



Australian Government

MSFID6001 Resolve complex spatial design problems through modelling

Release: 1

MSFID6001 Resolve complex spatial design problems through modelling

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers extending, developing and resolving complex spatial design problems to develop and refine a conceptual model and inform design work through experimentation with a range of spatial modelling techniques. It includes managing and organising resource requirements for new work and realising a fully resolved interior scheme through modelling.

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	Adapt and develop concepts as a result of design research	1.1	Criteria are established that are most likely to facilitate the achievement of the conceptual vision
		1.2	Consultation is conducted with colleagues to develop conceptual thinking approaches
		1.3	A range of spatial problems are examined to determine suitable approaches
		1.4	Relevant ideas and approaches are researched, adapted and incorporated from other practitioners
2	Visualise design concepts using a	2.1	Capabilities of a range of 2-D conceptual notions are extended through 3-D modelling

	range of modelling techniques	2.2	The conceptual vision is refined based on ongoing experimentation using sophisticated modelling techniques
		2.3	A sophisticated concept model appropriate to the brief is presented to the client and feedback evaluated
3	Manage and organise resource requirements for new work	3.1	Materials, tools, equipment and computer-aided design (CAD) applications are researched for the achievement of different 3-D effects
		3.2	Resource requirements that arise from the use of techniques and experimental approaches are determined and organised for new work
		3.3	Critical path is determined, projecting completion dates of each stage of the project
4	Develop extend and resolve spatial ideas through modelling	4.1	Experimentation is undertaken with a range of modelling techniques to explore and develop complex 3-D notions
		4.2	Design elements and principles are applied and manipulated to assist in design development
		4.3	Scale, volume and proportion are explored and manipulated as part of a design development process
		4.4	A range of models are developed by hand or using CAD applications to revise and refine spatial ideas
5	Present a fully resolved interior space using sophisticated modelling techniques	5.1	Modelling technique is selected to meet the established criteria
		5.2	Appropriate scale is selected to meet brief criteria
		5.3	Resolved spatial ideas are accurately represented to scale
		5.4	Materials and textures are accurately represented to scale
		5.5	Construction, detailing and finishes are resolved and demonstrated through sophisticated modelling
		5.6	Detailed model is presented to client and feedback evaluated

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:**
- work health and safety (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

- Spatial problems include:**
- voids
 - apertures
 - thresholds
 - atriums
 - vertical and horizontal circulation systems
 - public spaces
 - multi-level spaces
 - mezzanines
 - transitional spaces
 - staircases
 - ceiling planes

- Design elements and principles include:**
- balance
 - similarity
 - texture
 - contrast
 - size
 - ground
 - volume
 - composition
 - orientation

- form
- structure
- 2-D space
- position
- proportion
- 3-D space
- repetition
- scale
- line
- rhythm
- pattern
- point
- symmetry
- tone
- plane

Unit Mapping Information

Supersedes and is equivalent to LMFID6001A Resolve complex spatial design problems through modelling.

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 MSFID6001 Resolve complex spatial design problems through modelling

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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
- Use, apply and experiment with modelling techniques to explore a design solution and apply individual creativity to modelling
- Fully resolve a final design solution using modelling techniques effectively applying design elements and principles to models
- 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 through models
- Establish a personal work methodology
- 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 modelling
- Organisational and site standards, requirements, policies and procedures for modelling
- Elements and principles of design including liveability and accessibility
- Spatial concepts
- Concept modelling techniques
- Mass modelling techniques
- Detailed modelling techniques

- Model making techniques
- 3-D visualisation techniques, such as computer modelling
- Features and uses of White models
- Features and uses of Maquettes
- Scale for design modelling
- Proportion and proportioning systems
- Structures in design contexts
- Modular systems and repeats
- Advanced 3-D geometry
- Design process and progression of ideas
- Environmental protection considerations for interior design
- Established communication channels and protocols
- Relevant problem identification and resolution techniques
- Design communication 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 resolving complex spatial design problems through modelling.

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