



Australian Government

MSFFDM5009 Generate and transfer complex computer-aided drawings and specifications

Release: 1

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Modification History

Release 1. Unit Code and Application changed. Elements and Performance Criteria simplified and changed to active voice. Range of Conditions removed with relevant information moved to assessment requirements. Assessment Requirements changed. Supersedes and is equivalent to MSFDN5001 Generate and transfer complex computer-aided drawings and specifications.

Application

This unit describes the skills and knowledge required to prepare complex drawings using computer-aided techniques and capabilities, including three-dimensional (3D) modelling, exploded assembly drawings and conversion of drawings for computer numerically controlled (CNC) applications.

This unit applies to individuals working in design and manufacturing roles who produce and manage complex computer-aided drawings and specifications, either alone or as part of an internal or external team.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Furniture design and manufacturing – general

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Create exploded assembly drawings	1.1 Obtain and complete drawing preparations, including applying expected features of drawing 1.2 Prepare accurate 3D models for all components 1.3 Create and confirm perspective view of model 1.4 Explode model so that all components are visible 1.5 Label all individual components in accordance with workplace requirements 1.6 Complete quality checks to ensure accuracy of outcomes 1.7 Store drawings in accordance with workplace requirements

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
2. Create job sheets	2.1 Identify and complete preparations in accordance with workplace requirements 2.2 Set up job sheet template in accordance with workplace requirements and practices 2.3 Create and accurately dimension necessary orthographic views 2.4 Identify and accurately list sequencing of machine operations, safety and operator requirements 2.5 Prepare, review and test draft job sheets and amend to workplace requirements 2.6 Store job sheets in accordance with workplace requirements
3. Convert drawings for CNC applications	3.1 Identify and confirm conversion requirements from CNC machine specifications 3.2 Create layers and additional information required for final conversion 3.3 Assign drawing entities to relevant layers 3.4 Complete conversion to required file type 3.5 Store converted file in accordance with workplace requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Numeracy skills to interpret technical information and perform calculations and measurements.

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSFDN5001 Generate and transfer complex computer-aided drawings and specifications.

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 MSFFDM5009 Generate and transfer complex computer-aided drawings and specifications

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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:

- create two exploded assembly drawings that include:
 - preparation of 3D models
 - creation of perspective views
 - exploding the models to expose all components
 - industry-standard features: drawing name, labelling of all components, dimensions and/or scale bar and specifications
- create two confirmed job sheets that have the necessary orthographic views and all required management and inventory information including file storage, product coding, inventory information and drawing management requirements
- convert two drawings for CNC application, including the creation of layers, assignment of drawing entities and the protection and storage of converted files
- apply information management strategies to manage and store the drawings and job sheets produced (both hardcopy and digital), including version control.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- key aspects of professional design practice
- type, range, uses and limitations of contemporary computer-aided design (CAD) software and applications
- construction processes in the relevant context
- types of construction materials and their characteristics, uses and limitations in the relevant context
- workplace information management systems and processes related to drawings.

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:
 - product specifications
 - computer-aided drawing equipment and current industry-standard software.

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

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