



Australian Government

Department of Education, Employment and Workplace Relations

CUFANM302A Create 3D digital animations

Revision Number: 1

CUFANM302A Create 3D digital animations

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to animate simple 3D models and create 3D animations.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit requires the application of basic 3D animation skills to create animations for inclusion in interactive media products, short stand-alone animated sequences and basic games. At this level, animators are working with 3D digital models that have already been created. Animated sequences may include audio components.</p> <p>Animations are created using a range of industry-current software that is constantly evolving, so it is essential that people working in this area keep up to date with the latest software.</p> <p>This unit does not include techniques for stop-motion, cell-analogue and real time animation. Nor does it cover more sophisticated animation techniques used in film, television and high-end games. These are addressed in:</p> <ul style="list-style-type: none">• CUFANM501A Create 3D digital character animation• CUFANM502A Create 3D digital environments.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Clarify animation requirements	<ol style="list-style-type: none"> 1. With reference to <i>production documentation</i>, clarify <i>3D animation</i> requirements and <i>design specifications</i> in consultation with <i>relevant personnel</i> 2. Examine the models to be animated to determine the most appropriate <i>animation techniques</i> 3. Identify the <i>file format</i> and <i>delivery platform</i> for animated sequences 4. Identify <i>factors</i> that may influence animation design approach 5. In consultation with relevant personnel, clarify work flow sequences to ensure that production schedule deadlines are met
Plan approach	<ol style="list-style-type: none"> 6. Research animations, artworks and other creative sources that may inspire visual design ideas 7. Generate a range of animation ideas that are technically feasible, respond to briefs and provide creative solutions to all design issues 8. Present animation ideas to relevant personnel using appropriate <i>design techniques</i>. 9. Adjust approach to incorporate feedback and agree on final design concepts 10. Discuss and select <i>3D animation software</i> with relevant personnel to ensure that animated sequences meet specified outcomes 11. Analyse <i>audio assets</i> supplied for animations as required
Produce animated sequences for review	<ol style="list-style-type: none"> 12. Create 3D animations using animation techniques to suit design requirements 13. Apply basic <i>animation principles</i>, <i>screen principles</i>, <i>visual design principles</i> and <i>communication principles</i> 14. Apply real world camera techniques to virtual cameras used in 3D animation 15. Render completed animated sequences 16. Save and store animated sequences using appropriate output file formats, standard naming conventions and version control protocols 17. Present 3D animated sequences to relevant personnel for evaluation by agreed deadlines
Finalise animated	<ol style="list-style-type: none"> 18. Review animated sequences to assess creative solutions to design briefs, appropriateness to users/audience and

ELEMENT	PERFORMANCE CRITERIA
sequences	technical feasibility 19. Discuss and confirm with relevant personnel additional requirements or modifications and complete changes as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret and clarify written or verbal instructions
 - work as a member of a production team, both independently on assignment and under direction
 - respond constructively to feedback received from other team members
 - complete workplace documentation
- conceptual and creative skills in the context of:
 - generating feasible ideas for animated sequences
 - having a feel for movement and timing in order to produce convincing animations
 - maintaining design integrity
- technical skills sufficient to:
 - use industry-current animation software to develop digitally animated sequences
 - apply the principles of basic screen, visual design and communication to produce 3D animated sequences
 - output 3D animated sequences in appropriate file formats for a range of delivery platforms
 - manage files and directories using standard naming conventions and version control protocols
- self-management and planning skills sufficient to:
 - prioritise work tasks
 - meet deadlines
 - seek expert assistance when problems arise

Required knowledge

- roles and responsibilities of project team members in the relevant industry sector
- basic understanding of the stages in the production process from initial design through to finished product
- issues and challenges that arise in the context of creating 3D digital animations
- basic 3D digital animation techniques
- basic screen principles
- principles of animation
- principles of visual design and communication
- features of a range of delivery platforms

REQUIRED SKILLS AND KNOWLEDGE

- OHS standards as they relate to working for periods of time on computers

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- creation of 3D digital animated sequences that:
 - demonstrate the principles of basic screen, visual design and communication
 - meet the technical requirements of specific platforms
 - satisfy the design brief and client requirements
- collaborative approach to work
- attention to detail
- ability to meet production deadlines.

Context of and specific resources for assessment

Assessment must ensure:

- access to a range of resources, equipment and current industry-current software as listed in the range statement
- where sound is integrated in animated sequences, access to a range of suitable software to support the integration of sound and visual elements
- access to appropriate learning and assessment support when required
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence, authenticated show reels and third-party workplace reports of on-the-job performance
- critical analysis of a range of 3D digital animated sequences created by the candidate to determine ability to meet design requirements
- written or verbal questioning to test knowledge as listed in the required skills and knowledge section of

EVIDENCE GUIDE	
	<p>this unit</p> <ul style="list-style-type: none">• informal questioning and discussion, including response to feedback and diagnostics.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none">• CUFANM303A Create 3D digital models• CUFDIG303A Produce and prepare photo images• CUFDIG304A Create visual design components• CUFSOU301A Prepare audio assets.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Production documentation</i> may include	<ul style="list-style-type: none"> • animatics • brief • storyboard • technical specifications.
<i>3D animations</i> may include:	<ul style="list-style-type: none"> • 3D elements • 3D panoramas • basic games • buttons • characters • illustrations • logos • models • morphs/blend shapes • puzzles • simulated sequences • text • titles and credits.
<i>Design specifications</i> may include:	<ul style="list-style-type: none"> • characters and objects • key frames • objects • references • samples • script • storyboard • technical specifications, including: <ul style="list-style-type: none"> • output file format • version control protocols • output file size • operating system • hardware specifications, including memory size, RAM • delivery platform

RANGE STATEMENT	
	<ul style="list-style-type: none"> • media form.
<i>Relevant personnel</i> may include:	<ul style="list-style-type: none"> • 3D modeller • 3D producer • animation director • audio asset creator • director • graphic artist/designer • instructional designer • lead animator • matte painter • system support personnel • other technical and specialist personnel.
<i>Animation techniques</i> may include:	<ul style="list-style-type: none"> • acceleration/deceleration • audio integration • dynamic simulation • hierarchies • hinges and pivot points • hybrid method • key frames • layered animation • looping backgrounds • morphing/object exaggeration • motion capture • motion paths • pose to pose animation • registration points • rotation • scripted animation • speed/motion blur • straight-ahead animation.
<i>File formats</i> may include:	<ul style="list-style-type: none"> • AAS • ACT • ANI • ANM • ANS • AVI • AWA • AWM • CEL • CFT

RANGE STATEMENT	
	<ul style="list-style-type: none"> • CMV • DIR/DCR • FLA/SWF • FLC • FLI • FLX • GIF • HTML • IFF • JPEG • LWOB • M3D • MMM • MOV • MPEG • MWF • PNG • QTVR • SEC • TIFF • VAN • VUE.
<i>Delivery platforms</i> may include:	<ul style="list-style-type: none"> • CD • DVD • film • games console • internet • kiosk • mobile phone or device • PDA (personal digital assistant) • video.
<i>Factors</i> may include:	<ul style="list-style-type: none"> • budget • purpose of animation • resources • target audience • timelines.
<i>Design techniques</i> may include:	<ul style="list-style-type: none"> • digitally generated illustrations of objects and/or characters • freehand sketches • fully rendered hand-drawn illustrations

RANGE STATEMENT	
	<ul style="list-style-type: none"> • story trees • storyboards.
<i>Animation software</i> may include:	<ul style="list-style-type: none"> • 3D Studio Max • Cinema 4D • Houdini • Lightwave • Maya • Motionbuilder • Soft Image - XSI.
<i>Audio assets</i> may include:	<ul style="list-style-type: none"> • music • narration • sound effects.
<i>Animation principles</i> may include:	<ul style="list-style-type: none"> • anticipation • asymmetry in body and facial poses • balanced poses • exaggeration • movement in arcs • overlapping actions and follow-through • pacing/timing • secondary actions • singularity of message • squash and stretch • staging • strong silhouette in poses • weight.
<i>Screen principles</i> may include:	<ul style="list-style-type: none"> • camera techniques • editing, including basic transitions • framing • lighting • montage • narrative • story-telling • style/genre.
<i>Visual design principles</i> may include:	<ul style="list-style-type: none"> • balance • composition • emphasis • movement • perspective • proportion

RANGE STATEMENT	
	<ul style="list-style-type: none"> • scale • unity.
<i>Communication principles</i> may include:	<ul style="list-style-type: none"> • communicating the message • conveying meaning • meeting audience requirements • using functional components.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - animation and digital effects
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Co-requisite units

Co-requisite units		