



Australian Government

Department of Education, Employment and Workplace Relations

LMFFDT5008A Design a furniture product using high volume technology services (HVTs) in production

Release: 1

LMFFDT5008A Design a furniture product using high volume technology services (HVTs) in production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit specifies the outcome required to identify qualities of high volume technology production and design a furniture product which utilises this technology to produce details and components for the design.
------------------------	---

Application of the Unit

Application of the unit	This unit supports the attainment of skills and knowledge required for competent workplace performance in the wide variety of furniture maker operations. The competency applies to a custom furniture business and/or design support environment and involves application of skills and knowledge at a Diploma level. These skills and knowledge are to be used within the scope of the individual's job and authority. This unit covers employability skills in teamwork and communication in order to work with others in the design process. Planning and organising and problem solving skills are required to apply design processes and initiative and enterprise are required to develop design ideas. Self management and learning skills are applied to assess and reflect on own design skills and identify areas for improvement.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and analyse qualities and properties of HVTS	1.1. Applicable legislative, OHS and enterprise requirements relevant to the design of furniture product using high volume technology production services are verified and complied with 1.2. Details of types of high volume technology production methods are identified and documented 1.3. Details of qualities and properties of high volume technology services are analysed and reviewed for suitability for furniture products 1.4. Features of high volume technology production methods are identified 1.5. Resource and equipment implications for high volume technology production methods are assessed
2. Research product needs	2.1. All external parameters affecting the design of the furniture product are obtained from the client or from information sources 2.2. Client needs for product are obtained and recorded 2.3. Inspirational information is collected from relevant sources 2.4. Visual needs of the product are identified and documented 2.5. Ethical considerations are obtained, reviewed and documented 2.6. Product needs are prioritized and recorded in accordance with enterprise practice
3. Prepare the design brief	3.1. Product needs and external parameters and factors are reviewed and clarified with the client 3.2. Report on product needs is produced including HVTS opportunities 3.3. Feedback from the client is recorded 3.4. Details of changes are negotiated with client and recorded 3.5. Outcomes of design process are clarified and agreed to with client 3.6. Design brief is prepared and documented including budget, time lines, production needs and methods
4. Generate ideas in response to design brief	4.1. All relevant information on product need and client needs are analysed and absorbed. 4.2. Ideas are generated from information provided using lateral thinking methods 4.3. Ideas are visually presented 4.4. Ideas are matured through review and reworking 4.5. New ideas are generated from initial ideas 4.6. Final ideas are visually presented

ELEMENT	PERFORMANCE CRITERIA
5. Evaluate and develop design proposals	5.1. Each design idea is evaluated against design brief and requirements for HVTS production 5.2. Design proposals are scored against weighted assessment criteria and results recorded 5.3. Feasible high scoring design proposals are selected for further development 5.4. Design proposals are completed in response to evaluation feedback
6. Present product proposals to client	6.1. Product proposals are prepared for presentation to client 6.2. Presentation arrangements are made, checked and confirmed 6.3. Design proposals are presented to the client 6.4. Client feedback is gained, analysed and confirmed 6.5. Design proposals are completed with consideration to client feedback
7. Produce final product proposal information ready for making	7.1. Construction details are finalised and documented 7.2. Visual aspects of product proposal are documented 7.3. Part details are documented 7.4. Manufacturing methods are documented 7.5. Details are recorded in accordance with enterprise practice

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge for this unit.

Required skills

- collect, organise and understand information related to the needs for a furnishing product
- communicate ideas, information and advice to client to enable confirmation of design requirements, plans and specifications
- prepare and present information visually using contemporary techniques and technologies
- prepare design proposals
- listen to clients needs
- work with others and in a team to understand product needs and produce design proposals
- reviewing information provided and creatively generate proposals for a furnishing product
- apply research, analytical and mathematical skills to the identification and selection of materials and the selection of appropriate production and construction techniques for the product
- create innovative designs which satisfy the agreed parameters and consider but are not limited by other historical or contemporary influences
- recognise and respond to circumstances outside instructions or personal competence
- adopt a proactive relationship with the client
- identify new enterprise opportunities when developing product proposals
- plan activities covering the choice of design method, the preparation and layout of the product proposals
- use mathematical ideas and techniques to correctly complete technical details of the proposed designs
- clarify and confirm work instructions
- plan design work within given task parameters
- accept responsibility for given tasks
- set, monitor and satisfy personal design work goals
- satisfy the competency requirements for the job
- maintain current knowledge of HVTS
- maintain current knowledge of design methods
- seek learning opportunities
- use the workplace technology related to the production of technical information for production details
- use of workplace electronic media to communicate with client, suppliers and subcontractors.

Required knowledge

- State or Territory OHS legislation, regulations, standards and codes of practice relevant to the design of furniture maker product
- ideas generation and conceptual development techniques

REQUIRED SKILLS AND KNOWLEDGE

- historical furniture styles and movements
- contemporary furniture styles and movements
- design methodology
- current ethical issues in society affecting furniture-makers
- ergonomic and anthropometric standards
- environmental issues in making a furnishing product
- visual aesthetics of furnishing products
- current market segment products
- high volume technology production methods
- production methodologies of furniture makers
- physical needs of product type
- materials used to produce furnishing products
- materials and finishes
- making techniques for product types
- costing techniques including overhead components
- options and technologies for presenting visual information
- established communication channels and protocols
- problem identification and resolution methods
- document control methods.

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, the Range Statement and the Assessment Guidelines for the relevant Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures for designing and production of a furniture product
- Identify the features of HVTS and required specifications when incorporating in the design of a furniture product
- Document and communicate three product proposals including: customer requirements, aesthetics, materials and construction, costing calculations for products, materials and finishes, and HVTS components
- Document product needs analysis
- Evaluate product proposals
- Work effectively with others
- Modify activities to cater for variations in workplace contexts and environment

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
 - a realistic product need
 - specific information product type needs,
 - specifications and client instructions
 - details of the product requirements and options

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

EVIDENCE GUIDE	
	• Assessment methods must be by direct observation of 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 other related 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 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 requirements	- are to be in accordance with applicable legislation from all levels of government that affect enterprise 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
OHS requirements	are to be in accordance with Commonwealth, State or Territory legislation and regulations, enterprise safety policies and procedures
Organisational requirements	may include but not be limited to legal, enterprise, 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)
High volume technology services	may include but not be limited to laser cutting, machine point to point cutting, water jet cutting, plasma cutting, SLA and computer numeric controlled machining
Inspirational information	- may include but not be limited to catalogues, brochures, magazines, existing products, reference books and other existing enterprise design information - may also include but not be limited to transferable technological ideas or concepts, natural or man-made structures and objects
Visual needs of the product	may include but not be limited to point, line, plane, volume, shape, form, tone, colour, surface, texture, scale, size, vertex, edge, face, position, direction, space, balance, movement, proportion, rhythm, repetition, pattern, relief, mass and movement
Ethical considerations	may include but not be limited to issues relating to social justice, environmental sustainability, biodiversity, cultural heritage and social responsibility of furniture makers

RANGE STATEMENT

Lateral thinking methods	- may include but not be limited to suspending belief, looks for gaps of need, alternatives, daydreaming, creative leaping, filaments, brainstorming, six thinking hats and asking questions of norms and beliefs - outcomes of lateral thinking has no range by definition as it cannot be predefined and not judged in the process of generation
---------------------------------	---

Unit Sector(s)

Unit sector	Furniture design and technology.
--------------------	----------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		