



Australian Government

Department of Education, Employment and Workplace Relations

LMFID6001A Resolve complex spatial design problems through modelling

Revision Number: 1

LMFID6001A Resolve complex spatial design problems through modelling

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to successfully use a range modelling techniques for extending, developing and resolving complex spatial design problems.
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Application of the Unit

Application of the unit	<p>This unit supports the attainment of skills and knowledge required to develop and refine a conceptual model, inform design work through experimentation with a range of spatial modelling techniques, determine, manage and organise resource requirements for new work and realise a fully resolved interior scheme through modelling.</p> <p>This unit covers employability skills in initiative and enterprise and problem solving to apply design principles to modelling in order to meet brief requirements. Communication skills are used to convey design solution and self management and learning skills are applied to assess and reflect on own design skills and identify areas for improvement.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
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 <i>spatial problems</i> 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 range of modelling techniques	2.1. Capabilities of a range of 2-D conceptual notions are extended through 3-D modelling 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 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. <i>Design elements and principles</i> 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 computer aided design 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

ELEMENT	PERFORMANCE CRITERIA
	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

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- establishing a personal work methodology
- visualising 2-D notions into 3-D space and form
- ability to manipulate a range of computer software programs
- critical evaluation skills
- group interaction and teamwork skills
- creativity
- innovation
- research skills
- independent thinking
- ability to assess suitable process
- ability to experiment in both the planning of projects and methods of execution
- presenting design ideas
- 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 modelling
- organisational and site standards, requirements, policies and procedures for modelling
- elements and principles of design
- spatial concepts
- concept modelling techniques
- mass modelling techniques
- detailed modelling techniques
- model making techniques
- 3-D visualisation techniques such as computer modelling
- white models
- maquettes
- scale
- proportion
- proportioning systems
- structures
- modular systems and repeats
- advanced 3-D geometry
- evidence of design process and progression of ideas
- environmental protection considerations for interior design

REQUIRED SKILLS AND KNOWLEDGE

- established communication channels and protocols
- problem identification and resolution techniques
- design communication techniques

Evidence Guide

EVIDENCE GUIDE	
<p>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.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<ul style="list-style-type: none"> • Use, apply and experiment with modelling techniques to explore a design solution • Apply individual creativity to modelling • Fully resolve a final design solution using modelling techniques • Apply design elements and principles to models • Communicate design ideas through development of models
Context of and specific resources for assessment	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • workplace location or simulated workplace • materials and equipment relevant to resolving complex spatial design problems through modelling • specifications and work instructions
Method of assessment	<ul style="list-style-type: none"> • 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

EVIDENCE GUIDE	
	<p>conditions (real or simulated) and require evidence of process</p> <ul style="list-style-type: none"> • 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	
<p>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.</p>	
Spatial problems	<ul style="list-style-type: none"> • may include but not be limited to voids, apertures, thresholds, atriums, vertical and horizontal circulation systems, public spaces, multi-level spaces, mezzanines, transitional spaces, staircases and ceiling planes
Design elements and principles	<ul style="list-style-type: none"> • may include but not be limited to 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 and plane

Unit Sector(s)

Unit sector	Interior decoration and design.
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		