



Australian Government

Department of Education, Employment and Workplace Relations

LMFFDT4003A Assess and record the lifecycle of a product

Revision Number: 1

LMFFDT4003A Assess and record the lifecycle of a product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit specifies the outcomes required to assess and record the design and production of a product from its raw source to its completion and life as a product in accordance with design elements and principles.
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Application of the Unit

Application of the unit	This unit supports the attainment of skills and knowledge required for competent workplace performance in furnishing operations of all sizes. Recording of the product lifecycle applies to an industry workplace or design studio environment and involves application of skills and knowledge at a tradesperson equivalent level. These skills and knowledge are to be used within the scope of the individual's job and authority.
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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. Assess raw sources of material	1.1. Applicable OHS, legislative and organisational requirements relevant to recording the lifecycle of a product are verified and complied with 1.2. Design brief is reviewed, confirmed and clarified with appropriate personnel 1.3. Communication with others is established and maintained in accordance with OHS requirements 1.4. Most suitable materials to fulfil the brief are assessed to meet the requirements 1.5. Materials are assessed from their source taking account of where they derived from and their processing techniques 1.6. Materials are assessed for their ecological and environmental impact 1.7. Materials are assessed for their availability and supply 1.8. Information on raw materials is recorded for future use
2. Assess the design process	2.1. Problem or underlying factors being addressed by the design brief are verified and documented 2.2. User needs and desires are assessed and documented 2.3. Elements of design are assessed for the intended outcome and documented 2.4. Principles of design are assessed for the intended outcome and documented 2.5. Requirements of the brief are prioritised and assessed for conflicts 2.6. Activities to be undertaken to complete concepts, sketches, drawings and models are documented and prioritised 2.7. Final documentation outlining the full analysis of the design brief is compiled and produced as a report
3. Assess the production process	3.1. Production timeline is assessed 3.2. Supply of raw materials for production is analysed 3.3. Available personnel with suitable skills are assessed for proficiency to complete production 3.4. Manufacturing process is assessed for equipment and assembly methods 3.5. Component production is mapped

ELEMENT	PERFORMANCE CRITERIA
	3.6. Finishing requirements are assessed 3.7. Final completion of product is assessed and quality checking arrangements put in place 3.8. Action plan for production is completed
4. Assess the product life	4.1. Packaging and despatch procedures are assessed and verified 4.2. Destination of the final product is verified and documented 4.3. Use of the product is assessed and potential life of the product estimated 4.4. Product lifecycle process is reviewed using all of the assessed data

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- collect, organise and understand information related to work orders, basic plans and safety procedures
- communicate ideas and information to enable confirmation of work requirements and specifications, coordination of work with site supervisor, other workers and customers, and the reporting of work outcomes and problems
- work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity
- recognise and respond to circumstances outside instructions or personal competence
- plan and organise activities including the preparation and layout of the worksite and the obtaining of equipment and materials to avoid any back tracking, work flow interruptions or wastage
- use mathematical ideas and techniques to correctly complete measurements, calculate area and estimate other material requirements
- clarify and confirm work instructions
- plan work within given task parameters
- accept responsibility for given tasks
- set, monitor and satisfy personal work goals
- satisfy the competency requirements for the job
- accurately recording and maintaining information relating to the furniture making and design functions
- maintain current knowledge of techniques and materials used in furniture production
- seek learning opportunities.

Required knowledge

- State or Territory OHS legislation, regulations, standards and codes of practice relevant to the full range of processes for assessing and recording furniture details
- organisational and site standards, requirements, policies and procedures for assessing and recording furniture details
- environmental protection requirements
- established communication channels and protocols
- problem identification and resolution
- elements and principles of design
- ergonomics and aesthetic values
- characteristics of materials, products and defects
- computer programs

REQUIRED SKILLS AND KNOWLEDGE

- procedures for the recording, reporting and maintenance of workplace records and information
- appropriate mathematical procedures for estimation and measurement.

Evidence Guide

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

- Effectively record the lifecycle of a product from its raw source to its end use, work through the design process assessing the requirements and recording the intended outcomes
- Effectively apply design elements and principles to a product lifecycle
- Effectively produce a report on the intended outcomes of a product lifecycle analysis
- Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures for recording the lifecycle of a product
- Communicate effectively and work safely with others in the work area

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or 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:
 - workplace location or simulated workplace
 - materials and equipment relevant to recording the lifecycle of a product
 - specifications and work instructions

Method of assessment

- 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

EVIDENCE GUIDE	
	tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application • Assessment may be applied under project related conditions (real or simulated) and require evidence of process • 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

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.

OHS requirements

- are to be in accordance with Commonwealth, State or Territory legislation and regulations, organisational safety policies and procedures
- requirements may include but not be limited to the use of personal protective equipment and clothing, fire fighting equipment, first aid equipment, hazard and risk control and elimination of hazardous materials and substances, manual handling, including lifting and carrying

Legislative requirements

- are to be in accordance with applicable legislation from all levels of government that affect organisational operation
- requirements may include but not be limited to award and enterprise agreements, industrial relations, Australian Standards, confidentiality and privacy, OHS, the environment, equal opportunity, anti-discrimination, relevant industry codes of practice, duty of care and heritage

Organisational requirements

- may include but not be limited to legal, organisational and site guidelines, policies and procedures relating to own role and responsibility, quality assurance, procedural manuals, quality and continuous improvement processes and standards, OHS, emergency and evacuation, ethical standards, recording and reporting, access and equity principles and practices, equipment use, maintenance and storage, environmental management (waste disposal, recycling and re-use guidelines)

Design brief

- is to include the aims, objectives, milestones for the design project, the point of reference for everyone, elements and principles of design and may include organisational or personal profiles, aims, target audience,

RANGE STATEMENT	
	budget, timeline, consultation requirements, colour requirements, image requirements and function
Appropriate personnel	may include but not be limited to trainers, supervisors, suppliers, clients, colleagues and managers
Communication	may include verbal and non-verbal language, constructive feedback, active listening, questioning to clarify and confirm understanding, use of positive, confident and cooperative language, use of language and concepts appropriate to individual social and cultural differences, control of tone of voice and body language
Material	may include but not be limited to native timber (native and imported), man-made timber products, plastic, metal, alloys, stones, glass, textiles, fibreglass, foam, cardboard, paper products or any other manipulable substance
Sources	may include but not be limited to the origin of the raw material including, the type and location wood was derived from, how and where it was processed, growth impact and available seasoning lead time, the mining source of metal or alloys and how these were processed, the formulas for the composition of plastics, the origin of textiles and how these were milled
Ecological and environmental impact	may include but not be limited to how the use of raw materials effects the ecology and environment and how its continued use will affect the area it has been sourced from, similarly what impact will be felt by reducing or stopping material from the source
Documentation	may include but not be limited to working notes, hand written records, typed information and reports
Elements of design	may include but not be limited to line, shape, form (geometric or organic), texture, colour and function
Principles of design	may include but not be limited to balance, proportion (symmetry, asymmetry), harmony,

RANGE STATEMENT	
	contrast, pattern, movement, rhythm, unity, style, focus, scale, dominant, sub dominant or subordinate relationship, emphasis, proximity, alignment, space, anthropometry, ergonomics, arrangement, workload, materials handling capacity, skills, control, equipment capabilities, aesthetic relations, tension and development methods
Concepts	are to include ideas generated to respond to the design brief through both ideation drawings or sketching and written explanation
Sketches	may include but not be limited to hand drawn images or ideation drawings completed freehand
Working drawings	may include but not be limited to drafted technical drawings or drawings produced on computer using computer aided drafting software packages. These usually contain project specifications
Model	may include any three dimensional product which is made to full size or replicated through maquette. This is usually produced without normal manufacturing techniques, mainly to provide for the analysis of proportion, balance and aesthetic value
Manufacturing process	may include but not be limited to the methods by which the product will be produced, these steps usually entail working from working drawings and specifications, producing components utilising machine operations, assembly of the components and finishing techniques
Equipment	- may include but not be limited to hand tools, static machinery, portable power tools and computer numerically controlled equipment - is to include procedures for lock out protecting operators and co-workers from accidental injury by isolating the machine from the power source
Assembly methods	may include but not be limited to nailing, gluing, screwing, welding, pressing, sewing, bonding, jointing or connecting various materials

RANGE STATEMENT	
Components	may include but not be limited to the parts which make up the whole of a product. Each component is often requires some level of machining to result in the desire part
Finishing	may include but not be limited to paints, waxes, lacquers, stains, pigments, oils and plastic coatings
Packaging and despatch	may include but not be limited to wrapping in fabric, plastic wrapping, shrink wrapping, boxing, foam shells and despatch by truck, trailer, train, plane or ship
Product lifecycle	is the evolution of a product from its raw source, through its inception, development, manufacture, completion and time as a completed product until potential renewal

Unit Sector(s)

Unit sector	Furniture design and technology.
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		