



Australian Government

MSFID6002 Apply 3-D visualisation techniques to represent interior designs

Release: 1

MSFID6002 Apply 3-D visualisation techniques to represent interior designs

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers using 3-D computer visualisation techniques to represent designs for interior environments using computer program applications commonly used to create 3-D visualisation representations.

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

Pre-requisite Unit

Competency Field

Unit Sector

Interior Decoration and Design

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Analyse project	1.1 Applicable work health and safety (WHS), legislative and organisational requirements relevant to producing visual representations are verified and complied with 1.2 Project brief is reviewed, confirmed and clarified with client 1.3 Parameters for the project are assessed and confirmed 1.4 Resources are selected appropriate to work requirements and checked for operational effectiveness 1.5 Communication with relevant personnel is established and maintained as required
2 Select rendering application	2.1 Features of rendering software packages used in interior design and decoration visualisations are identified and

		uses determined
	2.2	Rendering requirements are determined from project documentation
	2.3	Rendering software with capability to achieve desired effects within the project timeframe and budget is selected
	2.4	Equipment and media are assessed as suitable for software and the achievement of desired effects
	2.5	Planning tasks are undertaken to prepare for rendering
3	Apply rendering functions	3.1 Image resolutions are selected and applied to meet project requirements
		3.2 Image aspect ratio is selected and applied
		3.3 Pixel ratio is selected and applied
		3.4 Renderer attributes are adjusted to obtain desired visual effects
4	Check render integrity and quality	4.1 Render integrity is tested and refined
		4.2 Missing images and textures are identified and re-linked as required
		4.3 Render times for optimising process are tested
		4.4 Alpha channels and opacity matts are tested
		4.5 Render layers and passes are tested
5	Optimise images for render processes	5.1 All relevant pre-rendering optimisations tasks are completed
		5.2 Renderer attributes are adjusted and refined to optimise render time
		5.3 Appropriate file output format is selected
		5.4 Appropriate file names and output destinations are selected
6	Render image	6.1 Final rendering processes are undertaken and completed
		6.2 Files are stored and archived

- 6.3 Completed render is reviewed to ensure compliance with system and client requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency. Detail on appropriate performance levels for each furnishing unit of competency in reading, writing, oral communication and numeracy utilising the Australian Core Skills Framework (ACSF) are provided in the Furnishing Training Package Implementation Guide.

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Range is restricted to essential operating conditions and any other variables essential to the work environment.

- Unit context includes:**
- WHS requirements, including legislation, building codes, material safety management systems, hazardous and dangerous goods codes, and local safe operating procedures or equivalent
 - work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling procedures, Liveable and Accessible Housing Design guidelines, and organisation insurance requirements
- Project brief includes:**
- client needs and objectives
 - client aims and objectives, and criteria for evaluation
 - milestones
 - organisational or personal profiles and aims
 - image requirements and function
 - target market
 - budget
 - timeline
 - consultation requirements
 - colour requirements
- Clients include:**
- suppliers
 - manufacturers
 - private clients
 - colleagues
 - retailers

Parameters include:	• the public • scope of brief • approval to make changes • effect or feel trying to be achieved • functionality (short and long term) • budget restrictions • established timelines
Resources include:	• computers • computer software • design software • computer-aided design (CAD) software • colour boards • storyboards • swatches • product based colour systems, such as Munsell or similar • colour matching system, such as Pantone Matching System (PMS) • journals (directions magazines) • artistic equipment and products • model making equipment
Relevant personnel include:	• interior designer • modeller • texture animator • programmer • technical director • systems support officer
Rendering software packages include:	• AutoCAD • AutoCAD Revit 9 • 3D Studio Max • Form Z • Animator Pro • Rhino • Photoshop • Illustrator • CorelDraw
Rendering includes:	• the pictorial representation of plans and elevations using colours, highlighting and shading to provide depth and photo-like drawings
Equipment and media include:	• computer workstation • ergonomic furniture • 3-D animation software • rendering software

	• render network distribution software • hubs • switches • input device (e.g. stylist tablet, keyboard and mouse) • output device (e.g. monitor, TV, printer and speakers) • render farm
Planning tasks include:	• research • production planning • production management • team discussions • lighting • texturing • shading • networking
Pre-rendering optimisation tasks include:	• selection of most appropriate renderer for specific outcome • assessing options with key personnel • deleting any unnecessary geometry and components • preparing renderer attributes • preparing layer or pass control • preparing opacity mattes and alpha channels • testing and diagnosing rendering issues • optimising and refining for best render performance • rendering • organisation of output
File output format includes:	• TIFF

Unit Mapping Information

Supersedes and is equivalent to LMFID6002A Apply 3-D visualisation techniques to represent interior designs.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

Assessment Requirements for MSFID6002 Apply 3-D visualisation techniques to represent interior designs

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Performance Evidence

- Follow work instructions, operating procedures and inspection processes to:
 - minimise the risk of injury to self or others
 - prevent damage to goods, equipment and products
 - maintain required production output and product quality
- Design and apply rendering tasks using and refining render components for best performance
- Store rendered components in an organised manner for further use
- Use mathematical ideas and techniques to correctly complete measurements, make calculations, estimate material requirements and cost work
- Communicate ideas and information to enable confirmation of work requirements and specifications, presentation of design/colour concepts, the reporting of work outcomes and problems
- Establish a personal work methodology
- Build models to scale and create effects, such as lighting, shading, rendering and texturing, using software programs
- Visualise 2-D notions into 3-D space and form
- Manipulate a range of relevant computer software programs
- Display critical evaluation skills, creativity, innovation, research skills and independent thinking
- Experiment in both the planning of projects and methods of execution
- Present design ideas
- Initiate new ideas and work techniques
- Avoid backtracking, work flow interruptions or wastage
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- State or territory WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for rendering processes
- Organisational and site standards, requirements, policies and procedures for rendering
- Elements and principles of design, including liveability and accessibility
- Ergonomics, anthropometrics, proxemics and aesthetic values
- Types of equipment and procedures for their safe use, operation and maintenance
- Design themes and design development

- Procedures for the recording, reporting and maintenance of workplace records and information
- Appropriate mathematical procedures for estimation and measurement
- Environmental protection requirements
- Established communication channels and protocols
- Relevant problem identification and resolution

Assessment Conditions

- Assessors must:
 - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors
 - have vocational competency in the furnishing industry at least to the level being assessed with broad industry knowledge and experience, usually combined with a relevant industry qualification
 - be familiar with the current skills and knowledge used and have relevant, current experience in the furnishing industry.
- Assessment methods must confirm consistency of performance over time rather than a single assessment event and in a range of workplace relevant contexts.
- Assessment must be by observation of relevant tasks with questioning on underpinning knowledge and, where applicable, multimedia evidence, supervisor's reports, projects and work samples.
- Assessment is to be conducted on single units of competency or in conjunction with other related units of competency. Foundation skills are integral to competent performance in the unit and should not be assessed separately.
- Assessment must occur on the job or in a workplace simulated facility with relevant process, equipment, materials, work instructions and deadlines.
- Access is required to materials, equipment and specifications relevant to producing digital presentations for interior design projects.

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