Australian Government

Department of Education, Employment and Workplace Relations

CUVACD507A Refine 3-D design ideas and processes

Release: 1

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Modification History

Version	Comments
CUVACD507A	This version first released with *CUV11 Visual Arts, Craft and Design Training Package version 1.0*

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to extend and deepen engagement with three-dimensional (3-D) design ideas and processes for the production of work at a professional level.

Application of the Unit

Designers and artists engage with a wide and potentially complex range of ideas about 3-D design. At this level they are able to then develop and refine their own ideas and responses to the potential of the 3-D form through the production of professional work.
This unit complements units that focus on specialised skills for particular design disciplines or art forms.
Work may be independent or collaborative. It is largely self-directed with guidance and mentoring available as required.

Licensing/Regulatory Information

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

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
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

1. Originate ideas for 3-D design	1.1 Generate ideas for design concepts through research, exploration and experimentation 1.2Develop initial design concepts consistent with the intent of the work or ***specifications*** of the brief 1.3 Evaluate, explore and play with options and ***materials*** that best suit the design brief 1.4 Refine options and select the approach that best meets design brief requirements
2. Plan design process	2.1 Develop clear plan and schedule for design realisation 2.2 Organise and allocate resources to meet required standards, timeframes and budget 2.3 Liaise with others involved in design realisation as required 2.4 Monitor process to ensure integrity of design is maintained, including challenging own design work 2.5 Identify difficulties or problems and take action to rectify 2.6 Maintain accurate, relevant and complete documentation
3. Refine and consolidate process	3.1 Develop effective 3-D designs and ***design processes*** 3.2 Develop and document a ***design language*** that reflects own style and approach 3.3 Identify opportunities for refinement and re-thinking and make adjustments as required 3.4 Articulate the design process and the final solution through effective documentation of work 3.5 Prepare and present 3-D design solutions to ***key people***
4. Maintain expertise	4.1 Apply ***professional work ethic*** to design activities 4.2 Use feedback from others to improve own skills in design 4.3 Stay up-to-date with industry standards and seek opportunities to further develop technical and conceptual skills 4.4 Source new ideas and trends through regular review of the work of others 4.5 Keep informed about new creative approaches, techniques, materials and equipment for 3-D design

Required Skills and Knowledge

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

Required skills

- communication skills to:
  - work collaboratively in the design process
  - create design documentation
- initiative and enterprise skills to:
  - apply creative thinking techniques to originate ideas and concepts
  - generate a range of ideas and options for visually representing a concept, idea or brief
  - develop 3-D designs that best respond to specifications
- learning skills to:
  - keep informed of new creative approaches, techniques, materials and equipment relevant to 3-D design
  - improve own skills in developing 3-D designs through practice and responding to feedback from others on own work
- literacy skills to interpret specifications and briefs for 3-D design
- numeracy skills to interpret and correctly apply calculations and measurements
- planning and organising skills to independently undertake the design process
- problem-solving skills to take responsibility for creating design solutions for wide-ranging and unpredictable design challenges
- self-management skills to manage own work and adopt a professional work ethic
- technical skills to develop 3-D designs using a range of techniques and approaches appropriate to the brief or idea

Required knowledge

- ways in which 3-D designs are used in the particular area of work
- principles of 3-D design
- physical properties and capabilities of the range of materials, tools and equipment used for 3-D design
- ways to present finished 3-D designs
- work space requirements for the production of 3-D design, including set-up of work space for particular types of 3-D work
- issues and challenges that arise in the context of making 3-D designs
- intellectual property issues and legislation associated with making 3-D designs
- sustainability issues associated with materials, tools and equipment used in 3-D design
- organisational and legislative OHS procedures in relation to design

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	Evidence of the ability to: • originate a concept for 3-D design that meet the needs of the brief • develop effective 3-D designs and design processes that meet project requirements and provide creative solutions • apply professional practice to 3-D design work.
Context of and specific resources for assessment	Assessment must ensure access to: • projects, tools, space and equipment required for developing 3-D designs in the relevant area of work.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • practical demonstration of skills using required resources to develop 3-D designs • direct observation of the development of 3-D designs by the candidate • evaluation of 3-D designs produced by the candidate • oral or written questioning to assess knowledge of 3-D design techniques • review of portfolios of evidence • review of third-party reports from experienced practitioners. Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties, such as speakers of languages other than English, remote communities and those with interrupted schooling).
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

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.

Specifications may include:	• background information about clients
	• budget
	• clients' needs
	• creative objectives
	• considerations, such as:
	  • contractual
	  • ethical
	  • legal
	• diagrams indicating, for example:
	  • colours
	  • measurements
	  • scale
	  • style
	• materials
	• personal intent
	• personnel involved in the project
	• purpose
	• relevant statutory requirements, e.g. health and safety considerations
	• requirements for development or building consent
	• scope for making adjustments
	• sponsorship
	• technical objectives
	• technology
	• timeframe
	• visual representations.

Materials may include:	• clays • drawing and illustration materials, such as pencils, crayons, pastels, inks, charcoal and paints • fasteners, such as nails, screws, hooks and bolts • found objects and materials • glass • lacquers • laminates • latex

	• manufactured plastics, such as:
	  • fibreglass
	  • polyurethane and polyester resins
	  • sheet plastics
	  • silicones
	  • thermoset and thermoplastic elastomers
	• materials to represent particular surfaces, such as rock, earth and water
	• materials for cleaning, priming and finishing, such as:
	  • extenders and binders
	  • specialised primers
	  • water and oil-based paints
	• metals, such as:
	  • metal wire
	  • sheet metal
	• natural and synthetic fibres
	• paper pulp
	• plaster products, such as:
	  • Forton MG
	  • gypsum cement
	  • pottery plaster and dental plaster
	• recycled materials
	• sheet materials, such as:
	  • cardboard
	  • foamcore
	  • paper
	  • perspex and other plastic sheet materials
	  • polystyrene
	  • sheet metal
	• string
	• tape
	• waxes, such as:
	  • jewellery wax
	  • microcrystalline wax
	• wood and timber products, such as:
	  • balsa wood
	  • MDF board
	  • wooden skewers

Design processes may include:	• applying elements and principles of design • assessing various materials, equipment and software

	• developing inspiration boards, storyboards and other draft visuals • identifying, classifying and selecting constraints • manipulating design variables to satisfy the non-negotiable constraints and optimising those that are negotiable.
Design language *refers to:*	• overarching scheme or style that guides the design of a complement of products.
Key people may include:	• art department • audience • client • creative director • designer • director • manager • mentor • other technical and specialist personnel • producer • production manager • project manager • representative of organisation commissioning the work • supervisor • teacher • technical director.
Professional work ethic may include:	• attentive behaviour in creative practice • following organisational and industry storage and inventory procedures • following organisational, industry and legislative OHS procedures • punctuality and reliability • responding appropriately to feedback • working creatively with individual differences.

Unit Sector(s)

Visual communication – art, craft and design