



Australian Government

ICTGAM431 Design and create 3-D digital models

Release: 1

ICTGAM431 Design and create 3-D digital models

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 create 3-D models.

It applies to individuals who design, develop and use digital media technologies, working independently and 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 clarify work requirements	1.1 Identify requirements and purpose of designing and creating 3-D digital models with reference to production documentation 1.2 Clarify organisational guidelines, workflow sequences and industry standards applicable to designing and creating 3-D models 1.3 Discuss production schedule deadlines and confirm they are feasible and can be met with required personnel 1.4 Research and select software applicable to type of production and delivery platform of 3-D digital models 1.5 Gather and analyse reference materials applicable to design and visualisation of 3-D models 1.6 Identify and establish documentation requirements according to industry and organisational procedures and guidelines
2. Design 3-D digital	2.1 Design and sketch concept drafts of a 3-D model according to

models	task requirements 2.2 Create concept art of required 3-D models 2.3 Create prototypes of 3-D models according to organisational guidelines and task requirements 2.4 Discuss prototypes and seek feedback from required personnel 2.5 Apply required changes to prototypes according to feedback
3. Create 3-D digital models	3.1 Confirm topology of models aligns to task requirements 3.2 Block out models and apply shaders using software features and determine required model proportions 3.3 Manipulate software features and apply basic lighting as required 3.4 Refine and check integrity of models until design requirements are met 3.5 Submit models to required personnel and seek comments and feedback on whether production requirements have been met
4. Finalise 3-D digital models	4.1 Respond to feedback from required personnel 4.2 Render and output models in required format and submit them to required personnel by agreed deadlines 4.3 Make backup copies of the files, store in required location and complete workplace documentation according to organisational procedures 4.4 Obtain final sign off from required personnel

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	Uses whole numbers, decimals and percentages applicable to file size, software and hardware specifications, measurement, scale, form, weight, volume, colour, shading and other attributes and variables in developing 3-D models
Oral communication	Employs listening and open-questioning techniques to clarify design requirements, project scheduling and obtain feedback
Reading	- Identifies and evaluates documentation containing complex technical terminology when interpreting the design brief - Conducts research into the design and visualisation of 3-D models - Interprets and comprehends computer-generated text, diagrams, icons, symbols, numbers and letters required in using applicable software

Skill	Description
Planning and organising	• Takes responsibility in planning tasks required in achieving outcomes and negotiates key aspects with others
Problem solving	• Make decisions directly related to tasks using analytical processes
Self-management	• Implements actions as per plan, making slight adjustments as required and addresses unexpected issues • Evaluates outcomes of design solutions and improves future responses • Selects and supports new ideas on the basis of their contribution to achievement of broader goals
Technology	• Completes routine tasks using specific digital systems and tools • Manages and maintains files in a variety of storage media and formats

Unit Mapping Information

Supersedes and is equivalent to ICTGAM413 Design and create 3-D digital models.

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 ICTGAM431 Design and create 3-D digital models

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:

- design, create and store at least two 3-D digital models according to work, design and production requirements.

In the course of the above, the candidate must:

- communicate with required personnel and clarify initial requirements including deadlines
- modify and amend 3-D models in response to feedback from required personnel
- comply with organisational guidelines and industry standards applicable to designing and creating 3-D models.

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:

- 3-D digital modelling and design principles
- stages in model production process, from initial design through to finished product
- issues and challenges arising from designing and creating 3-D digital models
- roles and responsibilities of project team members in developing digital models
- features of a range of delivery platforms
- geometry as it applies to the design and creation of realistic 3-D digital models
- use of scale, form, weight and volume in the development of 3-D digital models
- organisational guidelines and procedures
- industry standards applicable to designing and creating 3-D models
- range of industry standard 3-D modelling software.

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
- required industry standard 3-D modelling software and features
- a range of industry standard delivery platforms
- client specification documentation
- reference materials applicable to design and visualisation of 3-D models
- file storage
- 3-D product modelling software and delivery platforms.

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>