Australian Government

Department of Education, Employment and Workplace Relations

LMFID6002A Apply 3-D visualisation techniques to represent interior designs

Revision Number: 1

LMFID6002A Apply 3-D visualisation techniques to represent interior designs

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit specifies the outcomes required to use 3-D computer visualisation techniques to represent designs for interior environments.

Application of the Unit

Application of the unit	This unit supports the attainment of skills and knowledge required to use computer program applications commonly used to create 3-D visualisation representations for interior designs. This unit covers employability skills in communication, planning and organising and problem solving in order to determine and apply visualisation techniques to develop representations of design ideas. Computing technology is widely used in this competency. Self management and learning skills are applied to assess and reflect on own skills and identify areas for improvement.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	LMFID5014A	*Use CAD applications to complete models and documentation for interior*

Prerequisite units		
		design projects

Employability Skills Information

Employability skills	This unit contains employability skills.

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.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Analyse project	1.1. Applicable ***OHS***, ***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 time frame and budget is selected 2.4. ***Equipment and media*** is 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

ELEMENT	PERFORMANCE CRITERIA
	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

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- applying principles and elements of design
- communicating design concepts
- documenting and transferring information
- reading, interpreting and following information on work specifications, standard operating procedures and work instructions, and other reference material
- maintaining accurate records
- communicating within the workplace
- interpreting a design brief
- scheduling production components
- building models to scale
- creating effects such as lighting, shading, rendering and texturing using software programs
- using networks
- time management skills
- clarifying and checking taskrelated information
- carrying out work according to OHS practices

Required knowledge

- State or Territory OHS 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
- 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
- problem identification and resolution

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	• Effectively design and apply rendering tasks • Use and refine render components for best performance • Store rendered components in a organised manner for further use • Communicate effectively and work safely with others in the work area

Context of and specific resources for assessment	• The application of competency is to be assessed in the workplace or realistically simulated workplace
	• Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
	• Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
	• Assessment is to comply with relevant regulatory or Australian Standards requirements
	• The following resources should be made available:
	  • workplace location or simulated workplace
	  • materials and equipment relevant to producing digital presentations for interior design projects
	  • specifications and work instructions

Method of assessment	• Assessment must satisfy the endorsed assessment guidelines of the Furnishing Industry Training Package • Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge • Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application • Assessment may be applied under project related conditions (real or simulated) and require evidence of process

EVIDENCE GUIDE	
	• Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances • Assessment may be in conjunction with assessment of other units of competency
Guidance information for assessment	

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.	
OHS requirements	• are to be in accordance with Commonwealth, State or Territory legislation and regulations, organisational safety policies and procedures. Requirements may include but not be limited to the use of personal protective equipment and clothing, fire fighting equipment, first aid equipment, hazard and risk control and elimination of hazardous materials and substances, manual handling including lifting and carrying
Legislative requirements	• are to be in accordance with applicable legislation from all levels of government that affect organisational operation. Requirements may include but not be limited to award and enterprise agreements, industrial relations, Australian Standards, confidentiality and privacy, OHS, the environment, equal opportunity, anti-discrimination, relevant industry codes of practice, duty of care and heritage
Organisational requirements	• may include but not be limited to legal, organisational and site guidelines, policies and procedures relating to own role and responsibility, quality assurance, procedural manuals, quality and continuous improvement processes and standards, OHS, emergency and evacuation, ethical standards, recording and reporting, access and equity principles and practices, equipment use, maintenance and storage, environmental management (waste disposal, recycling and re-use guidelines)
Project brief	• may include but not be limited to client needs and objectives, client aims and objectives and criteria for evaluation, milestones, organisational or personal profiles and aims, image requirements and function, target

RANGE STATEMENT	
	market, budget, timeline, consultation requirements and colour requirements

RANGE STATEMENT	
Client	• may include but not be limited to suppliers, manufacturers, private clients, colleagues, retailers or the public
Parameters	• may include but not be limited to scope of brief, approval to make changes (legislative and planning), effect or feel trying to be achieved, functionality (short and long term), budget restrictions and established timelines
Resources	• may include but not be limited to computers, computer software, design software, computer aided drafting (CAD) software, colour boards, storyboards, swatches, Pantone Matching System (PMS), journals (directions magazines), artistic equipment and products and model making equipment
Communication	• may include but not be limited to verbal and non-verbal language, constructive feedback, active listening, questioning to clarify and confirm understanding, use of positive, confident and cooperative language, use of language and concepts appropriate to individual social and cultural differences, control of tone of voice and body language
Relevant personnel	• may include but not be limited to interior designer, modeller, texture, animator, programmer, technical director and systems support officer
Rendering software packages	• may include but not be limited to AutoCAD, AutoCAD Revit 9, 3D Studio Max, Form Z, Animator Pro, Rhino, Photoshop, Illustrator and CorelDraw
Rendering	• may include but not be limited to the pictorial representation of plans and elevations using colours, highlighting and shading to provide depth and photo-like drawings
Equipment and media	• may include but not be limited to computer workstation, ergonomic furniture, 3-D animation software, rendering software, render network distribution software, hubs, switches, input device (e.g. stylist tablet, keyboard, mouse), output device (e.g. monitor, TV, printer, speakers) and render farm

RANGE STATEMENT	
Planning tasks	• may include but not be limited to research, production planning, production management, team discussions, lighting, texturing, shading and networking
Pre-rendering optimisation tasks	• may include but not be limited to 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 and organisation of output
File output format	• may include but not be limited to TIFF

Unit Sector(s)

Unit sector	Interior decoration and design.

Competency field

Competency field	

Co-requisite units

Co-requisite units		