



Australian Government

Department of Education, Employment and Workplace Relations

LMTTD5008A Develop textile designs and specifications

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor This unit covers the skills and knowledge associated with developing textile designs and specifications for production.

Application of the Unit

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This unit applies to development of a design and testing and analysis associated with developing design specification. Judgement may be required in planning and selecting appropriate processes or procedures for self and others. Textile material and products for which product specifications are developed in the textile sector include fibres, fabrics, yarns and finished products.

Work may be conducted in small to large scale enterprises and may involve individual and team activities.

The application of this unit is according to OHS practices of the enterprise and workplace practices, which may include:

- requirements prescribed by legislation, awards, agreements and conditions of employment
- standard operating procedures
- work instructions
- oral, written and visual communication
- quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output
- housekeeping
- tasks related to environmental protection, waste disposal, pollution control and recycling

This unit requires the application of skills associated with communication associated with interpreting design requirements, conducting calculations and documenting specifications. Initiative and enterprise and problem solving will be used to develop a textile design. Planning and organising for the safe and effective use of textile testing technology and operations, and an ability to check the quality of outcomes and identify and address problems relating to production or textile design are also required.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Interpret design brief	1.1 Requirements of design are interpreted 1.2 Purposes of textile product and end user are identified 1.3 Additional Factors are determined and applied 1.4 Materials for use in design are determined 1.5 Design specifications are confirmed 1.6 Initial design concepts are interpreted from brief
2 Develop textile design	2.1 Design processes are used to further develop initial design concept 2.2 Options are evaluated against design brief specifications 2.3 Design concept is tested with client to refine options 2.4 Selected design is presented for proposal using a range of communication tools 2.5 Feedback is received and considered in line with design brief 2.6 Design concept is modified and improved where possible 2.7 Design confirmed and documented
3 Calculate production requirements	3.1 Appropriate formulas for calculating yarn requirements are determined 3.2 Calculations are undertaken using computer software or manual processes 3.3 Data is analysed and yarn requirements are assessed 3.4 Yarn requirements are documented
4 Test sample	4.1 Textile sample is produced according to design specifications and OHS practices 4.2 Sample is examined and accuracy of calculations determined 4.3 Production process is analysed to determine improvements 4.4 Routine testing of sample is undertaken to assess quality requirements and to ensure industry standards are met 4.5 Results of sample testing are analysed to determine performance and acceptability for production 4.6 Outcomes are documented and discussed with client and appropriate personnel and feedback is recorded
5 Prepare product specifications	5.1 Sample analysis is applied to develop pattern specifications for textile design 5.2 Production processes including technical aspects are determined and production plans prepared 5.3 Final product specifications are confirmed with appropriate personnel and all documentation is completed

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Demonstrates knowledge of:

- principles and elements of design
- the elements and principles of testing
- textile materials and products and their properties
- safety and environmental aspects of relevant workplace activities
- OHS practices, including hazard identification and control measures
- quality practices
- workplace practices
- recording and reporting practices

Demonstrates skills to:

- analysis and interpretation of results
- communicate effectively with section managers, individuals, work groups
- prepare and present reports and information in appropriate formats
- read, interpret and follow information on work specifications, , standard operating procedures and work instructions and other reference material
- maintain accurate records
- communicate within the workplace
- sequence operations
- meet specifications
- clarify and check task-related information
- carry out work according to OHS practices

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Critical aspects of evidence to be considered	Demonstrates skills and knowledge to: <ul style="list-style-type: none">• interpret design brief• develop design concepts• communicate design concepts• use a range of communication tools to present design• perform calculations• establish criteria for tests• analyse and interpret tests• prepare product specification• communicate effectively with design team, production management, customers, etc.• maintain accurate records
Consistency in performance	Consistently applies skills and knowledge when: <ul style="list-style-type: none">• organising work• completing tasks• identifying improvements• using workplace practices• using OHS practices• recording and reporting accidents and incidents• assessing operational readiness of equipment used and work processes• recognising and adapting to cultural differences in the workplace, including modes of behaviour and interactions• completing work systematically with attention to detail without damage to goods and equipment
Resource implications	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Context for assessment	Assessment may occur on the job or in an appropriately simulated environment.
Interdependent Assessment	This unit may be assessed independently or in combination with other relevant units.

Range Statement

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. Add any 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

Legislative/regulatory requirements All work must comply with relevant Federal and State or Territory legislative or regulatory requirements.

Requirements may include

- budget
- type of industry and industry standards
- style
- colour
- function
- performance
- quality
- dimension
- timeline
- design restrictions or conditions

Textile products include, but are not limited to:

- fashion items and accessories
- textile furnishings, artwork, fabric
- canvas and PVC goods, such as:
 - covers for machinery, vehicles and equipment
 - different types of tarpaulins and canopies
 - heavy duty or protective work-wear
- straps, belts and fittings
- tool and equipment bags
- leather goods, such as:
 - welders blankets and jackets
 - riggers belts and frogs
- tool, equipment and instrument bags, pouches and covers
- holders and holsters
- washers and gaskets
- protective clothing

Additional factors:

- trends
- yarn availability
- production issues
- resource availability or limitations
- production costs

Design processes may

- application of elements and principles of design

include	<ul style="list-style-type: none">• development of inspiration boards, storyboards, etc.• assessment of fibres and fabrics• review of relevant products such as product sample designs
Yarns may include	<ul style="list-style-type: none">• ring spun• open-ended spun• air jet spun• friction spun
Fibres may include	<ul style="list-style-type: none">• polyester• cotton• wool• viscose rayon
Tests may relate to	Performance during processing or finished product performance requirements and may include: <ul style="list-style-type: none">• microscopic analysis• chemical analysis• evenness testing• moisture content• dry-fastness• tensile-strength• elongation• tearing strength• crease recovery• dimensional stability
Finished products may include	<ul style="list-style-type: none">• socks• sweaters• towels• sheets• blankets• carpets• rope and twine• mops• industrial textiles
Test equipment may include	<ul style="list-style-type: none">• microscopes• weighing scales• rulers• templates• strength testers• conditioners• dryers• abrasion testers• pilling testers

Product specification
may include

- construction
- dimensions
- strength
- shrinkage

OHS practices

OHS practices must include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and may include:

- manual handling techniques
- standard operating procedures
- personal protective equipment
- safe materials handling
- taking of rest breaks
- ergonomic arrangement of workplaces
- following marked walkways
- safe storage of equipment
- housekeeping
- reporting accidents and incidents
- other OHS practices relevant to the job and enterprise

Unit Sector(s)

Sector Textile Design and Development