



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **ICAGAM418A Use simple modelling for animation**

**Release: 1**

## ICAGAM418A Use simple modelling for animation

### Modification History

| Release   | Comments                                                                                                          |
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| Release 1 | This Unit first released with <i>ICA11 Information and Communications Technology Training Package version 1.0</i> |

### Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to use simple modelling for animation.

### Application of the Unit

This unit applies to concept artists, games designers, games programmers, animators and other personnel working in the game development industry.

### Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

### Pre-Requisites

Not applicable.

### Employability Skills Information

This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

| Element                                                                  | Performance Criteria                                                                                                                                                                                                                                                                                                    |
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| <i>Elements describe the essential outcomes of a unit of competency.</i> | <i>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.</i> |

## Elements and Performance Criteria

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| 1. Clarify animation requirements of models | <p>1.1 Clarify <b>animation</b> requirements and <b>design specifications</b> for the model, in consultation with <b>relevant personnel</b> and according to <b>production documentation</b></p> <p>1.2 Examine the most appropriate <b>animation techniques</b> for the animation to determine which <b>modelling techniques</b> to use</p> <p>1.3 Identify the <b>file format</b> and <b>delivery platform</b> for animated sequences</p> <p>1.4 Identify <b>factors</b> that may influence animation design approach</p> <p>1.5 Clarify work flow sequences, in consultation with relevant personnel, to ensure that production schedule deadlines are met</p>                        |
| 2. Plan approach                            | <p>2.1 Research animations, artworks and other creative sources that may inspire visual design ideas</p> <p>2.2 Generate a range of animation ideas that are technically feasible, respond to briefs and provide creative solutions to all design issues</p> <p>2.3 Present animation ideas to relevant personnel using appropriate <b>design techniques</b></p> <p>2.4 Adjust approach to incorporate feedback and agree on final design concepts</p> <p>2.5 Discuss and select <b>animation software</b> with relevant personnel to ensure that animated sequences of the model meet specified outcomes</p> <p>2.6 Analyse <b>audio assets</b> supplied for animations as required</p> |
| 3. Produce animated sequences for review    | <p>3.1 Create animations of models using animation and modelling techniques to suit design requirements</p> <p>3.2 Apply basic <b>animation principles, screen principles, visual design principles</b> and <b>communication principles</b></p> <p>3.3 Apply real world camera techniques to virtual cameras used in animation</p> <p>3.4 Render completed animated sequences</p> <p>3.5 Save and store animated sequences using appropriate output file formats, standard naming conventions and version control protocols</p> <p>3.6 Present animated sequences of simple models to relevant personnel for evaluation by agreed deadlines</p>                                          |

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| 4. Finalise animated sequences | <p>4.1 Review animated sequences to assess creative solutions to design briefs, appropriateness to users or audience, and technical feasibility</p> <p>4.2 Discuss and confirm with relevant personnel additional requirements or modifications and complete changes as required</p> |
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## Required Skills and Knowledge

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

### Required skills

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

### Required knowledge

- basic digital animation techniques
- basic screen principles
- basic knowledge of the stages in the production process from initial design through to finished product
- features of a range of delivery platforms
- issues and challenges that arise in the context of creating simple models for digital animations
- OHS standards as they relate to working for periods of time on computers
- principles of animation
- principles of visual design and communication
- roles and responsibilities of project team members in the relevant industry sector.

## 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.

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| <b>Overview of assessment</b>                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b> | <p>Evidence of the ability to:</p> <ul style="list-style-type: none"> <li>create digital animated sequences of a model that: <ul style="list-style-type: none"> <li>demonstrate the principles of simple model animation, basic screen, visual design and communication</li> <li>meet the technical requirements of specific platforms</li> <li>satisfy the design brief and client requirements</li> </ul> </li> <li>meet production deadlines.</li> </ul>                                                                                                                                  |
| <b>Context of and specific resources for assessment</b>                                             | <p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> <li>computer hardware, software, games engines and file storage</li> <li>copyright and intellectual property legislation</li> <li>OHS legislation and enterprise policy</li> <li>appropriate learning and assessment support when required</li> <li>modified equipment for people with special needs.</li> </ul>                                                                                                                                                                                                 |
| <b>Method of assessment</b>                                                                         | <p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> <li>evaluation of work samples or simulated workplace activities</li> <li>verbal or written questioning of issues and challenges that arise in the context of creating simple models for digital animations</li> <li>evaluation of a digital animated sequence of a model.</li> </ul>                                                                                                                 |
| <b>Guidance information for assessment</b>                                                          | <p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be combined with targeted questioning to assess required</p> |

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## 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.*

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <b><i>Animation</i></b> may include:             | <ul style="list-style-type: none"> <li>• basic games</li> <li>• buttons</li> <li>• characters</li> <li>• elements</li> <li>• illustrations</li> <li>• logos</li> <li>• models</li> <li>• morphs or blend shapes</li> <li>• panoramas</li> <li>• puzzles</li> <li>• simulated sequences</li> <li>• text</li> <li>• titles and credits.</li> </ul>                                                                                                                                                   |
| <b><i>Design specifications</i></b> may include: | <ul style="list-style-type: none"> <li>• characters and objects</li> <li>• delivery platform</li> <li>• hardware specifications, including memory size (RAM)</li> <li>• key frames</li> <li>• media form</li> <li>• objects</li> <li>• operating system</li> <li>• output file format</li> <li>• output file size</li> <li>• references</li> <li>• samples</li> <li>• script</li> <li>• storyboard</li> <li>• technical specifications, including</li> <li>• version control protocols.</li> </ul> |
| <b><i>Relevant personnel</i></b> may include:    | <ul style="list-style-type: none"> <li>• animation director</li> <li>• audio asset creator</li> <li>• director</li> <li>• graphic artist or designer</li> <li>• instructional designer</li> <li>• lead animator</li> </ul>                                                                                                                                                                                                                                                                         |

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|                                              | <ul style="list-style-type: none"> <li>• matte painter</li> <li>• modeller</li> <li>• producer</li> <li>• system support personnel</li> <li>• other technical and specialist personnel.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Production documentation</b> may include: | <ul style="list-style-type: none"> <li>• animatics</li> <li>• brief</li> <li>• storyboard</li> <li>• technical specifications.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Animation techniques</b> may include:     | <ul style="list-style-type: none"> <li>• acceleration and deceleration</li> <li>• audio integration</li> <li>• dynamic simulation</li> <li>• hierarchies</li> <li>• hinges and pivot points</li> <li>• hybrid method</li> <li>• key frames</li> <li>• layered animation</li> <li>• looping backgrounds</li> <li>• morphing or object exaggeration</li> <li>• motion capture</li> <li>• motion paths</li> <li>• pose to pose animation</li> <li>• registration points</li> <li>• rotation</li> <li>• scripted animation</li> <li>• speed or motion blur</li> <li>• straight-ahead animation.</li> </ul> |
| <b>Modelling techniques</b> may include:     | <ul style="list-style-type: none"> <li>• NURBS</li> <li>• polygonal</li> <li>• primitives</li> <li>• sculpt</li> <li>• splines and patches.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>File format</b> may include:              | <ul style="list-style-type: none"> <li>• AAS</li> <li>• ACT</li> <li>• ANI</li> <li>• ANM</li> <li>• ANS</li> <li>• AVI</li> <li>• AWA</li> <li>• AWM</li> <li>• CEL</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                        |

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

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

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| <b><i>principles</i></b> may include: | <ul style="list-style-type: none"><li>• conveying meaning</li><li>• meeting audience requirements</li><li>• using functional components.</li></ul> |
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## Unit Sector(s)

Game development