



Australian Government

Department of Education, Employment and Workplace Relations

LMTGN4002A Participate in product engineering

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor This unit covers the skills and knowledge required to participate in product engineering in a textiles, clothing and footwear (TCF) enterprise.

Application of the Unit

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This unit applies to participating in product engineering in a TCF workplace where judgement may be required in planning and selecting appropriate processes or procedures for self and others. Work may be conducted in a variety of environments, including operational workplace activities, restricted space, hazardous, controlled or exposed conditions.

TCF production areas may include:

- textile production
- clothing production
- footwear production
- early stage wool processing
- cotton ginning
- leather production
- millinery
- canvas and sails production
- laundry operations
- dry cleaning operations

Product engineering may occur in relation to repetitive production runs, short runs and quick changes and can relate to fabrics, fibres, yarns, design varieties, weaves, dyes, finishes, etc.

Work may be conducted in small to large scale enterprises and may involve individual and team activities. Work is performed within defined procedures under direct supervision.

The unit is applied according to OHS and workplace practices of the enterprise, 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/section output
- housekeeping
- tasks related to environmental protection, waste disposal, pollution control and recycling

This unit requires the application of skills associated with communication to interpret production specifications, calculate costs, maintain records and prepare reports. Initiative and enterprise, planning and organising and problem solving are required to examine production options and determine required variations to

specifications, processes and schedules. This unit also requires an ability to learn and apply new information. Self management skills are used to ensure work meets quality and work standards.

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

ELEMENTS	PERFORMANCE CRITERIA
1 Identify and confirm specifications	1.1 Sample material or product is examined to confirm structure 1.2 Detail of structure or composition is documented, where required, to assist in production planning
2 Identify options for production	2.1 Evaluation of material or product structure is conducted to identify options for production 2.2 Options are assessed to determine most effective and efficient <i>method of production</i> , ensuring highest quality and yield from raw materials, and ease of production 2.3 Options and recommendations are documented in accordance with workplace practices and <i>OHS practices</i>
3 Identify potential machine or production changes	3.1 Existing resources, machines, production techniques and scheduling arrangements are examined in relation to the production requirements 3.2 Any potential requirements for change are identified and documented in accordance with workplace practices
4 Prepare <i>cost</i> estimates	4.1 Material requirements and economic batch sizes are identified 4.2 Labour hours, times and other statistics required are identified and estimates made 4.3 Available machine hours are determined and estimates made, where required 4.4 Overall costs are estimated and documented in accordance with workplace practices
5 Maintain records	5.1 Production planning records are maintained and reports prepared, where necessary, in accordance with workplace practices

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Demonstrates knowledge of:

- machines and their capabilities
- quality assurance processes; production processes and software
- products produced by the workplace and material or fabric structure (techniques)
- work and workplace organisation systems
- 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:

- determine structure and composition of material or product
- make calculations, interpret and use data from various sources
- 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 our 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">• confirm specifications• assess options for method of production• establish potential machine and production changes• estimate costs• apply OHS practices in production operations• 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.

Method of production may include:

- JIT
- VAM
- quick response
- quality circles,
- team processes
- benchmarking

Cost estimating may include:

- written bill of labour, order of work or plant sample

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 All