



Australian Government

Department of Education, Employment and Workplace Relations

CUFIMA05A Create 3D digital models and images

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit describes the skills and knowledge required to create 3D digital models and images for a range of media applications within the cultural industries.

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Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

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Element

Performance Criteria

1 Identify animation requirements

1.1 Obtain design brief and storyboard and discuss production requirements with relevant personnel

1.2 Identify all 3D animation requirements including

- production and technical specifications and discuss with relevant personnel
- 1.3 Identify any soundtrack requirements in discussion with relevant personnel
- 2 Identify scope of 3D animation software
- 2.1 Identify the range of industry standard 3D animation software and computer assisted animation techniques
- 2.2 Assess software compatibility with production and technical requirements and specifications
- 2.3 Select the appropriate software in relation to specified multimedia delivery platform
- 2.4 Discuss software with relevant design personnel to ensure selection will meet specified outcomes
- 3 Product key drawings for animation
- 3.1 Product key drawings by the most appropriate method to reflect the animation requirements
- 3.2 Product sufficient quantity of key drawings to establish the required action or design and ensure that they meet the production, creative and technical requirements
- 3.3 Comply with any soundtrack breakdown when producing drawings
- 3.4 Produce key drawings within the constraints of the production and scan hard-copy drawings as required
- 3.5 Clearly label key drawings
- 3.6 Use object motion hierarchies to achieve the required motion effect
- 3.7 Apply appropriate output and presentation form and save 3D model according to specified file compression technology
- 3.8 Use agreed industry practices for file naming and file management and backup procedures
- 4 Produce 3D animation
- 4.1 Import key drawings into selected 3D animation software
- 4.2 Combine objects into a single animated steam

- according to creative requirements and specifications
- 4.3 Create static or moving backgrounds as required and integrate animated objects into static or moving backgrounds
 - 4.4 Use animation techniques as required and as appropriate according to the software
 - 4.5 Incorporate sound where necessary
 - 4.6 Save and store using appropriate file formats and file management procedures
- 5 Evaluate animation
- 5.1 Present animation sequences to relevant personnel for detailed responses and recommendations
 - 5.2 Discuss and identify and required design changes that may be needed
 - 5.3 Incorporate design changes to complete the 3D animations and meet the recommendations
 - 5.4 Obtain final agreement from relevant personnel for finished 3D animation sequences

Required Skills and Knowledge

Not applicable.

Evidence Guide

Underpinning skills and knowledge

Assessment must include evidence of essential knowledge of, and skills in, the following areas:

- appropriate 3D software to create models
- application of different 3D modelling and digital imaging methods and 3D modelling formats
- the principles of 3D modelling sequencing
- computers and computer operating systems
- the limiting factors of computer hardware
- strategies to test media sequences and products
- interpreting creative information, scripts and images
- understanding the capabilities of other collaborative personnel
- understanding the creative elements of a production
- design and drawing skills
- maintaining design integrity
- screen principles
- basic editing principles, eg composition, framing, pacing, timing
- information sources and management
- effective communication skills
- copyright laws, regulations and clearance procedures

Linkages to other units

This unit has linkages to the following units and combined training delivery and/or assessment is recommended:

CUFIMA01A - Produce and manipulate digital images

CUFIMA04A - Create 3D digital animation

CUFMEM14A - Create, manipulate and incorporate 2D graphics

CUFMEM07A - Apply principles of visual design/communication to the development of a multimedia product

Critical aspects of evidence

This unit of competence applies to a range of industry sectors. The focus of assessment will depend on the industry sector. Assessment must be customised to meet the needs of the particular sector in which performance is being assessed. Assessment should only address those variable circumstances, listed in the range of variables statements, which apply to the chosen context.

The following evidence is critical to the judgement of competence in this unit:

- the development and evaluation of creative 3D models and images which meet practical requirements including type of production and resource constraints, in particular budgetary constraints

- effective verbal and written communication with a range of individuals/organisations
- knowledge and application of a range of 3D model and image production methods and equipment

Method and context of assessment

Assessment may take place on the job, off the job or a combination of both of these.

Off the job assessment must be undertaken in a closely simulated workplace environment.

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

practical demonstration (direct observation may need to occur on more than one occasion to establish consistency of performance)

role play

case studies

work samples or simulated workplace activities

oral questioning/interview aimed at the evaluating the process used in developing and realising the creative concept

projects/reports/logbooks

third party reports and authenticated prior achievements

portfolios of evidence which demonstrate the processes used in developing and realising the creative concept

Resource requirements

Assessment requires access to a range of resources and equipment currently used by the multimedia industry.

Underpinning skills and knowledge

Assessment must include evidence of essential knowledge of, and skills in, the following areas:

appropriate 3D software to create models

application of different 3D modelling and digital imaging methods and 3D modelling formats

the principles of 3D modelling sequencing

computers and computer operating systems

the limiting factors of computer hardware

strategies to test media sequences and products

interpreting creative information, scripts and images

understanding the capabilities of other collaborative personnel

understanding the creative elements of a production

design and drawing skills

maintaining design integrity

screen principles

basic editing principles, eg composition, framing, pacing, timing

information sources and management

effective communication skills

copyright laws, regulations and clearance procedures

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Range Statement

Production specifications may include:

timeline
deadline
budget
resources:
hardware
software
personnel

purpose
audience
storyboard
script
file format
file size
operating system
hardware specifications including memory size, RAM
delivery platform
media form
software tools and parameters

Relevant creative and design specifications for models may be found in:

storyboard
layout drawings
director's instructions
camera sheet
soundtrack breakdown

Software commands may include:

colour
tone
texture

Texture mapping parameters may include:

lighting
shadows

Other media may include:

digital imaging
sound
animation
video

Documentation may be:

computer generated
manually written
marked up scripts
marked up transcripts
list of sequences with relevant shot numbers
production schedules
operational/project plan

manufacturer's specifications/instructions

edit decision lists (EDLs)

fault reports

assembly order

Multimedia productions may included or be included in:

aspects or sections of film/video production:

feature

documentary

short film and/or video

animations

commercials

live or pre-recorded performances

music video

television production of any type (music, drama, comedy, variety, sport)

live or pre-recorded television productions

educational product

game

promotional product

information product

training product

e-commerce

a range of others

Relevant personnel may include:

director

producer

project manager

technical director

navigation designers

video producer

editing personnel

sound/music personnel

director of photography

3D graphic, animation and modelling production personnel

music composers

sound effects personnel

other technical staff

other specialist staff

Industry standard 3D modelling software may include:

a wide range of programs, current examples of which may be:

Autocad

3d Studio Max

Infini-D

Bryce 3D

Lightwave

NOTE: These programs are constantly being upgraded and replaced and appropriate

up-to-date programs should be selected.

Delivery platforms may include:

world wide web

CD-ROM

DVD

Beta-cam

video

film

Production specifications may include:

timeline

deadline

budget

resources:

hardware

software

personnel

purpose

audience

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Unit Sector(s)

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