

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR MEDIA AND ENTERTAINMENT INDUSTRY

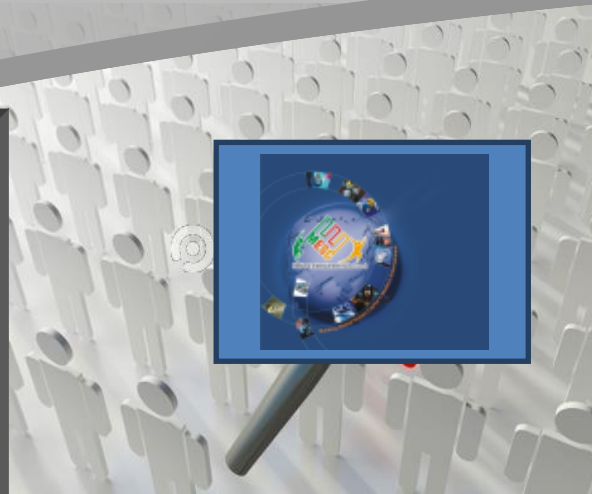
What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

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Introduction

Qualifications Pack- Modeller

SECTOR: MEDIA AND ENTERTAINMENT

SUB-SECTOR: Animation, Gaming

OCCUPATION: Asset Creation

REFERENCE ID: MES/ Q 0701

ALIGNED TO: NCO-2004/NIL

Modeller in the Media & Entertainment Industry is also known as a CG Modeller

Brief Job Description: Individuals at this job are responsible for creating computer generated models (characters, machines, props, objects etc.) for animation

Personal Attributes: This job requires the individual to create various types of models using modelling software and tools such as Maya, 3D Studio Max etc. The individual must also have a good understanding of the human anatomy, skeleton structure, joints, facial muscles, expressions etc. The individual must be well-versed with the principles and techniques of 3D modelling and animation.

Job Details	Qualifications Pack Code	MES/ Q 0701		
	Job Role	Modeller This job role is applicable in both national and international scenarios		
	Credits(NSQF)	TBD	Version number	1.0
	Sector	Media and Entertainment	Drafted on	16/07/13
	Sub-sector	Animation, Gaming	Last reviewed on	30/07/13
	Occupation	Asset Creation	Next review date	29/07/15

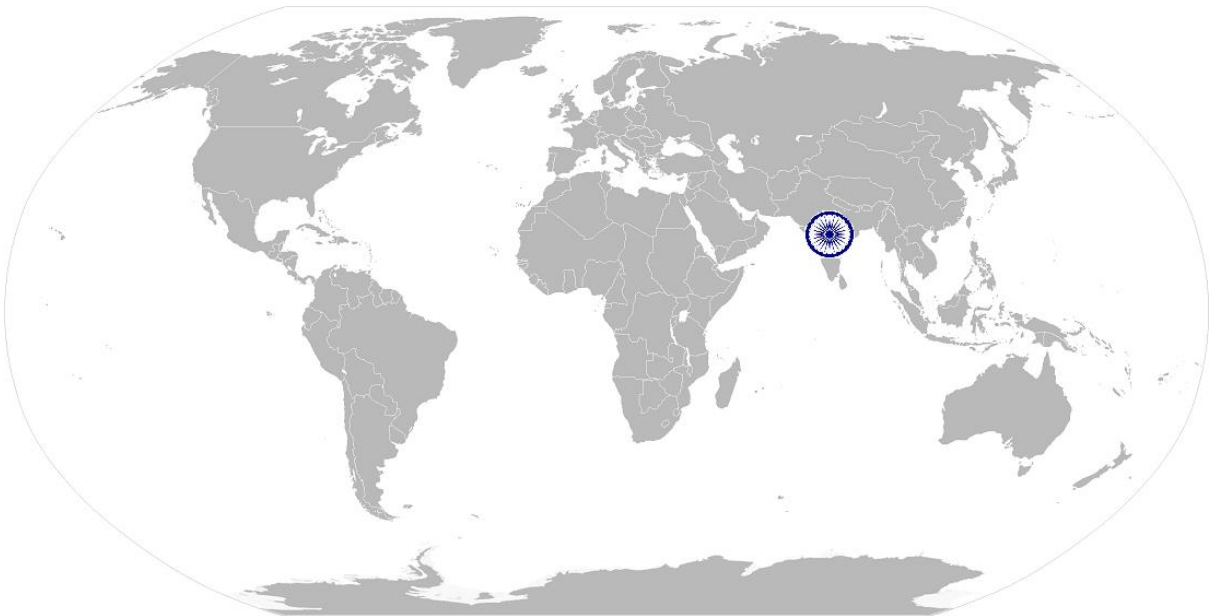
Job Role	Modeller
Role Description	Create computer generated models for animation
NSQF level	3
Minimum Educational Qualifications	Class X
Maximum Educational Qualifications	-
Training (Suggested but not mandatory)	3D software such as Maya, 3D Studio Max etc.
Experience	0-1 years Trainee Modeller/ Junior Modeller 1+ years Modeller
Applicable National Occupational Standards (NOS)	Compulsory: 1. MES / N 0701 (Prepare computer generated models) 2. MES / N 0704 (Maintain workplace health and safety) Optional: N.A.
Performance Criteria	As described in the relevant OS units

Definitions

Keywords /Terms	Description
Budget	Budget is an estimate of the total cost of production that may include a break-up of cost components
Composition	Composition is the positioning of the character with respect to the background and camera
Clean-up	Refining the interim/rough animation
Creative Brief	Creative brief is a document that captures the key questions that serve as a guide for the production including the vision, objective of the project, target audience, timelines, budgets, milestones, stakeholders etc.
Key Frame	Key Frames are the key poses, usually the start and end poses for a particular animation sequence
Modelling	Modelling is the process of creating three-dimensional models for animation using a specialised software application.
Rendering	Rendering is the process of converting three-dimensional models into two-dimensional images with 3D effects
Rigging	Rigging is the process of adding joints to a static three-dimensional model to aid movement during posing
Timelines	Timelines is a listing of dates by which the production milestones/stages need to be completed
Sector	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Vertical	Vertical may exist within a sub-sector representing different domain areas or the client industries served by the industry.
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.
Sub-functions	Sub-functions are sub-activities essential to fulfill the achieving the objectives of the function.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task
National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in the Indian context.
Qualifications PackCode	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Qualifications Pack(QP)	Qualifications Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A ³ Qualifications Pack is assigned a unique qualification pack code.

Unit Code	Unit Code is a unique identifier for an Occupational Standard, which is denoted by an 'N'.
Unit Title	Unit Title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is the set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on the quality of performance required.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard.
Organizational Context	Organizational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the OS , these include communication related skills that are applicable to most job roles.
Keywords /Terms	Description
NOS	National Occupational Standard(s)
QP	Qualifications Pack
NSQF	National Skill Qualifications Framework
NVEQF	National Vocational Education Qualifications Framework
NVQF	National Vocational Qualifications Framework
CG	Computer Generated

National Occupational Standard



Overview

This unit is about creating computer generated models for the animation process

Unit Code	MES/ N 0701
Unit Title (Task)	Prepare computer generated models
Description	This OS unit is about creating computer generated models for the animation process
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> Preparation of computer generated 3D models, including characters machines, sets and props, game modeling, objects, locations/ background elements such as environment, architecture, landscapes, interiors and blend shapes
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Preparation of computer generated 3D models	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Prepare digital models according to the design brief (appearance, complexion, dressing, moods, personalities, expressions etc.), requirements (number, types, duplicates etc.), specifications (dimensions, operating parameters etc.) and technical needs of the project (Television, Film, Gaming, Internet, DVD etc.)</p> <p>PC2. Create prototypes/pilots for testing</p> <p>PC3. Understand the final display medium and adapt / suggest the model for its polycounts, mesh complexity, movement capability etc.</p> <p>PC4. Ensure that the models will be able to perform properly once animated, are uniform and consistent and are delivered in appropriate formats that can be used by others</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. The creative vision and elements of production</p> <p>KA2. The project pipeline/schedule and timelines</p> <p>KA3. The intended purpose/ end-use of the models that need to be created</p>
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Principles of 3D modeling and animation including concepts like polygons, nurbs, and sub surface modeling etc.</p> <p>KB2. Human anatomy, skeleton structure, joints, facial muscles etc.</p> <p>KB3. Human mannerisms, emotions, behavior, facial expressions etc.</p> <p>KB4. Basics of rigging to help build models with the minimum necessary spline, nurbs and polygons</p> <p>KB5. Techniques and workflow of UV mapping</p> <p>KB6. Principles of engineering</p> <p>KB7. Physics of motion, resistance and volume</p> <p>KB8. Form, scale and proportion of various models</p>

Prepare computer generated models

	<p>KB9. The techniques of sculpting (added advantage)</p> <p>KB10. Drawing and illustration techniques</p> <p>KB11. How to create various types of models (organic, non-organic, simple, complex)</p> <p>KB12. How to use modelling software and tools such as Maya, 3D Studio Max, Blender, Mud-Box, Zbrush, Mari etc.</p> <p>KB13. How to design and develop models consistent with the creative look of the production and in accordance to the script and design brief</p> <p>KB14. How to build models with the necessary detailing and as per the camera distance</p> <p>KB15. The sources for research and reference material</p> <p>KB16. How to design models to suit the final use. E.g. a model created for feature films is different from model created for television series and it is further different from model created for a game or e-Learning module</p> <p>KB17. How to Test models (through the basic phonemes test, basic expression test, simulation tests, grayscale turnarounds) to ensure that they meet the design specification and production requirements</p> <p>KB18. How to test characters, props and environments to ensure they appear correctly from all required camera positions and angles</p> <p>KB19. How to optimise mesh as per production requirements</p> <p>KB20. Applicable copyright norms and intellectual property rights</p> <p>KB21. Applicable health and safety guidelines</p>
Skills (S) (Optional)	
A. Core Skills/ Generic Skills	Writing Skills
	The user/individual on the job needs to know and understand how to: SA1. Document notes /draw illustrations to assist during the modelling process
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA2. Read and understand the design brief and character pack SA3. Research links, videos, artwork etc. that can be used as references during the modelling process
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA4. Understand the design brief and requirements from the Art Director and character designers SA5. Present the final character models to the Art Director and solicit feedback
B. Professional Skills	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB1. Breakup the tasks required and estimate the time required for each task, so as to manage the allotted work and achieve it in given schedule
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB2. Identify any creative problems that may arise during the production and find solutions to address them SB3. Handle technical issues such as pipeline concerns, optimizing efficiency of

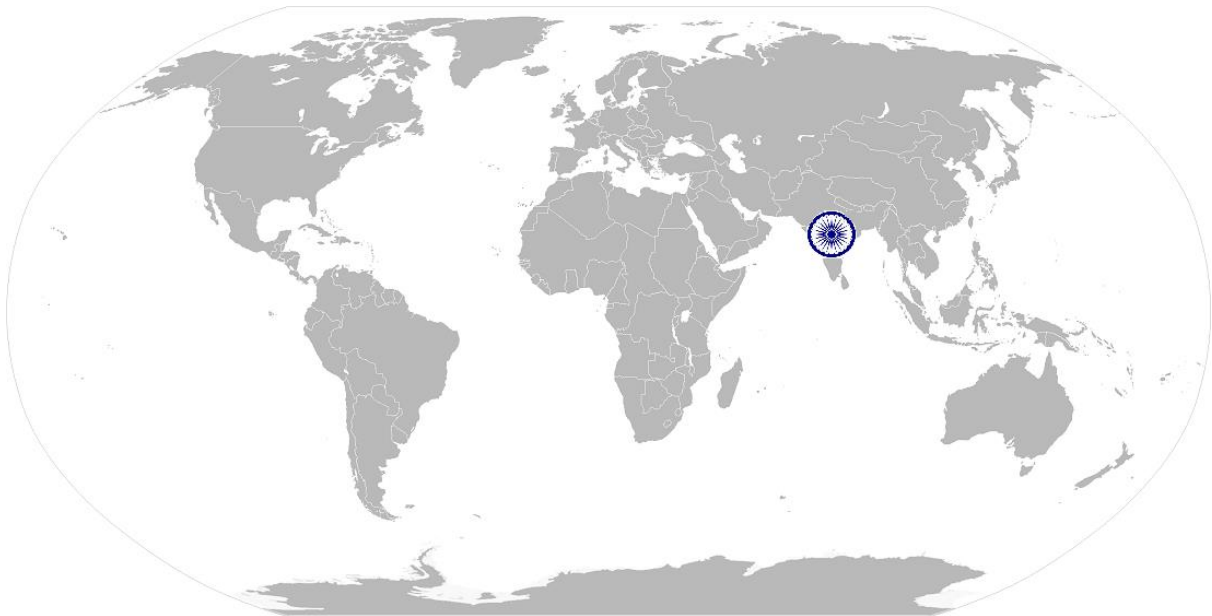


MES/ N 0701



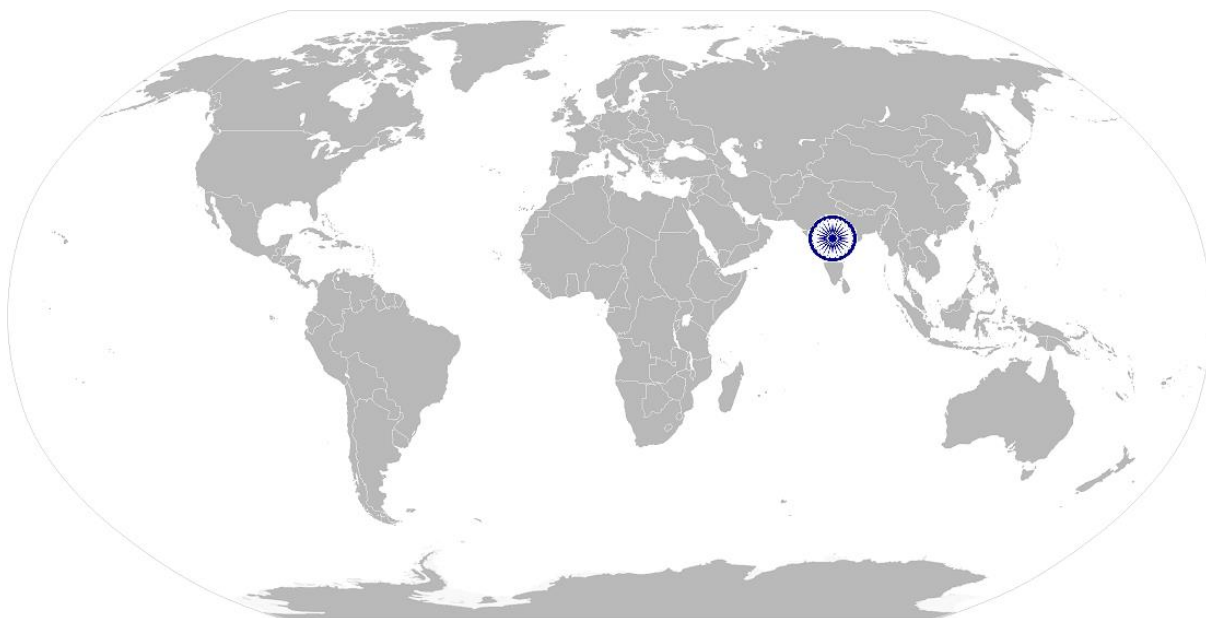
Prepare computer generated models

	assets and asset integration
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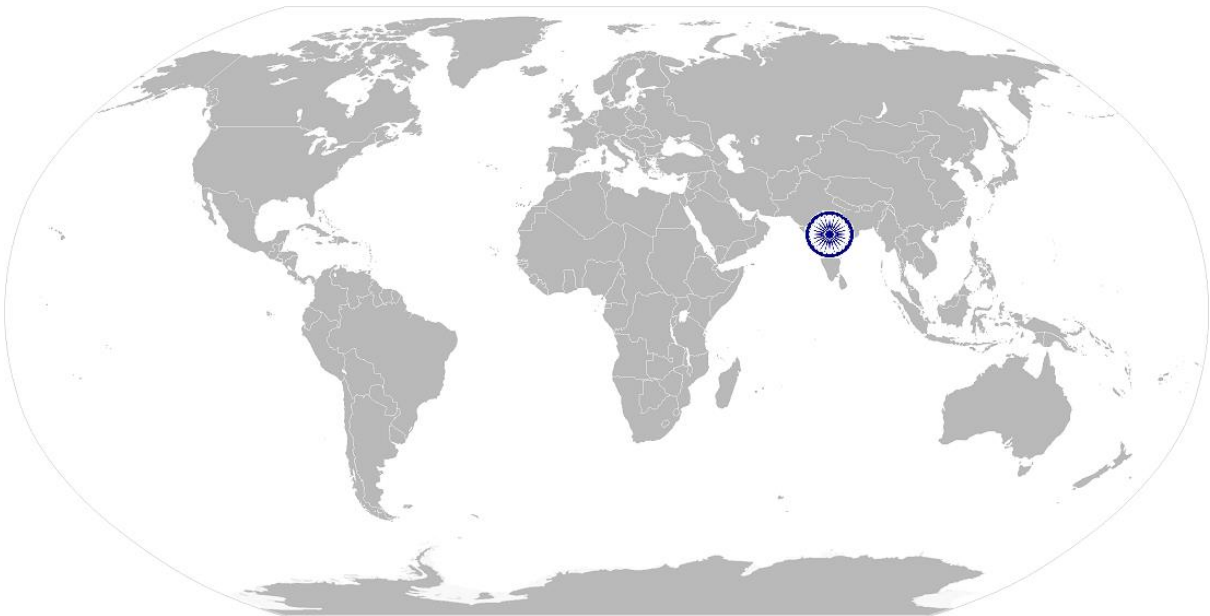


NOS Version Control

NOS Code	MES / N 0701		
Credits(NSQF)	TBD	Version number	02
Sector	Media and Entertainment	Drafted on	16/07/13
Sub-sector	Animation, Gaming	Last reviewed on	30/07/13
Occupation	Asset Creation	Next review date	29/07/15



National Occupational Standard



Overview

This unit is about contributing towards maintaining a healthy, safe and secure working environment

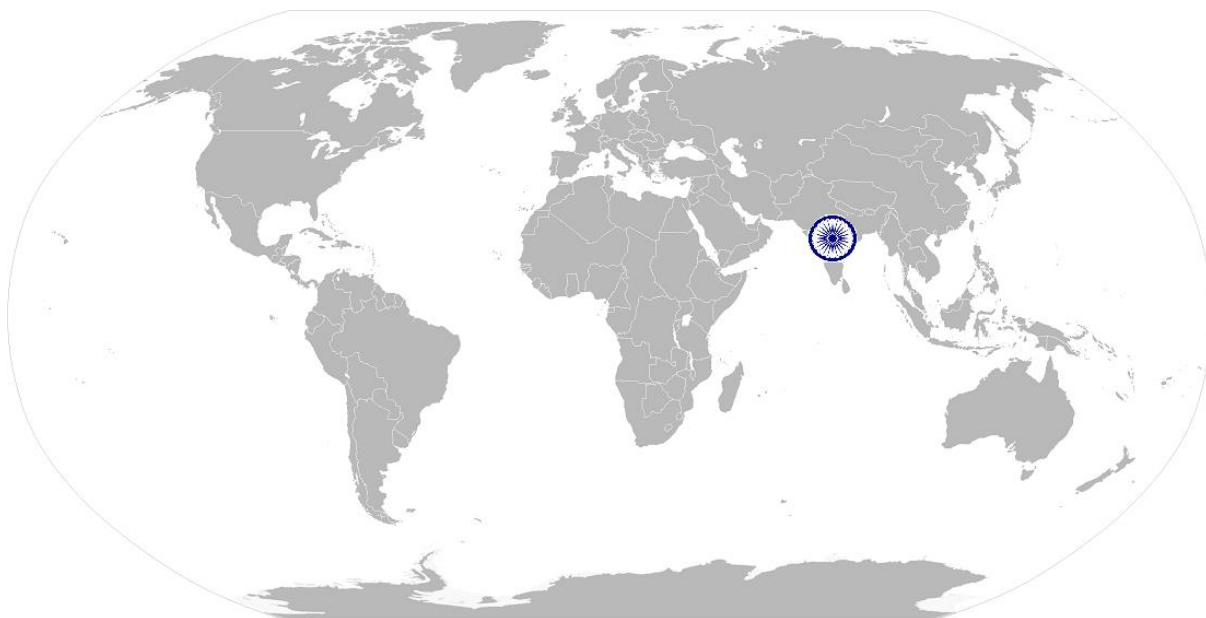
Maintain workplace health and safety

Unit Code	MES/ N 0704
Unit Title (Task)	Maintain workplace health and safety
Description	This OS unit is about contributing towards maintaining a healthy, safe and secure working environment
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Understanding the health, safety and security risks prevalent in the workplace • Knowing the people responsible for health and safety and the resources available • Identifying and reporting risks • Complying with procedures in the event of an emergency
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Understanding the risks prevalent in the workplace	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Understand and comply with the organisation's current health, safety and security policies and procedures</p> <p>PC2. Understand the safe working practices pertaining to own occupation</p> <p>PC3. Understand the government norms and policies relating to health and safety including emergency procedures for illness, accidents, fires or others which may involve evacuation of the premises</p> <p>PC4. Participate in organization health and safety knowledge sessions and drills</p>
Knowing the people responsible for health and safety and the resources available	<p>PC5. Identify the people responsible for health and safety in the workplace, including those to contact in case of an emergency</p> <p>PC6. Identify security signals e.g. fire alarms and places such as staircases, fire warden stations, first aid and medical rooms</p>
Identifying and reporting risks	<p>PC7. Identify aspects of your workplace that could cause potential risk to own and others health and safety</p> <p>PC8. Ensure own personal health and safety, and that of others in the workplace through precautionary measures</p> <p>PC9. Identify and recommend opportunities for improving health, safety, and security to the designated person</p> <p>PC10. Report any hazards outside the individual's authority to the relevant person in line with organisational procedures and warn other people who may be affected</p>
Complying with procedures in the event of an emergency	<p>PC11. Follow organisation's emergency procedures for accidents, fires or any other natural calamity in case of a hazard</p> <p>PC12. Identify and correct risks like illness, accidents, fires or any other natural calamity safely and within the limits of individual's authority</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Organisation's norms and policies relating to health and safety</p> <p>KA2. Government norms and policies regarding health and safety and related emergency procedures</p> <p>KA3. Limits of authority while dealing with risks/ hazards</p>

its processes)	KA4. The importance of maintaining high standards of health and safety at a workplace
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. The different types of health and safety hazards in a workplace</p> <p>KB2. Safe working practices for own job role</p> <p>KB3. Evacuation procedures and other arrangements for handling risks</p> <p>KB4. Names and contact numbers of people responsible for health and safety in a workplace</p> <p>KB5. How to summon medical assistance and the emergency services, where necessary</p> <p>KB6. Vendors' or manufacturers' instructions for maintaining health and safety while using equipments, systems and/or machines</p>
Skills (S) (Optional)	
A. Core Skills/ Generic Skills	Writing Skills
	The user/individual on the job needs to know and understand how to:
	SA1. How to write and provide feedback regarding health and safety to the concerned people
	SA2. How to write and highlight potential risks or report a hazard to the concerned people
	Reading Skills
The user/individual on the job needs to know and understand how to:	
SA3. Read instructions, policies, procedures and norms relating to health and safety	
Oral Communication (Listening and Speaking skills)	
The user/individual on the job needs to know and understand how to:	
SA4. Highlight potential risks and report hazards to the designated people	
SA5. Listen and communicate information with all anyone concerned or affected	
B. Professional Skills	Decision making
	The user/individual on the job needs to know and understand how to:
	SB1. Make decisions on a suitable course of action or plan
	Plan and Organize
	The user/individual on the job needs to know and understand how to:
	SB2. Plan and organize people and resources to deal with risks/ hazards that lie within the scope of one's individual authority
	Problem Solving
The user/individual on the job needs to know and understand how to:	
SB3. Apply problem solving approaches in different situations	
Critical Thinking	
The user/individual on the job needs to know and understand how to:	
SB4. Understand hazards that fall within the scope of individual authority and report all hazards that may supersede one's authority	
SB5. Apply balanced judgements in different situations	

NOS Version Control

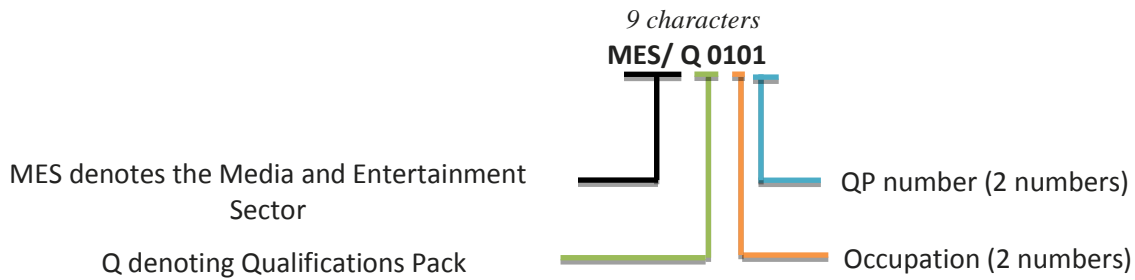
NOS Code	MES / N 0704		
Credits(NSQF)	TBD	Version number	02
Sector	Media and Entertainment	Drafted on	16/07/13
Sub-sector	Animation, Gaming	Last reviewed on	30/07/13
Occupation	Asset Creation	Next review date	29/07/15



Annexure

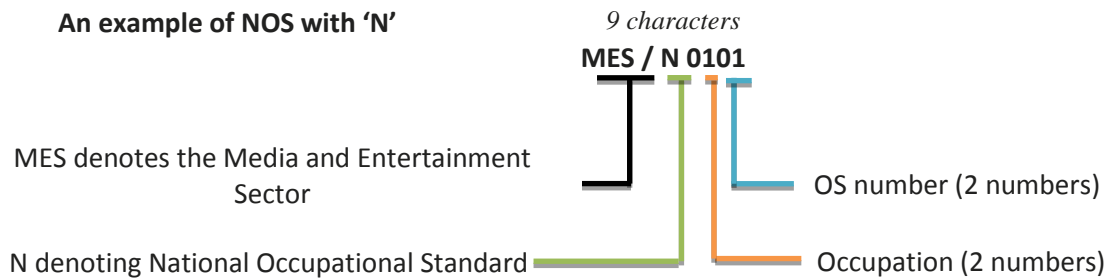
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



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The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
...	...

Sequence	Description	Example
Three letters	Media and Entertainment	MES
Slash	/	/
Next letter	Whether QP or NOS	Q
Next two numbers	Asset Creation	07
Next two numbers	QP number	01

CRITERIA FOR ASSESSMENT OF -Asset Creation

Job Role/Qualification Pack	Modeller		
QP- ID	MES Q 2501		
	NOS	NOS NAME	Weightage
1	MES/ N 0701	Prepare computer generated models	90%
2	MES/ N 0704	Maintain workplace health and safety Description	10%
			100%

Guidelines for Assessment:

- Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
- The assessment for the theory & Practical part will be based on knowledge bank of questions created by the AA and approved by SSC
- Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
- Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
- To pass the Qualification Pack , every trainee should score a minimum of 70% cumulatively (Theory and Practical)

Job Role	Modeller					
NOS CODE	NOS NAME	Performance Criteria	Total Mark	Out Of	Marks Allocation	
					Theory	Skills Practical
MES/ N 0701	Prepare computer generated models	PC1. Prepare digital models according to the design brief (appearance, complexion, dressing, moods, personalities, expressions etc.), requirements (number, types, duplicates etc.) and specifications (dimensions, operating parameters etc.)	100	40	10	30
		PC2. Create prototypes/pilots for testing		30	10	20
		PC3. Ensure that the models will be able to perform properly once animated		30	10	20
			Total	100	30	70
MES/ N 0704	Maintain workplace health and safety Description	PC1. Understand and comply with the organisation’s current health, safety and security policies and procedures	100	10	5	50
		PC2. Understand the safe working practices pertaining to own occupation		10	5	
		PC3. Understand the government norms and policies relating to health and safety including emergency procedures for illness, accidents, fires or others which may involve evacuation of the premises		5	3	
		PC4. Participate in organization health and safety knowledge sessions and drills		5	2	
		PC5. Identify the people responsible for health and safety in the workplace, including those to contact in case of an emergency		10	5	
		PC6. Identify security signals e.g. fire alarms and places such as staircases, fire warden stations, first aid and medical rooms		10	5	

		PC7. Identify aspects of your workplace that could cause potential risk to own and others health and safety		10	5	
		PC8. Ensure own personal health and safety, and that of others in the workplace through precautionary measures		10	5	
		PC9. Identify and recommend opportunities for improving health, safety, and security to the designated person		5	3	
		PC10. Report any hazards outside the individual's authority to the relevant person in line with organisational procedures and warn other people who may be affected		10	5	
		PC11. Follow organisation's emergency procedures for accidents, fires or any other natural calamity in case of a hazard		10	5	
		PC12. Identify and correct risks like illness, accidents, fires or any other natural calamity safely and within the limits of individual's authority		5	2	
			Total	100	50	50