



**Australian Government**

# **ICTGAM429 Develop 3-D components for interactive games**

**Release: 1**

# ICTGAM429 Develop 3-D components for interactive games

## Modification History

| Release   | Comments                                                                                                     |
|-----------|--------------------------------------------------------------------------------------------------------------|
| Release 1 | This version first released with ICT Information and Communications Technology Training Package Version 6.0. |

## Application

This unit describes the skills and knowledge required to design and to create, 3-D components within a game environment.

It applies to individuals who support the design, development and programming of basic digital games as part of a larger development team.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

## Unit Sector

Game development

## Elements and Performance Criteria

| ELEMENT                                                                | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i>                       | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                                                                                                                                                                                                                                                                       |
| 1. Identify and confirm 3-D component requirements within game context | <ul style="list-style-type: none"><li>1.1 Obtain game design document and identify definition and purpose of 3-D components, with examples</li><li>1.2 Identify context of 3-D component design according to game design document</li><li>1.3 Create a list of required 3-D components</li><li>1.4 Establish methods of 3-D component loading and usage</li><li>1.5 Identify quality assurance standards, evaluation methods and organisational procedures applicable in developing 3-D components</li></ul> |

| ELEMENT                                                                                 | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. Establish content creation pipeline and integration methods within game architecture | <ul style="list-style-type: none"><li>2.1 Finalise required 3-D component list</li><li>2.2 Discuss 3-D component formats, file extensions and ramifications of choice with required personnel</li><li>2.3 Discuss and select hardware and software required in creating 3-D components and assets</li><li>2.4 Discuss methods of naming 3-D components and assets and file archiving</li><li>2.5 Establish schedule and deadlines in 3-D component creation process</li></ul>                                                                                                                                                                                                 |
| 3. Create, integrate and test required 3-D components                                   | <ul style="list-style-type: none"><li>3.1 Create required 3-D components and assets according to organisational procedures and client requirements</li><li>3.2 Name 3-D components and assets according to methodology discussed</li><li>3.3 Confirm 3-D components and assets are in required format and file extensions</li><li>3.4 Test and confirm produced 3-D components meet established quality and client requirements</li><li>3.5 Seek feedback from required personnel and make changes to 3-D components and assets as required</li><li>3.6 Submit finalised assets with required archiving format outlined in the assignment brief and obtain sign-off</li></ul> |

## Foundation Skills

*This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.*

| Skill              | Description                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Numeracy           | <ul style="list-style-type: none"><li>• Uses whole numbers, decimals and percentages applicable to file size, software and hardware specifications, measurement, font size, scale, ratio, coordinates, colour, shading and other attributes and variables in developing 3-D components and timelines</li><li>• Defines timeframes in accordance with schedule requirements</li></ul> |
| Oral communication | <ul style="list-style-type: none"><li>• Obtains information and expresses ideas and solutions by employing listening and open questioning techniques using plain English and games development terminology</li></ul>                                                                                                                                                                 |
| Reading            | <ul style="list-style-type: none"><li>• Identifies and interprets briefs and applicable technical documentation</li></ul>                                                                                                                                                                                                                                                            |

| Skill           | Description                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <ul style="list-style-type: none"><li>containing complex task-specific terminology</li><li>Interprets and comprehends computer generated text, diagrams, icons, symbols, numbers and letters required in using 3-D application software</li></ul>                                                                                                                                                         |
| Self-management | <ul style="list-style-type: none"><li>Makes routine decisions and implements standard procedures in routine tasks</li><li>Uses formal decision-making processes in more complex and non-routine situations</li><li>Evaluates work and implements improvements using a systematic process</li><li>Identifies importance of file format and takes responsibility in data integrity and management</li></ul> |
| Technology      | <ul style="list-style-type: none"><li>Completes routine tasks using specific digital systems and tools</li></ul>                                                                                                                                                                                                                                                                                          |

## Unit Mapping Information

Supersedes and is equivalent to ICTGAM410 Develop 3-D components for interactive games.

## Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

# Assessment Requirements for ICTGAM429 Develop 3-D components for interactive games

## Modification History

| Release   | Comments                                                                                                     |
|-----------|--------------------------------------------------------------------------------------------------------------|
| Release 1 | This version first released with ICT Information and Communications Technology Training Package Version 6.0. |

## Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- identify, design and generate at least three 3-D components.

In the course of the above, the candidate must:

- identify component integration
- establish component development pipeline
- follow game design document requirements
- use required formats and file extensions
- name and store components according to agreed methods and organisational procedures
- comply with quality assurance standards
- test and analyse component integration.

## Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- industry standard game hardware and software products
- game-engine architecture and methods used in component importing
- 3-D components testing methods and processes
- processes and techniques applicable to:
  - the creation of 3-D objects within industry-standard modelling software
  - the use of industry formats in developing 3-D models and objects
- organisational procedures and quality assurance standards that may be used in the development of 3-D components for interactive games.

## Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- required hardware and software
- industry-standard modelling software
- client requirements documentation
- game design document
- games engine
- file storage.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

## Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>