



Australian Government

**Assessment Requirements for
MSFFDM5004 Design product suitable for
high-volume technology services in
production**

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Modification History

Release 1. Unit code and title changed. Application changed. Elements and Performance Criteria changed and updated to active voice. Range of Conditions removed and relevant content moved to Assessment Requirements. Assessment Requirements changed. Supersedes and is not equivalent to MSFFDT5006 Design a furniture using high volume technology services (HVTs) in production.

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:

- successfully produce design proposals using three different materials requiring different high-volume machinery for production, and in doing so:
 - collect, organise, read and interpret information including workplace procedures, manufacturer and materials specifications and client requirements
 - identify potentially suitable materials to use in the work process and ensure these are acceptable for both client needs and high-volume technology services that may be on- or offsite
 - follow industry best-practice in design briefing coverage, including budget, timelines, product measurements and other specifications, production needs and methods and potential external collaborators/partners
 - follow workplace best-practice in communicating with both internal and external clients and collaborators to ensure transparency of process and that clients' needs are met
 - develop and present final product proposals that balance the limitations and opportunities of batched and limited production for products with client functional and aesthetic needs, including cost-effective use of materials and tools or equipment
 - apply mathematical ideas and techniques to correctly complete measurements, calculate area and estimate material requirements and product/production costs as part of design proposal
 - evaluate the variations in costs and other benefits associated with different production methods and production runs of different sizes
 - lead others and work effectively in a team to improve design quality and outcomes
 - recognise dependencies in the workplace and across the wider production team (which may include external collaborators) and use cooperative approaches to optimise workflow and productivity.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- historical and contemporary art and design styles and movements
- design methodologies
- ergonomic and anthropometric standards
- visual aesthetics of products being designed
- ideas generation and conceptual development techniques, including:
 - suspending belief
 - looking for gaps of need alternatives
 - daydreaming
 - creative leaping
 - filaments
 - brainstorming
 - six thinking hats
 - asking questions of norms and beliefs
- current market segment products, and suitable online and offline sources of inspiration and possible design elements that will meet client needs:
 - brochures
 - magazines
 - websites such as online galleries and retail sites
 - design forums
 - reference books
 - other existing workplace design information
 - transferable technological ideas or concepts
 - natural or man-made structures and objects
- current ethical issues in society affecting makers and designers, including but not limited to:
 - social justice
 - environmental sustainability
 - ethical sourcing of material
 - biodiversity
 - cultural heritage and sensitivities
 - social responsibilities of makers and designers
- all aspects of the product design, including but not limited to:
 - shape and dimension
 - materials
 - colour
 - texture, patterns and relief
 - the site and positioning of the end product
 - ability to produce in batches or limited production runs
 - ability to adapt the design to different production methods or volumes

- production methodologies of furniture (or similar) manufacturers, including suitability of different high-volume technology methods for a range of materials and output volumes
- production methods, processes and input requirements for high-volume technology services including:
 - laser cutting
 - machine point to point cutting
 - water jet cutting
 - plasma cutting
 - stereolithography (SLA) and computer numerically controlled (CNC) machining
- making techniques for products based on materials selection
- materials and finishes used to produce products, including their specifications, behaviours and limitations
- costing techniques including components overheads and wastage
- design-based softwares and other tools suitable for presenting design briefs, design ideas and product proposals for a range of clients, both internal and external, and both local and international
- established workplace communication channels and protocols including document control methods
- relevant work health and safety legislation, regulations, standards and codes of practice relevant to the design and manufacture of products
- 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, including:
 - design software that reflects current industry standards
 - access to workplaces that provide high-volume technology services

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>