.
5. Methods of Assessment	Competency may be assessed through: 5.1. Case studies on solving problems in the workplace 5.2. Observation The unit will be assessed in a holistic manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations, which will include disruptions to normal, smooth operation. Simulation may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual workplace and will include walk through of the relevant competency components.
6. Context of Assessment	6.1. In all workplace, it may be appropriate to assess this unit concurrently with relevant teamwork or operation units.

UNIT OF COMPETENCY: USE MATHEMATICAL CONCEPTS AND TECHNIQUES

UNIT CODE : 500311113

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required in the application of mathematical concepts and techniques.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables
1. Identify mathematical tools and techniques to solve problem	1.1 Problem areas are identified based on given condition 1.2 ***Mathematical techniques*** are selected based on the given problem
2. Apply mathematical procedure/solution	2.1 Mathematical techniques are applied based on the problem identified 2.2 Mathematical computations are performed to the level of accuracy required for the problem 2.3 Results of mathematical computation is determined and verified based on job requirements
3. Analyze results	3.1 Result of application is reviewed based on expected and required specifications and outcome 3.2 ***Appropriate action*** is applied in case of error

RANGE OF VARIABLES

VARIABLE	RANGE
1. Mathematical techniques	May include but are not limited to: 1.1 Four fundamental operations 1.2 Measurements 1.3 Use/Conversion of units of measurements 1.4 Use of standard formulas
2. Appropriate action	2.1 Review in the use of mathematical techniques (e.g. recalculation, re-modeling) 2.2 Report error to immediate superior for proper action

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Identified, applied and reviewed the use of mathematical concepts and techniques to workplace problems
2. Underpinning Knowledge	2.1 Fundamental operation (addition, subtraction, division, multiplication) 2.2 Measurement system 2.3 Precision and accuracy 2.4 Basic measuring tools/devices
3. Underpinning Skills	3.1 Applying mathematical computations 3.2 Using calculator 3.3 Using different measuring tools
4. Resource Implications	The following resources **MUST** be provided: 4.1 Calculator 4.2 Basic measuring tools 4.3 Case Problems
5. Methods of Assessment	Competency may be assessed through: 5.1 Authenticated portfolio 5.2 Written Test 5.3 Interview/Oral Questioning 5.4 Demonstration
6. Context of Assessment	6.1 Competency may be assessed in the work place or in a simulated work place setting

UNIT OF COMPETENCY: USE RELEVANT TECHNOLOGIES

UNIT CODE : 500311114

UNIT DESCRIPTOR : This unit of competency covers the knowledge, skills, and attitude required in selecting, sourcing and applying appropriate and affordable technologies in the workplace.

ELEMENT	PERFORMANCE CRITERIA ***Italicized* terms are elaborated in the Range of Variables**
1. Study/select appropriate technology	1.1 Usage of different ***technologies*** is determined based on job requirements 1.2 Appropriate technology is selected as per work specification
2. Apply relevant technology	2.1 Relevant technology is effectively used in carrying out function 2.2 Applicable software and hardware are used as per task requirement 2.3 ***Management concepts*** are observed and practiced as per established industry practices
3. Maintain/enhance relevant technology	3.1 Maintenance of technology is applied in accordance with the ***industry standard operating procedure***, ***manufacturer's operating guidelines*** and ***occupational health and safety procedure*** to ensure its operative ability 3.2 Updating of technology is maintained through continuing education or training in accordance with job requirement 3.3 Technology failure/ defect is immediately reported to the concern/responsible person or section for ***appropriate action***

RANGE OF VARIABLES

VARIABLE	RANGE
1. Technology	May include but are not limited to: 1.1 Office technology 1.2 Industrial technology 1.3 System technology 1.4 Information technology 1.5 Training technology
2. Management concepts	May include but not limited to: 2.1 Real Time Management 2.2 KAIZEN or continuous improvement 2.3 5s 2.4 Total Quality Management 2.5 Other management/productivity tools
3. Industry standard operating procedure	3.1 Written guidelines relative to the usage of office technology/equipment 3.2 Verbal advise/instruction from the co-worker
4. Manufacturer's operating guidelines/ instructions	4.1 Written instruction/manuals of specific technology/ equipment 4.2 General instruction manual 4.3 Verbal advise from manufacturer relative to the operation of equipment
5. Occupational health and safety procedure	5.1 Relevant statutes on OHS 5.2 Company guidelines in using technology/equipment
6. Appropriate action	6.1 Implementing preventive maintenance schedule 6.2 Coordinating with manufacturer's technician

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Studied and selected appropriate technology consistent with work requirements 1.2 Applied relevant technology 1.3 Maintained and enhanced operative ability of relevant technology
2. Underpinning Knowledge	2.1 Awareness on technology and its function 2.2 Repair and maintenance procedure 2.3 Operating instructions 2.4 Applicable software 2.5 Communication techniques 2.6 Health and safety procedure 2.7 Company policy in relation to relevant technology 2.8 Different management concepts 2.9 Technology adaptability
3. Underpinning Skills	3.1 Relevant technology application/implementation 3.2 Basic communication skills 3.3 Software applications skills 3.4 Basic troubleshooting skills
4. Resource Implications	The following resources **MUST** be provided: 4.1 Relevant technology 4.2 Interview and demonstration questionnaires 4.3 Assessment packages
5. Methods of Assessment	Competency must be assessed through: 5.1 Interview 5.2 Actual demonstration 5.3 Authenticated portfolio (related certificates of training/seminar)
6. Context of Assessment	6.1 Competency may be assessed in actual workplace or simulated environment

COMMON COMPETENCIES

UNIT TITLE : APPLY QUALITY STANDARDS

UNIT CODE : 506315202

UNIT DESCRIPTOR : This unit covers the knowledge, skills, attitudes and values needed to apply quality standards in the workplace. The unit also includes the application of relevant safety procedures and regulations, organization procedures and customer requirements.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables
1. Assess quality of received materials	1.1. Work instruction is obtained and work is carried out in accordance with standard operating procedures. 1.2. Received ***materials*** are checked against workplace standards and specifications. 1.3. Faulty materials related to work are identified and isolated. 1.4. ***Faults*** and any identified causes are recorded and/or reported to the supervisor concerned in accordance with workplace procedures. 1.5. Faulty materials are replaced in accordance with workplace procedures.
2. Assess own work	2.1. ***Documentation*** relative to quality within the company is identified and used. 2.2. Completed work is checked against workplace standards relevant to the task undertaken. 2.3. ***Errors*** are identified and isolated. 2.4. Information on the quality and other indicators of production performance are recorded in accordance with workplace procedures. 2.5. In cases of deviations from specific ***quality standards***, causes are documented and reported in accordance with the workplace' s standards operating procedures.
3. Engage in quality improvement	3.1. Process improvement procedures are participated in relative to workplace assignment. 3.2. Work is carried out in accordance with process improvement procedures. 3.3. Performance of operation or quality of product of service to ensure ***customer*** satisfaction is monitored.

RANGE OF VARIABLES

VARIABLE	RANGE
1 Materials	1.1 Materials may include but not limited to: 1.1.1. Manuals 1.1.2. Job orders 1.1.3. Instructional videos
2 Faults	2.1 Faults may include but not limited to: 2.1.1. Materials not to specification 2.1.2. Materials contain incorrect/outdated information 2.1.3. Hardware defects 2.1.4. Materials that do not conform with any regulatory agencies
3 Documentation	3.1 Organization work procedures 3.2 Manufacturer's instruction manual 3.3 Customer requirements 3.4 Forms
4 Errors	4.1 Errors may be related but not limited to the following: 4.1.1. Deviation from the requirements of the Client 4.1.2. Deviation from the requirement of the organization
5 Quality standards	5.1 Quality standards may be related but not limited to the following: 5.1.1. Materials 5.1.2. Hardware 5.1.3. Final product 5.1.4. Production processes 5.1.5. Customer service
6 Customer	6.1 Co-worker 6.2 Supplier/Vendor 6.3 Client 6.4 Organization receiving the product or service

EVIDENCE GUIDE

1 Critical aspect of competency	Assessment must show that the candidate: 1.1 Carried out work in accordance with the company's standard operating procedures 1.2 Performed task according to specifications 1.3 Reported defects detected in accordance with standard operating procedures 1.4 Carried out work in accordance with the process improvement procedures
2 Underpinning knowledge	2.1 Relevant production processes, materials and products 2.2 Characteristics of materials, software and hardware used in production processes 2.3 Quality checking procedures 2.4 Workplace procedures 2.5 Safety and environmental aspects of production processes 2.6 Fault identification and reporting 2.7 Quality improvement processes
3 Underpinning skills	3.1 Reading skills required to interpret work instruction 3.2 Communication skills needed to interpret and apply defined work procedures 3.3 Carry out work in accordance with OHS policies and procedures 3.4 Critical thinking 3.5 Solution providing and decision-making
4 Method of assessment	The assessor must select two of the following to objectively evaluate the candidate: 4.1 Observation and oral questioning 4.2 Third party report 4.3 Portfolio 4.4 Practical demonstration
5 Resource implication	5.1 Materials, software and hardware to be used in a real or simulated situation
6 Context of Assessment	6.1 Assessment may be conducted in the workplace or in a simulated environment

UNIT TITLE : **OPERATE A PERSONAL COMPUTER**

UNIT CODE : **ICT 311203**

UNIT DESCRIPTOR : This unit defines the competency required to operate a personal computer by: starting the PC, logging in, using and working with files, folders and programs, saving work, and closing down the PC.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables
1. Start the computer	1.1 The ***peripheral devices*** are properly connected 1.2 Power is checked and the ***computer*** and peripheral devices are switched on 1.3 Proper logging in and logging off is successfully done 1.4 The ***operating system*** features and functions are accessed and navigated 1.5 Hardware configuration and other ***system features*** are checked
2. Arrange and customize desktop display/ GUI settings	2.1 The desktop screen or GUI elements are changed as needed 2.2 Desktop icons are added, renamed, moved, copied or deleted 2.3 The ***online help functions*** are accessed or used as needed 2.4 Desktop icons of ***application programs*** are selected, opened and closed 2.5 ***Properties*** of icons are displayed 2.6 Computer or desktop settings are saved and restored
3. Work with files and folders (or directories)	3.1 A file or folder is created, opened, moved, renamed or copied 3.2 Files are located, deleted and restored 3.3 Details and properties of files and folders are displayed or viewed 3.4 ***Various files*** are organized for easy lookup and use 3.5 Files and information are searched 3.6 ***Disks*** are checked, erased or formatted as necessary
4. Work with user application programs	4.1 ***Application programs*** are added, changed, removed or ran 4.2 User software or application program are installed, updated and upgraded 4.3 Information/data are moved between documents or files
5. Print information	5.1 Printer is added or installed and correct ***printer settings*** is ensured 5.2 Default printer is assigned accordingly 5.3 Information or document is printed on the installed printer 5.4 Progress of print jobs are viewed and deleted as required
6. Shut down computer	6.1 All open application programs are closed 6.2 Computer and peripheral devices are properly shut down

RANGE OF VARIABLES

VARIABLE	RANGE
1. Peripheral device	This may include but is not limited to: 1.1 mouse 1.2 keyboard 1.3 monitor or visual display unit 1.4 printer 1.5 scanner
2. Computer	May include: 2.1. Laptops/notebooks 2.2. Workstations 2.3. Servers 2.4. other personal computer devices
3. Application programs	Can include: 3.1 user programs 3.2 database programs 3.3 word processors 3.4 email programs 3.5 Internet browsers 3.6 system browsers 3.7 spreadsheets
4. Operating system	May include but is not limited to the various versions and variants of operating systems running on personal computers and servers, such as: 4.1 Windows 4.2 NT 4.3 Mac OS 4.4 Linux 4.5 Solaris 4.6 Unix
5. System features	May include but is not limited to the operating system features and hardware features like: 5.1 memory size 5.2 disk capacities 5.3 video cards 5.4 USBs 5.5 Modems 5.6 1394 and LAN connectors 5.7 SD and PC cards 5.8 wireless and infrared connections.
6. Online help functions	6.1 An instruction manual, or a portion of the manual, integrated and accessible from within the program or software being used.

VARIABLE	RANGE
7. Properties	Indicates the description of the file or folder to include the: 7.1 file name 7.2 type of file 7.3 file size 7.4 date created and modified 7.5 attributes (hidden, read-only).
8. Various files	8.1 Documents 8.2 Records 8.3 Pictures 8.4 Music 8.5 Video
9. Disks	May include but is not limited to: 9.1 Floppy disks 9.2 CDs 9.3 CD-RW (Compact discs-Read/Write) 9.4 DVD RW 9.5 zip disks 9.6 flash drives 9.7 memory sticks 9.8 hard drives
10. Printer settings	The properties of the printer that enables it to work includes: 10.1 page layout 10.2 paper size 10.3 ink/cartridge type 10.4 number of copies 10.5 page orientation.

EVIDENCE GUIDE

1.	Critical aspects of Competency	Assessment must confirm the candidate's ability to: 1.1 utilize software 1.2 navigate the desktop 1.3 use system features to perform tasks 1.4 save results of work.
2.	Underpinning Knowledge	Knowledge includes: 2.1 Keyboard layout and functions 2.2 Computer functions 2.3 Basic parts of a computer and various hardware components 2.4 Storage devices and file concepts 2.5 Basic software operation and functionalities
3.	Underpinning Skills	Skills include: 3.1 Saving and retrieving files to and from various folders or disk storage 3.2 Mouse and keyboarding skills for running software applications 3.3 Reading and writing at a level where basic workplace documents are understood 3.4 Clear ability to communicate with peers and supervisors 3.5 Interpretation of user manuals and help functions 3.6 The ability to carry out written and verbal instructions using a personal computer whether standalone or in a networked environment
4.	Resource Implications	To demonstrate competence in this unit access to the following resources will be required: 4.1 A personal computer 4.2 A printer 4.3 Mouse and keyboard 4.4 Basic systems software
5.	Methods of Assessment	Competency may be assessed through: 5.1 Observation in a workplace or simulated environment 5.2 Third party reports 5.3 Exams and tests 5.4 Demonstration of required skills 5.5 Interviews
6.	Context for Assessment	6.1 Competency may be assessed in the workplace or in a simulated work environment.

CORE COMPETENCIES

UNIT TITLE : PRODUCE KEY DRAWINGS FOR ANIMATION
UNIT CODE : ICT 313316
UNIT DESRIPTOR : This unit covers the knowledge, skills and attitude required to interpret the animation specifications to produce key drawings for animation productions.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables
1. Identify animation requirements	1.1 All relevant animation requirements from the storyboard, layouts and director's instructions or camera sheet are identified. 1.2 Animation requirements from the timings and soundtrack breakdown are identified. 1.3 All necessary materials and ***equipment*** to be used are identified and prepared according to the task to be undertaken.
2. Produce key drawings	2.1 ***Key drawings*** produced are complete with ***relevant details from material*** and ***styles.*** 2.2 Drawings produced complied with soundtrack breakdown. 2.3 Quantity of key drawings produced is sufficient to establish the action and ensure that they are within the standard set for the agreed design/model. 2.4 Key drawings produced are within the constraints and types of production. 2.5 Line test is undertaken to ensure smooth flow of movement
3. Edit/revise and complete key drawings	3.1 Corrections to key drawings, ***animated elements*** and ***images*** are made after review by ***relevant personnel.*** 3.2 Key drawings with ***animation breakdowns*** are clearly labeled. 3.3 Key drawings are clearly identified, safely and securely stored in accordance with company procedures.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Equipment	1.1 animation table/light box 1.2 animation disc 1.3 photocopying machine
2. Key drawings	2.1 produced in a variety of graphic styles 2.2 involve a broad range of graphic styles and techniques
3. Material	3.1 storyboard 3.2 layout drawings 3.3 director's instruction camera sheet 3.4 soundtrack breakdown 3.5 model sheets
4. Animated styles	4.1 drawings 4.2 digital imaging 4.3 broad range of graphic styles and techniques
5. Animated elements	5.1 character 5.2 background 5.3 props 5.4 length of animation 5.5 camera movements 5.6 technical/digital
6. Animated images	6.1 registered hand drawn images 6.2 computer-generated forms and actions
7. Appropriate personnel	7.1 Production manager 7.2 Animation director 7.3 Technical director
8. Animation breakdown	8.1 the number of in-betweens required 8.2 path of action and pace

EVIDENCE GUIDE

1. Critical Aspect of Competency	Assessment must show that the candidate: 1.1. Creatively interpreted animation specifications to meet requirements. 1.2. Calculated intermediate positions of figure along a path that marks important visual transitions/extremes of action.
2. Underpinning Knowledge	2.1 Visualization and interpretation of creative concepts 2.2 Interpreting scripts, specifications and instructions 2.3 Principles and techniques of animation production 2.4 Principles and techniques of animation 2.5 Current animation methods and techniques 2.6 Life drawing and translation to animated characters 2.7 Color theory, line, dimension, depth and their application on the screen 2.8 Character drawing 2.9 Cartoon drawing 2.10 Appropriate software application
3. Underpinning Skills	3.1 Drawing skills 3.2 Communication skills 3.3 Presentation skills
4. Method of Assessment	4.1 The assessor must select two of the following to objectively assess the candidate: 4.1.1 Direct Observation and oral questioning 4.1.2 Third party report 4.1.3 Portfolio
5. Resource Implication	5.1 Appropriate supplies and materials 5.2 Applicable equipment
6. Context of Assessment	6.1 Assessment maybe conducted in the workplace or in a simulated environment

UNIT TITLE : CREATE 3D DIGITAL ANIMATION

UNIT CODE : ICT 313320

UNIT DESRIPTOR : This unit covers the knowledge, skills and attitude required to create 3D digital animation.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables
1. Identify requirements for 3D animation	1.1 Design brief and storyboard are obtained and creative requirements are discussed with ***relevant personnel.*** 1.2 All 3D animation requirements including technical and production ***specifications*** are identified and discussed with relevant personnel. 1.3 Soundtrack requirements are identified and discussed with relevant personnel
2. Identify and select 3D animation software	2.1 Range of industry standard ***3D animation software*** including computer-assisted techniques are identified for suitability 2.2 Capability and compatibility of the computer hardware and software is assessed vis-à-vis ***creative, production, technical requirements and specifications.*** 2.3 Appropriate 3D animation software to be used is selected in consultation with the appropriate personnel to ensure that output met requirements. 2.4 Software selected is in accordance with the specified ***delivery platform***.
3. Create models and images	3.1 Appropriate tools and features of the selected program is identified and applied to meet creative and technical requirements. 3.2 Model and set-up environment layout for 3D production are created as appropriate to the required 3D model. 3.3 Model different kinds of 3D characters for production. 3.4 Pre-defined textures are applied using ***texture mapping parameters*** as required. 3.5 Camera control options and appropriate rendering parameters are defined and applied to achieve the required creative outcome. 3.6 Object motion hierarchies are used to achieve the required motion effect. 3.7 Back-ups of models and images are prepared labeled and stored in accordance with company procedures and industry standards of ***documentation****.*

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables
4. Test and evaluate 3D models	4.1 3D model motion is tested and combined with other media to create required digital animation sequence. 4.2 Cross platform file transfers, digitized time coding and interface calibration is ensured to meet the requirements of technical and creative specifications. 4.3 3D models and relevant digital animation sequence is presented to relevant personnel for review, comments and recommendations. 4.4 Identified changes, if any are discussed with the relevant personnel and agreements are incorporated to the prepared models. 4.5 Final agreement and approval is obtained from relevant personnel for the finished models.
5. Produce 3D animation	5.1 Construct rigid and non-rigid objects as required by the design brief and storyboard. 5.2 Combine objects into a single animated steam according to creative requirements and technical specifications. 5.3 Create simple and complex animated movements into static or moving backgrounds according to creative and technical requirements. 5.4 Integrate animated objects or characters into static or moving backgrounds, using animation techniques available within software as required, and as appropriate according to the software. 5.5 Apply time stamping techniques to animation frames. 5.6 Apply textures, lighting and rendering as required in production. 5.7 Incorporate sound where necessary, referring to soundtrack breakdown. 5.8 3D animation is saved and stored using appropriate and adequate file formats.
6. Evaluate 3D animation	6.1 3D animation sequences are presented to relevant personnel for detailed responses and recommendations. 6.2 Design changes are discussed, identified and incorporated to complete the 3D animation and meet the recommendations. 6.3 Final agreement of finished 3D animation sequences is obtained from relevant personnel.

RANGE OF VARIABLES

VARIABLE	RANGE	
1. Appropriate personnel	1.1. Director 1.2. Producer 1.3. Project manager 1.4. Technical Director 1.5. Navigation designers 1.6. Video producer 1.7. Editing personnel 1.8. 3D graphic, animation and modeling production personnel	
2. Production specifications	May include: 2.1. Timeline 2.2. Budget 2.3. Deadline	2.4. Hardware 2.5. Software 2.6. Delivery platform 2.7. Media form
3. 3D animation software	May include: 3.1. Maya 3.2. 3Dmax 3.3. Studio max 3.4. Maxxon 3.5. Blender	3.6. Softimage 3.7. Electric image 3.8. Autocad 3.9. Lightwave 3.10. Animation master
4. Creative, production, technical requirements and specifications.	Relevant specifications may be found in: 4.1. Storyboard 4.2. Layout drawings 4.3. Model Sheets 4.4. Director's instructions 4.5. Camera sheet 4.6. Soundtrack breakdown	
5. Delivery platform	Delivery platform may include: 5.1. World wide web 5.2. CD-ROM 5.3. DVD 5.4. Film 5.5. Broadcast format	
6. Texture mapping parameters	6.1. Lighting 6.2. Shadows	
7. Documentation	Documentation may be: 7.1. Computer-generated 7.2. Manually written 7.3. Marked up transcripts 7.4. Marked up scripts 7.5. Production schedules	

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment must show that the candidate: 1.1 Applied various range of 3D model and image production methods and equipment 1.2 Selected suitable software in relation to the specified delivery platform 1.3 Created 3D digital animation using appropriate tools and features of the selected software to meet requirements
2. Underpinning Knowledge	2.1 Computer and computer operating system 2.2 Interpreting creative information, scripts and images 2.3 Principles of 3D modeling sequencing 2.4 Application of different 3D modeling and digital imaging methods and formats 2.5 Techniques/Methods of 3D animation 2.6 Life drawing and translation to animated characters 2.7 Creative elements of a production 2.8 Maintaining design integrity 2.9 Color theory, line, dimension, depth and their application on the screen 2.10 Basic editing principles, e.g., composition, framing, pacing, timing 2.11 Copyright laws, regulations
3. Underpinning Skills	3.1 Design and Drawing skills 3.2 Effective Communication skills 3.3 Presentation skills 3.4 Computer operation
1. Method of Assessment	1.1 The assessor must select two of the following to objectively assess the candidate: 1.1.1 Direct Observation and oral questioning 1.1.2 Third party report 1.1.3 Portfolio
2. Resource Implication	2.1 Appropriate materials 2.2 Applicable software and equipment
3. Context of Assessment	3.1 Assessment maybe conducted in the workplace or in a simulated environment

UNIT TITLE : USE AN AUTHORING TOOL TO CREATE AN INTERACTIVE SEQUENCE
UNIT CODE : ICT 313323
UNIT DESRIPTOR : This unit covers the knowledge, skills and attitude required to use an authoring tool to create a discrete interactive sequence for a multimedia production.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables
1. Plan use of authoring tool	1.1 Range of authoring tools and their application to various ***multimedia projects*** are identified and discussed with ***relevant personnel***. 1.2 Purpose, scope, storyboard and design of multimedia projects are discussed with relevant personnel. 1.3 The technical requirements of the multimedia project and use of authoring program are discussed with relevant personnel.
2. Use authoring tool	2.1 Use tools and features of ***software*** relevant to the authoring process 2.2 Create a new file for the specified task and name appropriately 2.3 Multimedia components are imported into the authoring tool. 2.4 Design principles are applied to the screen design and layout. 2.5 Screen and layout are designed according to ***creative production requirements and technical specifications***. 2.6 Buttons and other interactive elements are created. 2.7 All components are linked according to storyboard. 2.8 Data files, images, and audio are saved and stored in appropriate file format.
3. Check functionality of multimedia sequence	3.1 All links function is checked and debugging is done to make sure that these are fully interactive and presented to relevant personnel. 3.2 Required changes in the sequence are incorporated in the final ***delivery platform***.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Multimedia projects	1.1 Interactive CD 1.2 Corporate Audio-Visual Presentations (AVPs) 1.3 Instructional materials in CD 1.4 Online Gaming 1.5 Computer Simulation 1.6 Webpage Design & Development 1.7 E-learning
2. Relevant personnel	2.1 Creative Director 2.2 Project manager 2.3 Technical Director 2.4 Navigation designers 2.5 Programmers 2.6 Visual Designer 2.7 Flash animator
3. Software	May include: 3.1 Macromedia Director/Flash 3.2 Movie Works 3.3 Web Authoring Software 3.4 E-learning Software 3.5 Slide Show Software
4. Creative, production requirements and technical specifications	Relevant specifications may be found in: 4.1 Storyboard 4.2 Layout drawings 4.3 Model Sheets 4.4 Director's instructions 4.5 Camera sheet 4.6 Soundtrack breakdown
5. Delivery platform	Delivery platform may include: 5.1 World wide web 5.2 CD-ROM 5.3 DVD

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment must show that the candidate: 1.1 Selected suitable software in relation to the specified multimedia project 1.2 Created a multimedia sequence using appropriate tools and features of the selected software to meet requirements
2. Underpinning Knowledge	2.1 Computer and computer operating system 2.2 Interpreting creative information, scripts and images 2.3 Scope and elements of multimedia 2.4 Digital components of multimedia, their distinguishing features and functions 2.5 Basic techniques/methods of graphics design 2.6 Life drawing and translation to animated characters 2.7 Creative elements of a production 2.8 Maintaining design integrity 2.9 Color theory, line, dimension, depth and their application on the screen 2.10 Basic editing principles, e.g., composition, framing, pacing, timing 2.11 Copyright laws, regulations
3. Underpinning Skills	3.1 Design and Drawing skills 3.2 Use of appropriate authoring software 3.3 Effective Communication skills 3.4 Presentation skills 3.5 Computer operation
4. Method of Assessment	4.1 The assessor must select two of the following to objectively assess the candidate: 4.1.1 Direct Observation and oral questioning 4.1.2 Third party report 4.1.3 Portfolio
5. Resource Implication	5.1 Appropriate materials 5.2 Applicable software and equipment
6. Context of Assessment	6.1 Assessment maybe conducted in the workplace or in a simulated environment

SECTION 3 TRAINING STANDARDS

3.1 CURRICULUM DESIGN

Course Title: 3D Animation **NC Level:** NC III

Nominal Training Duration: 64 hrs – Basic Competencies
16 hrs – Common Competencies
960 hrs – Core Competencies

Course Description:

This course is designed to develop & enhance the knowledge, skills, & attitudes of a 3D Animator in accordance with industry standards. It covers the basic & common competencies in addition to the core competencies such as to produce key drawings for animation, create 3D digital animation and to use an authoring tool to create an interactive sequence. The nominal duration of 1,040 hours covers the required units at 3D Animation NC III. TVET providers can however, offer a longer, ladderized course covering the NC III basic, common and core units.

BASIC COMPETENCIES
64 hrs

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
1. Lead workplace communication	1.1 Communicate information about workplace processes. 1.2 Lead workplace discussions. 1.3 Identify and communicate issues arising in the workplace	• Group discussion • Role Play • Brainstorming	• Observation • Interviews
2. Lead small teams	2.1 Provide team leadership. 2.2 Assign responsibilities among members. 2.3 Set performance expectation for team members. 2.4 Supervise team performance	• Lecture • Demonstration • Self-paced (modular)	• Demonstration • Case studies

3. Develop and practice negotiation skills	3.1 Identify relevant information in planning negotiations 3.2 Participate in negotiations 3.3 Document areas for agreement	• Direct observation • Simulation/role playing • Case studies	• Written test • Practical/ performance test
4. Solve workplace problem related to work activities	4.1 Explain the analytical techniques. 4.2 Identify the problem. 4.3 Determine the possible cause/s of the problem.	• Direct observation • Simulation/role playing • Case studies	• Written test • Practical/ performance test
5. Use mathematical concepts and techniques	5.1 Identify mathematical tools and techniques to solve problem 5.2 Apply mathematical procedures/solution 5.3 Analyze results	• Direct observation • Simulation/role playing • Case studies	• Written test • Practical/ performance test
6. Use relevant technologies	6.1 Identify appropriate technology 6.2 Apply relevant technology 6.3 Maintain/enhance relevant technology	• Direct observation • Simulation/role playing • Case studies	• Written test • Practical/ performance test

COMMON COMPETENCIES

16 hrs

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
1. Apply Quality Standards	1.1 Asses quality of received materials 1.2 Assess own work 1.3 Engage in quality improvement	▪ Field trip ▪ Symposium ▪ Film showing ▪ Simulation ▪ On the job training	▪ Demonstration & questioning ▪ Observation & questioning ▪ Third party report
2. Operate a Personal Computer	2.1 Plan and prepare for task to be undertaken 2.2 Input data into computer 2.3 Access information using computer 2.4 Produce output/data using computer system 2.5 Use basic functions of a web browser to locate information 2.6 Maintain computer equipment and systems	▪ Modular ▪ Film showing ▪ Computer based training (e-learning) ▪ Project method ▪ On the job training	▪ Demonstration & questioning ▪ Observation & questioning ▪ Third party report ▪ Assessment of output product ▪ Portfolio ▪ Computer-based assessment

CORE COMPETENCIES

960 hrs

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
1. Produce key drawings for animation	1.1. Identify animation requirements 1.2. Produce key drawings 1.3. Edit, revise and complete key drawings	• Lecture/ Discussion • Hands on • Exercises • Demonstration • Viewing multimedia	• Written exam • Practical exam Observation in workplace • Interviews/ questioning
2. Create 3D digital animation	2.1. Relate traditional arts to 3D Animation productions and be able to work and set-up their personal interface for work convenience 2.2. Model both 3D Environment and Character and start constructing Objects 2.3. Add life to objects they have created by adding shades and texture to the object, and basic lights for the scene 2.4. Create controllers to the character, add motion to the characters and animated objects and edit animation for project presentation 2.5. Finalize scene set-up, render, composite scene for final video output	• Lecture/ Discussion • Hands on/ Practical Work Approach • Exercises • Industry tour • Self-pace • Film showing • Demonstration	• Direct observation • Demonstration with oral questioning • Third Party Report • Portfolio
3. Use an authoring tool to create an interactive sequence	3.1. Plan use of authoring tool 3.2. Use authoring tool 3.3. Check functionality of multimedia sequence	• Lecture/ Discussion • Hands on • Exercises • Demonstration • Viewing multimedia	• Written exam • Practical exam • Observation in workplace • Interviews/ questioning

3.2 TRAINING DELIVERY

The delivery of training shall adhere to the design of the curriculum. Delivery shall be guided by the 10 basic principles of competency-based TVET.

- The training is based on curriculum developed from the competency standards;
- Learning is modular in its structure;
- Training delivery is learner-centered and should accommodate individualized and self-paced learning strategies;
- Training is based on work that must be performed;
- Training materials are directly related to the competency standards and the curriculum modules;
- Assessment is based in the collection of evidence of the performance of work to the industry required standard;
- Training program allows for recognition of prior learning (RPL) or current competencies;
- Training allows for multiple entry and exit; and
- Training programs are registered with the UTPRAS.

The competency-based TVET system recognizes various types of delivery modes, both on and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities may be adopted when designing training programs:

- The dualized mode of training delivery is preferred and recommended. Thus programs would contain both in - school and in-industry training or fieldwork components. Details can be referred to the Dual Training System (DTS) Implementing Rules and Regulations.
- Modular/self-paced learning is a competency-based training modality wherein the trainee is allowed to progress at his own pace. The trainer just facilitates the training delivery.
- Peer teaching/mentoring is a training modality wherein fast learners are given the opportunity to assist the slow learners.
- Supervised industry training or on-the-job training is an approach in training designed to enhance the knowledge and skills of the trainee through actual experience in the workplace to acquire specific competencies prescribed in the training regulations.
- Distance learning is a formal education process in which majority of the instruction occurs when the students and instructor are not in the same place. Distance learning may employ correspondence study, or audio, video or computer technologies.
- Project-based instruction is an authentic instructional model or strategy in which students plan, implement and evaluate projects that have real world applications.

3.3 TRAINEE ENTRY REQUIREMENTS

The trainees who wish to enter the course should possess the following requirements:

- At least high school graduate
- 18 – 45 years old
- Able to communicate both oral and written
- With drawing skills
- Must know how to operate a computer
- Good moral character
- Must be physically and mentally fit

This list does not include specific institutional requirements such as educational attainment, appropriate work experience and others that may be required from the trainees by the school or training center delivering the TVET program.

3.4 LIST OF TOOLS, EQUIPMENT AND MATERIALS

Recommended list of tools, equipment and materials for the conduct of training in 3D Animation NC III:

TOOLS		EQUIPMENT		MATERIALS	
Qty	Description	Qty.	Description	Qty.	Description
	Operating system		Computer with peripherals		Reference Book
	Internet Browsers (Netscape Navigator, Internet Explorer, Mozilla, Opera)		Ergonomic computer tables and chairs		Learning materials/ guide
			LCD Projector		Modules
			Printer		Learning elements
	Mark–up Languages (HTML, DHTML, XML, XHTML, SGML,VRM,)		OHP		Hand-outs
					Printable storyboard
	Softwares, e.g.: - Maya - 3Dmax - Studio max - Softimage - Lightwave - Animation master - Maxxon - Electric image - Blender				Interactive Flash movies
					Practice materials
					Adobe PDF documents
					CD's
	Graphics software				
	FTP client and server software				
	Animation disc				

The quantity of tools and equipment to be used for the conduct of training for this qualification shall depend on the number of students, size of the class, and/or modality of training. The most important consideration is to make sure that tools and equipment are adequately provided to all trainees when needed. The actual list of tools, equipment, machines, supplies and other materials to be used shall be identified and detailed in the Competency Based Curriculum (CBC) to be submitted by the TVET provider when registering a course or training program with TESDA.

Due to the fast-changing nature of the Information and Communications Technology (ICT) sector, TVET providers are reminded to use and provide their trainees with the latest technology tools, equipment and materials where appropriate and applicable.

In cases where there are specialized tools, equipment and facilities that are not generally considered standard requirements or not absolute requisites for training, the industry working group or TESDA may provide guidelines or specific advice on such matters.

3.5 TRAINING FACILITIES

Based on class size of 25 students/trainees the space requirements for the teaching/learning and circulation areas are as follows:

TEACHING/LEARNING AREAS	SIZE IN METERS	AREA IN SQ. METERS	QTY	TOTAL AREA IN SQ. METERS
Lecture Area	5 x 8	40	1	40
Learning Resource Area	4 x 5	20	1	20
Wash ,Toilet & Locker Room	2 x 5	10	2	20
Total				80
Facilities / Equipment / Circulation**				30
Total Area				**110**

***** Area requirement is equivalent to 30% of the total teaching/learning areas***

Appropriate consideration should be given in providing and allocating work space, communications facilities, and the usual workplace amenities to ensure a proper learning environment. Where applicable, training shall be held or conducted in learning facilities in accordance with generally accepted industry standards and practice.

3.6 TRAINERS QUALIFICATIONS

Animation NC III
Trainer's Qualification TQ III

- Must be a holder of TESDA Animation NC III or equivalent
- Must have completed Training Methodology III (TM III) course or equivalent
- * Must have at least 2-years relevant industry experience.
- Must be physically & mentally fit.

* Optional: Only when required by the hiring institution.

3.7 INSTITUTIONAL ASSESSMENT

Institutional Assessment is undertaken by trainees to determine their achievement of units of competency. A certificate of achievement is issued for each unit of competency. The institutional assessment is administered by the trainer/assessor.

SECTION 4 NATIONAL ASSESSMENT AND CERTIFICATION ARRANGEMENTS

4.1 To attain the National Qualification of **3D Animation NC III**, the candidate must demonstrate competence in all the units listed in Section 1. Successful candidates shall be awarded a National Certificate III level signed by the TESDA Director-General.

4.2 The qualification of **3D Animation NC III** may be attained through:

4.2.1 Accumulation of Certificates of Competency (COCs) in all the following units of competencies:

4.2.1.1 Produce key drawings for animation
4.2.1.2 Produce 3D digital animation
4.2.1.3 Use and authoring tool to create an interactive sequence

Successful candidates shall be awarded a **Certificate of Competency (COC)** in each of the core units.

4.3 Upon accumulation and submission of all COCs acquired for all the relevant units of competency comprising this qualification, an individual shall be issued the corresponding National Certificate.

4.4 Assessment shall focus on the core units of competency. The basic and common units shall be integrated or assessed concurrently with the core units.

4.5 The following are qualified to apply for assessment and certification:

4.5.1. Graduates of formal, non-formal and informal including enterprise-based training programs.

4.5.2. Experienced workers (wage employed or self employed)

4.6 The guidelines on assessment and certification are discussed in detail in the "Procedures Manual on Assessment and Certification" and "Guidelines on the Implementation of the Philippine TVET Qualification and Certification System (PTOQS)".

ANNEX A. ICT COMPETENCY MAP – 3D ANIMATION NC III

BASIC COMPETENCIES

Receive and Respond to Workplace Communication	Work with Others	Demonstrate work values	Practice basic housekeeping procedures	Participate in Workplace Communication
Work in a Team Environment	Practice career professionalism	Practice occupational health and safety procedures	**Lead Workplace Communication**	**Lead Small Team**
Develop and practice negotiation skills	**Solve Problems Related to Work Activities**	**Use mathematical concepts and techniques**	**Use relevant technologies**	Utilize Specialist Communication Skills
Develop Team and Individuals	Apply Problem Solving Techniques in the Workplace	Collect, analyze and organize information	Plan and Organize Work	Promote environmental protection

COMMON COMPETENCIES

Apply Quality Standards	**Operate a Personal Computer**

CORE COMPETENCIES

Communicate effectively in a customer contact center	Render quality customer service	Utilize enterprise/ company technology	Conduct contact center campaign	Provide specialized support and assistance to customers
Lead a contact center work team	Manage the activities of a contact center work team	Use business technology	Use medical technology to carry out task	Produce text from audio transcription
Review/edit documents	**Produce key drawings for animation**	Produce cleaned-up and in-betweened drawings	Create 2D digital animation	**Use an authoring tool to create an interactive sequence**
Lead a team in delivering quality service	Produce background designs	Composit and edit animation sequence	**Create 3D digital animation**	Produce storyboard for animation
Coordinate the production of animation	Manage the activities of a work team	Produce over-all designs for animation		

DEFINITION OF TERMS

GENERAL

1) **Certification -** is the process of verifying and validating the competencies of a person through assessment

2) **Certificate of Competency (COC)** – is a certification issued to individuals who pass the assessment for a single unit or cluster of units of competency

3) **Common Competencies** - are the skills and knowledge needed by all people working in a particular industry

4) **Competency** - is the possession and application of knowledge, skills and attitudes to perform work activities to the standard expected in the workplace

5) **Competency Assessment -** is the process of collecting evidence and making judgements on whether competency has been achieved

6) **Competency Standard (CS)** - is the industry-determined specification of competencies required for effective work performance

7) **Context of Assessment** - refers to the place where assessment is to be conducted or carried out

8) **Core Competencies - are** the specific skills and knowledge needed in a particular area of work - industry sector/occupation/job role

9) **Critical aspects of competency -** refers to the evidence that is essential for successful performance of the unit of competency

10) **Elective Competencies -** are the additional skills and knowledge required by the individual or enterprise for work

11) **Elements** - are the building blocks of a unit of competency. They describe in outcome terms the functions that a person perform in the workplace

12) **Evidence Guide** - is a component of the unit of competency that defines or identifies the evidences required to determine the competence of the individual. It provides information on critical aspects of competency, underpinning knowledge, underpinning skills, resource implications, assessment method and context of assessment

13) **Level -** refers to the category of skills and knowledge required to do a job

14) **Method of Assessment** - refers to the ways of collecting evidence and when evidence should be collected

15) **National Certificate (NC)** – is a certification issued to individuals who achieve all the required units of competency for a national qualification defined under the Training Regulations. NCs are aligned to specific levels within the PTQF

16) **Performance Criteria** - are evaluative statements that specify what is to be assessed and the required level of performance

17) **Qualifications** - is a cluster of units of competencies that meets job roles and are significant in the workplace. It is also a certification awarded to a person on successful completion of a course in recognition of having demonstrated competencies in an industry sector

18) **Range of Variables** - describes the circumstances or context in which the work is to be performed

19) **Recognition of Prior Learning (RPL)** – is the acknowledgement of an individual's skills, knowledge and attitudes gained from life and work experiences outside registered training programs

20) **Resource Implications -** refers to the resources needed for the successful performance of the work activity described in the unit of competency. It includes work environment and conditions, materials, tools and equipment

21) **Basic Competencies** - are the skills and knowledge that everyone needs for work

22) **Training Regulations (TR)** – refers to the document promulgated and issued by TESDA consisting of competency standards, national qualifications and training guidelines for specific sectors/occupations. The TR serve as basis for establishment of qualification and certification under the PTQF. It also serves as guide for development of competency-based curricula and instructional materials including registration of TVET programs offered by TVET providers

23) **Underpinning Knowledge -** refers to the competency that involves in applying knowledge to perform work activities. It includes specific knowledge that is essential to the performance of the competency

24) **Underpinning Skills** - refers to the list of the skills needed to achieve the elements and performance criteria in the unit of competency. It includes generic and industry specific skills

25) **Unit of Competency** – is a component of the competency standards stating a specific key function or role in a particular job or occupation; it is the smallest component of achievement that can be assessed and certified under the PTQF

SECTOR SPECIFIC

1. **Animation** – a simulation of movement created by displaying a series of pictures, or frames. Cartoons on television are one example of animation. Animation on computers is one of the chief ingredients of multimedia presentations. There are many software applications that enable you to create animations that you can display on a computer monitor.
2. **3D Animation** – the creation of moving pictures in a three-dimensional digital environment. This is done by sequencing consecutive images, or "frames", that simulate motion by each image showing the next in a gradual progression of steps, filmed by a virtual "camera" and then output to video by a rendering engine.
3. **Browser** – a software package that provides the user interface for accessing Internet, intranet and extranet Web sites.

4. **Computer** – a device that has the ability to accept data; internally store and execute a program of instructions; perform mathematical, logical, and manipulative operations on data; and report the results.
5. **Computer Terminal** – any input/output device connected by telecommunications links to a computer.
6. **Data** - objective measurements of the attributes (characteristics) of entities such as people, places, things, and events.
7. **Documentation** – a collection of documents or information.
8. **Edit** – to modify the form or format of data
9. **Encryption** – to scramble data or convert it, prior to transmission, to a secret code that masks the meaning of he data to unauthorized recipients.
10. **End user –** anyone who uses an information system or the information it produces.
11. **Ergonomics** - the science and technology emphasizing the safety, comfort, and ease of use of human-operated machines. The goal of ergonomics is to produce systems that are user-friendly: safe, comfortable and easy to use.
12. **Information** – data placed in a meaningful and useful context for an end user.
13. **Information and Communication Technology (ICT) -** refers to technologies associated with the transmission and exchange of data in the form of sound, text, visual images, signals or any combination of those forms through the use of digital technology. It encompasses such services as telecommunications, posts, multimedia, electronic commerce, broadcasting, and information technology.
14. **Local Area Network (LAN) –** a communications network that typically connects computers, terminals, and other computerized devices within a limited physical area such as an office, building, manufacturing plant and other work sites.
15. **Outsourcing –** turning over all or part of an organization's information systems operation to outside contractors, known as systems integrators or facilities management companies.
16. **Quality Assurance –** methods for ensuring that information system are free from errors and fraud and provide information products of high quality.
17. **Simulation** - the process of imitating a real phenomenon with a set of mathematical formulas. Advanced computer programs can simulate weather conditions, chemical reactions, atomic reactions, and even biological processes.
18. **Software –** computer programs and procedures concerned with the operation of an information system.
19. **Standards –** measures of performance developed to evaluate the progress of a system toward its objectives
20. **System –** an assembly of methods, procedures, or techniques unified by regulated interaction to form an organized whole
21. **User- friendly** – a characteristic of human-operated equipment and systems that makes them safe, comfortable, and easy to use.

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