



Australian Government

CUADES422 Research and apply techniques in product design

Release: 1

CUADES422 Research and apply techniques in product design

Modification History

Release	Comments
Release 1	This version first released with CUA Creative Arts and Culture Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to test and apply techniques for the design and construction of product design prototypes. It involves planning resources required to meet the design brief, testing different approaches based on research and developing prototypes of products that meet brief requirements.

It applies to individuals who generate product designs as part of their working environment. Products may include soft furnishings, furniture, toys, decorative objects and kitchenware.

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

Unit Sector

Design – design process

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and organise requirements	1.1 Interpret design briefs in consultation with required personnel 1.2 Research financial, physical and human resources required for developing design concept to prototype stage 1.3 Investigate environmental, ethical and technical factors that impact on selection and use of resources 1.4 Select and prepare resources based on research into designs and approaches used for similar objects
2. Test design approaches	2.1 Produce preliminary visuals according to design brief requirements 2.2 Experiment and test design approaches using different techniques

ELEMENT	PERFORMANCE CRITERIA
	2.3 Evaluate, challenge and refine testing processes 2.4 Critique own work and seek feedback as required 2.5 Document outcomes of testing according to organisational policies and procedures 2.6 Select final design approach based on outcomes of testing and input from others
3. Make prototypes of products	3.1 Scope work and determine requirements for object fabrication 3.2 Select and organise materials, tools and equipment for fabrication according to design approach 3.3 Make prototype consistent with design concepts and briefs 3.4 Respond to feedback and refine work as required 3.5 Present prototypes within agreed timeframes

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Reading	Evaluates detailed textual and visual information and determines conceptual and production requirements, including applicable legislation and standards
Writing	Documents resources information and outcomes from idea development and testing using clear, specific language and industry-related terminology
Oral Communication	- Elicits feedback and confirms understanding using questioning and active listening techniques - Participates in discussions using language and non-verbal features applicable to audience and context
Numeracy	Identifies financial needs and calculates resource requirements for prototype production
Self-management	- Understands purpose of own role, and related responsibility for compliance with legal and ethical requirements and design standards - Directs own exploration of techniques and processes, and critically evaluates test samples
Teamwork	- Collaborates with others and discusses work process and outcomes, elicits feedback and identifies improvements - Selects and uses applicable communication conventions and

SKILL	DESCRIPTION
	techniques to respond to feedback and present prototypes to others
Planning and organising	Plans, organises and completes tasks required to meet project and time requirements
Initiative and enterprise	Makes analytical decisions about design options and applicable resources required for different design outcomes and their representation, using input from others when required

Unit Mapping Information

Supersedes and is equivalent to CUADES402 Research and apply techniques in product design.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1db201d9-4006-4430-839f-382ef6b803d5>

Assessment Requirements for CUADES422 Research and apply techniques in product design

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- design two products using at least two different researched product design techniques.

In the course of the above, the candidate must:

- interpret requirements in a design brief in consultation with required personnel
- identify and prepare resources required to respond to the design brief
- test and use different approaches and techniques for the design of products, and document the results of testing
- create a prototype based on selected design approach
- adhere to applicable standards and legislative requirements for the design and manufacture of products.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- factors that impact on the selection and use of resources when researching and applying techniques in product design
- materials, tools and equipment, and their capabilities and application to product design and manufacture
- role of experimentation and testing in the design process
- techniques and processes used to test design approaches
- legislation and standards relevant to product design and production.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- product design briefs
- equipment, tools and materials used to produce prototypes of products
- a suitable work space.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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