



Australian Government

MSFID5014 Use CAD applications to complete models and documentation for interior design projects

Release: 1

MSFID5014 Use CAD applications to complete models and documentation for interior design projects

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers using computer-aided design (CAD) applications to produce models and documentation for interior decoration and design projects to meet client and project brief requirements. It applies to the development of 2-D and 3-D drawings that incorporate all standard practice notations and drawing protocols.

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.

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| 1 Determine project requirements | 1.1 Applicable work health and safety (WHS), legislative and organisational requirements relevant to designing with CAD applications are verified and complied with |
| | 1.2 Project brief is reviewed and confirmed |
| | 1.3 Parameters for the project are assessed and confirmed |
| | 1.4 Design concepts and details of design solution are examined to determine drawing requirements |
| | 1.5 Sketches, drawings and materials board are analysed |
| | 1.6 Calculations and measurements are confirmed |
| | 1.7 Documentation requirements for the design are clarified |

		and confirmed
	1.8	Computing equipment and suitable software is selected and prepared for use
	1.9	Customised template created for individual workplace
2	Use CAD applications to produce 3-D model and documentation	2.1 Layering strategy for project is designed, created and applied
	2.2	Architectural library is developed to acquire relevant design components
	2.3	Custom designed library parts are created
	2.4	Text, line, font and dimension styles are applied
	2.5	Pan, zoom and orbit tools are used to navigate in the 2-D and 3-D windows within the model
	2.6	Text and notations are added to the drawing in accordance with drawing protocols
	2.7	Dimensions are added to the drawing in accordance with drawing protocols
	2.8	3-D detailed suite of rooms, complete with fenestration and doors is produced on appropriate layers
	2.9	Advanced features of drawing tools are used to generate 3-D form
3	Edit drawing components	3.1 Editing tools are used to modify drawing elements and text
	3.2	Object properties are modified changed or transferred to a different layer
4	Render surfaces	4.1 Library is used to assign materials to surfaces and objects of the model
	4.2	New material creations are explored
	4.3	Texture, transparency, luminescence and patterns are edited to achieve desired surface effects using shader settings
	4.4	Light fixtures are included in model and parameters adjusted to achieve desired effects

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| 5 | Create 3-D views of the model | 5.1 | Isometric, two and three point perspective views are created using a range of camera settings and rendering techniques |
| | | 5.2 | Camera or target is repositioned to provide alternate views using a variety of camera techniques |
| | | 5.3 | Effect of natural and artificial lighting are created in 3-D space to achieve photo realistic awareness of the 3-D model and the effect of light on surfaces |
| | | 5.4 | Rendering time considerations are examined to achieve specific output |
| 6 | Plot and print for final presentations | 6.1 | Perspective views are saved and are appropriate for final media presentation |
| | | 6.2 | Appropriate views are saved to meet requirements of brief |
| | | 6.3 | Page layout is created for plotting and printing |
| | | 6.4 | Page layout is prepared using saved views and documentation |
| | | 6.5 | 2-D documentation is plotted with appropriate line weights |
| | | 6.6 | Slide show presentation is prepared using saved views and documentation |
| 7 | Save and back up files | 7.1 | Folders and files are created to store drawing projects |
| | | 7.2 | Drawings are saved and filed to allow easy access according to workplace documentation system |
| | | 7.3 | Appropriate techniques for reducing file size are identified and compared |
| | | 7.4 | Copies of files are backed up |

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.

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| Unit context includes: | <ul style="list-style-type: none">• 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• work requires individual to demonstrate discretion, judgement and problem solving, plus self-management and learning skills |
| Parameters include: | <ul style="list-style-type: none">• scope of brief• approval to make changes (legislative and planning)• effect or feel trying to be achieved• functionality (short and long term)• budget restrictions• established timelines |
| Details of design solution include: | <ul style="list-style-type: none">• products• materials• fixtures and finishes• dimensions• features• openings• furnishings and accessories• colour• effects and lighting• electrical sources |
| Documentation requirements include: | <ul style="list-style-type: none">• site plans• floor plans• sections• elevations• projections• general notes• construction notes• area analysis |

	• services • structures • location • neighbouring buildings • any other space or area addressed by interior designers
Layering includes:	• the use of different overlays to portray a range of applications, including: • architectural • civil • electrical • fire protection • general • landscaping • mechanical • plumbing • equipment or furnishings • structural • telecommunications
Architectural library includes:	• a catalogued reference of interior decoration and design components which can be uploaded into a model
Pan, zoom and orbit tools include:	• procedures for moving around the window and the ability to look closer or more broadly at certain components
Drawing protocols include:	• commonly used symbols • lettering standards • standard units of measurement • paper size • scale • numbering • legends • abbreviations
Editing tools include:	• tools which enable changing of: • components • sections • text • measurements on a model
Rendering time considerations include:	• global settings • quality settings and impact on rendering times • specific rendering quality issues
Appropriate views	• sectional views

include:

- internal and external elevations
- removal of wire frames and hidden lines
- use of desired output settings

**Information and
procedures include:**

- work instructions, including plans, drawings and designs
- workplace procedures relating to reporting and communication
- manufacturer specifications and operational procedures

Unit Mapping Information

Supersedes and is equivalent to LMFID5014A Use CAD applications to complete models and documentation for interior design projects.

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 MSFID5014 Use CAD applications to complete models and documentation for interior design projects

Modification History

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Performance Evidence

- Interpret work orders and locate and apply relevant information
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- Identify materials used in the work process
- 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 produce at least two (2) 2-D CAD drawings and two (2) 3-D CAD drawings that document the requirements of the design brief applying drafting and drawing protocols in accordance with Australian Standards and the Building Code of Australia (BCA)
- Apply design elements and principles to designing with CAD applications
- Use mathematical ideas and techniques to correctly complete measurements, calculate area/volume and estimate material requirements
- Communicate ideas and information to enable confirmation of work requirements and specifications, presentation of design/colour concepts, the reporting of work outcomes and problems
- Apply design concepts to drawings
- 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 using CAD applications
- Organisational and site standards, requirements, policies and procedures for using CAD applications
- Elements and principles of design, including liveability and accessibility
- Types of CAD equipment and procedures for their safe use, operation and maintenance
- Relevant computer programs and CAD applications
- Drafting and drawing codes and practices relevant to interior design

- 2-D and 3-D drawing techniques
- Appropriate mathematical procedures for estimation and measurement
- Documentation control procedures
- Relevant problem identification and resolution techniques

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 designing with CAD applications.

Links

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