



Australian Government

MSFFDT5001 Apply ergonomics, anthropometrics and proxemic considerations to a product

Release: 1

MSFFDT5001 Apply ergonomics, anthropometrics and proxemic considerations to a product

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers applying ergonomic, anthropometric and proxemic considerations to a product with integral design elements and principles based on a given design brief in an industry workplace or design studio environment. It involves application of skills and knowledge at a paraprofessional level.

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

Pre-requisite Unit

Competency Field

Unit Sector

Furniture design and technology

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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| 1 | Plan for application | 1.1 | Applicable work health and safety (WHS), legislative and organisational requirements relevant to applying ergonomics, anthropometrics and proxemic considerations to a product are verified and complied with |
| | | 1.2 | Design brief is reviewed, confirmed and clarified with appropriate personnel |
| | | 1.3 | Client requirements and desires are reviewed, confirmed and clarified |
| | | 1.4 | Communication with others is established and maintained |
| | | 1.5 | Problems or underlying factors to be addressed by the |

		design brief are verified
	1.6	Elements of design are diagnosed for the intended design brief
	1.7	Principles of design are diagnosed for the intended design brief
2	Apply ergonomics, anthropometrics and proxemics	2.1 Concepts for the proposed solution to the design brief are reviewed for ergonomic, anthropometric and proxemic considerations 2.2 Human body functions are assessed in the context of solutions for possible problems in supporting bodies of all shapes and sizes 2.3 Ergonomic factors of a design are interrogated and refined 2.4 Anthropometric factors of a design are interrogated and refined 2.5 Proxemic considerations of a design are interrogated and reviewed 2.6 Sample maquette and prototype are reviewed in accordance with ergonomics, anthropometrics and proxemics 2.7 Different solutions to satisfy the requirements of the design brief are explored and reviewed 2.8 Final working drawings in full scale are developed to test the ergonomic values of a design 2.9 Specifications are reviewed and compiled in readiness for production 2.10 Concept is planned for manufacture taking into account available equipment, resources, production sequences, schedules and timelines

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency. Detail on appropriate performance levels for each furnishing unit of competency in reading, writing, oral communication and numeracy utilising the Australian Core Skills Framework (ACSF) are provided in the Furnishing Training Package Implementation Guide.

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Range is restricted to essential operating conditions and any other variables essential to the work environment.

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| Unit context includes: | <ul style="list-style-type: none">• WHS requirements, including legislation, building codes, material safety management systems, hazardous and dangerous goods codes, and local safe operating procedures or equivalent• work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling procedures and organisation insurance requirements• work requires individuals to demonstrate conceptual and analytical ability, discretion, judgement and problem solving• customers or suppliers may be internal or external |
| Design brief includes: | <ul style="list-style-type: none">• the aims, objectives, milestones for the design project• organisational or personal profiles• target audience• budget• timeline• consultation requirements• colour requirements• image requirements• function |
| Appropriate personnel include: | <ul style="list-style-type: none">• trainers• supervisors• suppliers• clients• colleagues• managers |
| Clients include: | <ul style="list-style-type: none">• suppliers• manufacturers |

Principles of design include:	• private clients • colleagues • retailers • the public • balance • proportion (symmetry and asymmetry) • harmony • contrast • pattern • movement • rhythm • unity • style • focus • scale • dominant • sub-dominant • subordinate relationship • emphasis • proximity • alignment • space • anthropometry • ergonomics • arrangement • workload materials handling capacity • skills available • equipment capabilities • aesthetic relations • tension • development methods
Concepts include:	• ideas generated to respond to the design brief through both ideation drawings or sketching and written explanation
Ergonomics include:	• the study of the efficiency of persons in their working environment
Anthropometrics include:	• the scientific study of the measurements of the human body
Proxemics include:	• the study of socially conditioned spatial factors in ordinary human relations
Maquette includes:	• a miniature version of the intended final product to establish if the elements and principles of design have been achieved

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| Prototypes include: | <ul style="list-style-type: none">• a full size replica of the intended product outcome based on concept sketches and freehand development drawings, produced from stiff cardboard, scrap timber or moulding clay |
| Working drawings include: | <ul style="list-style-type: none">• drafted technical drawings or drawings produced on computer using computer-aided design (CAD) software packages |
| Specifications include: | <ul style="list-style-type: none">• the measurements and procedures by which a product is constructed, and materials to be utilised |
| Manufacturing processes include: | <ul style="list-style-type: none">• the methods by which the product will be produced, these steps entail working from working drawings and specifications, producing components utilising machine operations, assembly of the components and finishing techniques |
| Information and procedures include: | <ul style="list-style-type: none">• work procedures/instructions• manufacturer specifications and instructions• standard forms of workplace process and procedures• organisation work specifications and requirements• legislation, regulations and codes of practice• quality and Australian Standards and procedures |

Unit Mapping Information

Supersedes and is equivalent to LMFFDT5001A Apply ergonomics, anthropometrics and proxemic considerations to a product

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

Assessment Requirements for MSFFDT5001 Apply ergonomics, anthropometrics and proxemic considerations to a product

Modification History

Release 1 - New unit of competency

Performance Evidence

- Collect, organise and understand information related to furnishing work instructions and work orders and safety procedures
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- Identify materials used in the work process
- Follow work instructions, operating procedures and inspection processes to:
 - minimise the risk of injury to self or others
 - prevent damage to goods, equipment and products
 - maintain required production output and product quality
- Apply ergonomics, anthropometrics and proxemic considerations to enhance a product for a design brief
- Apply design elements and principles to the application of ergonomics, anthropometrics and proxemic considerations to a product
- Use mathematical ideas and techniques to correctly complete measurements, calculate area and estimate material requirements
- Lead others and work effectively to improve production quality and outcomes
- Communicate ideas and information to enable confirmation of work requirements and specifications and the reporting of work outcomes and problems, interpret basic plans and follow safety procedures
- Use workplace technology related to the coordination, including communication equipment, time and management aids and other measuring devices
- Minimise wastage of resources, including materials, time and money
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity and encourage participation of employees in the planning of work activities and changes

Knowledge Evidence

- State or territory WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for applying ergonomics, anthropometrics and proxemic considerations to a product
- Organisational and site standards, requirements, policies and procedures for applying ergonomics, anthropometrics and proxemic considerations to a product
- Elements and principles of design
- Ergonomics, anthropometrics, proxemics and aesthetic values

- Human body functions
- Types of tools and equipment and procedures for their safe use, operation and maintenance
- Characteristics of materials, products and defects
- Set-up and operation of equipment
- Relevant computer programs
- Product machining, assembly and finishing techniques
- Sketching and drawing
- Storage systems and labelling
- Australian Standards for product design
- Procedures for the recording, reporting and maintenance of workplace records and information
- Appropriate mathematical procedures for estimation and measurement
- Environmental protection requirements
- Established communication channels and protocols
- Relevant problem identification and resolution

Assessment Conditions

- Assessors must:
 - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors
 - have vocational competency in the furnishing industry at least to the level being assessed with broad industry knowledge and experience, usually combined with a relevant industry qualification
 - be familiar with the current skills and knowledge used and have relevant, current experience in the furnishing industry.
- Assessment methods must confirm consistency of performance over time rather than a single assessment event and in a range of workplace relevant contexts.
- Assessment must be by observation of relevant tasks with questioning on underpinning knowledge and, where applicable, multimedia evidence, supervisor's reports, projects and work samples.
- Assessment is to be conducted on single units of competency or in conjunction with other related units of competency. Foundation skills are integral to competent performance in the unit and should not be assessed separately.
- Assessment must occur on the job or in a workplace simulated facility with relevant process, equipment, materials, work instructions and deadlines.
- Access is required to materials and equipment relevant to applying ergonomics, anthropometrics and proxemic considerations to a product and specifications

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