



Australian Government

Assessment Requirements for MSFFDM4003 Construct and evaluate prototypes and samples

Release: 1

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Modification History

Release 1. Unit code and title changed. Application changed. Elements and Performance Criteria changed. Range of Conditions removed and relevant content moved to the Assessment Requirements. Assessment Requirements changed to remove duplication with Performance Criteria. Supersedes and is not equivalent to MSFFDT4005 Construct and evaluate furniture prototypes and samples, and MSFFT4006 Construct prototypes and samples.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- construct two different prototypes or samples from concept sketches and freehand development drawings, and in doing so:
 - interpret a design brief to apply design elements and principles
 - identify compatibility or incompatibility of materials, adhesives, fittings and fasteners for the application
 - select and apply appropriate joinery, construction and finishing techniques
 - select and use appropriate materials, equipment and processes for the item being constructed
 - show how the design of the prototype components relates to the expected life of the item
 - ensure that the prototype satisfies the original or varied specification.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the function and features of a design brief, including:
 - the aims, objectives, milestones for the design project
 - target audience
 - budget
 - timeline
 - consultation requirements
 - colour requirements
 - image requirements
 - function
- the characteristics and behaviours of a broad range of materials, including:
 - scrap timber and manmade timber

- plastics
- metal and metal alloys
- stone
- glass
- fabrics and textiles
- fibreglass
- leather
- foam
- cardboard and paper products
- any other manipulable substance
- adhesives
- fillers and finishes
- assembly processes, including:
 - nailing
 - gluing
 - screwing
 - welding
 - pressing
 - sewing
 - bonding
 - jointing
 - connecting various materials
- work health and safety legislation, regulations, standards and codes of practice relevant to the full range of processes for the construction of prototypes and samples
- workplace and site standards, requirements, policies and procedures for constructing prototypes and samples
- environmental protection requirements in relation to the selection and use of materials
- established communication channels and protocols relevant to the prototyping process, including stakeholder or client communications
- relevant problem identification and resolution to meet job specifications in terms of function, aesthetics, elements and principles of design, technical integrity and ergonomics
- elements and principles of design, including:
 - line
 - shape
 - form (geometric or organic)
 - texture
 - colour
 - function
- principles of ergonomic design and aesthetic values
- types of tools and equipment and procedures for their safe use, operation and maintenance
- set-up and operation of equipment

- design and other relevant software and applications used in prototyping
- product assembly techniques
- sketching and drawing methods, including:
 - isometric
 - oblique
 - perspective
 - orthographic
 - elevation drawings that explode the parts of the concept sketches and include:
 - rough sizes
 - scale
 - tones
 - values
- storage systems and labelling
- procedures for the recording, reporting and maintenance of workplace records and information
- appropriate mathematical procedures for estimation and measurement
- 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.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -

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