

Modification history

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version [4.0] Version created to clarify intent of unit in application and add minor edits.
Release 1	This version replaces equivalent unit FPITMM5203B Generate and transfer complex computer-aided drawings and specifications, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2. This is the first release of this unit in the new standards format.

UNIT CODE	FWPTMM5203 Generate and transfer complex computer-aided drawings and specifications
Application	<p>This unit of competency describes the skills and knowledge required to prepare complex drawings using computer-aided techniques and capabilities including three dimensional (3-D) modelling and exploded assembly drawings. Work involves conversion of drawings for computer numerically controlled (CNC) applications and is completed in an engineered timber product manufacturing facility, forest products factory setting.</p> <p>The unit applies to individuals who work as <u>timber product designers and production managers. They generally demonstrate autonomy, judgement and defined responsibility in known or changing contexts and within broad but established parameters. (Manufacturing and Engineered Wood Products), Production Manager (Timber Truss & Frame), Designer (Timber Truss & Frame)</u></p> <p>No licensing, legislative, regulatory, or certification requirements apply to this unit at the time of publication.</p>
Prerequisite Unit	Nil
Unit Sector	Timber Manufactured Products Timber Merchandising

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for drawing	1.1 Identify type of drawings to be created with computer-aided design (CAD) systems and clarify where required with appropriate personnel 1.2 Select appropriate equipment and check for operational effectiveness in line with manufacturer's recommendations 1.3 Plan CAD process in line with organisational procedures
2. Create exploded assembly drawings	2.1 Obtain and complete drawing preparations 2.2 Prepare 3-D models for all components 2.3 Create perspective view of model in line with drawing specifications 2.4 Explode model so all components are visible 2.5 Label all individual components in line with organisational format 2.6 Complete quality checks to ensure accuracy of outcomes 2.7 Store drawings in line with organisational procedures
3. Create job sheets	3.1 Select and complete job sheet preparations 3.2 Set up job sheet template in line with organisational formats 3.3 Create orthographic views and incorporate dimensions 3.4 Specify sequencing of machine operations and operator requirements 3.5 Prepare, review and test draft job sheets and amended as required 3.6 Store job sheets in line with organisational procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Convert drawings for CNC applications	4.1 Identify and check conversion requirements from CNC machine specifications 4.2 Create layers and obtain additional information required for final conversion 4.3 Assign drawing entities to relevant layers 4.4 Convert drawings to required file type 4.5 Store converted file in line with organisational procedures 4.6 Record generation process and any equipment faults and report to appropriate personnel

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Foundation Skills	
<i>This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.</i>	
Skill	Description
Numeracy	<ul style="list-style-type: none"> calculate dimensions for product components and clearly represent these in drawings
Oral communication	<ul style="list-style-type: none"> ask open and closed probe questions and actively listen to clarify types of drawings to be completed
Reading	<ul style="list-style-type: none"> interpret detailed familiar and unfamiliar: <ul style="list-style-type: none"> organisational procedures for computer drawing activities templates CNC machine specifications
Writing	<ul style="list-style-type: none"> incorporate unambiguous notes, labels and instructions within drawings complete accurate basic reports on drawing processes and equipment faults
Plan and organise	<ul style="list-style-type: none"> plan and organise own work in logical sequence and manage own timing and productivity to complete drawings within deadlines
Problem-solving	<ul style="list-style-type: none"> complete quality checks throughout the drawing process, identify inaccuracies and amend recognise faulty equipment and resolve by reporting or rectifying problems
Technology	<ul style="list-style-type: none"> use a computer, keyboard and the system capabilities of CAD system software to generate and transfer complex drawings

Unit Mapping Information			
Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM5203 Generate and transfer complex computer-aided drawings and specifications	FWPTMM5203 Generate and transfer complex computer-aided drawings and specifications	Clarified intent of unit in application and added minor edits	Equivalent unit

Links	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47
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TITLE	Assessment requirements for FWPTMM5203 Generate and transfer complex computer-aided drawings and specifications
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Performance Evidence

An individual demonstrating competency must satisfy all of the elements, performance criteria and foundation skills of this unit. There must be evidence that, on at least one occasion, the individual has:

- ~~generated and transferred~~ transferred the following types of complex computer-aided drawings using a CAD system
- ~~generated these different types of computer-aided drawings:~~
 - ~~:~~
 - 3-D models
 - perspective - one, two and three point perspective drawings one, two and three point perspective drawings
 - orthographic and exploded views
 - plans
 - diagrams
 - charts
 - elevations
- across ~~the~~ four drawings, incorporated these drawing entities:
 - lines
 - arcs
 - circles
 - text
 - hatch
 - dimensions
 - labels
- converted each complex drawing for use in CNC machine operating centres
- created a job sheet for each complex drawing
- completed a basic report, for each drawing job, on drawing processes and equipment faults.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- common products for which computer aided drawings are produced, their features, use and standard material sizes
- ways in which computer aided drawings are applied to CNC machines
- CNC specifications and sequencing of machine operations for production of common products
- for the drawing software:
 - available drawing types
 - system functions and capabilities
- methods to input and amend design factors and other data
- methods to:
 - prepare 3-D models
 - prepare perspective view
 - prepare orthographic view and incorporate dimensions
 - explode models
 - label components
 - convert drawings for CNC applications
 - store and retrieve drawings and job sheets
- formats for and inclusions of job sheets
- organisational procedures specific to producing drawings and documents using computers:
 - producing job sheets
 - filing computerised drawings and documentation.

Assessment Conditions

Assessment of skills must take place under the following conditions:

Assessment Conditions	
<ul style="list-style-type: none">• physical conditions:<ul style="list-style-type: none">• skills must be demonstrated in an environment that accurately represents workplace conditions• resources, equipment and materials:<ul style="list-style-type: none">• computers, keyboards and industry current software programs used to produce computer aided drawings and job sheets• specifications:<ul style="list-style-type: none">• CNC machinery specifications• template job sheets• organisational procedures for producing drawings and documents using computers• relationships:<ul style="list-style-type: none">• relevant personnel for the purposes of communicating information <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p>	
Links	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47

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