

Modification history

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

FWPCOT4XXX	Design timber structures
Application	This unit of competency describes the skills and knowledge required to interpret construction plans and design timber roof truss, wall frame and floor components for the structure. Structures include solid brick, brick veneer and timber frame domestic houses and free-standing or attached timber structures such as pergolas. Work is completed in a timber and wood products production setting and includes providing production advice and explanation of designs. The unit applies to designer, customer service/sales assistants (retail or wholesale), customer service officers, sales and merchandising team leaders, sales and merchandising team leaders (timber products), timber advisors. This unit is suitable for those using specialised knowledge to complete routine and non-routine tasks and using their own judgement to deal with predictable and sometimes unpredictable problems. No licensing, legislative or certification requirements apply to this unit at the time of publication.
Prerequisite Unit	Nil
Unit Sector	Common technical (COT)

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. Interpret construction plans	1.1 Determine type of structure, building use and site location from construction plans and specifications 1.2 Interpret and assess construction plans, drawing views and specifications to identify loading information, dimensions, design details 1.3 Obtain additional information and data from appropriate building codes, standards and regulations 1.4 Identify design or construction limitations or relaxation requirements 1.5 Design a functional timber truss, frame or floor structure and draw a pictorial image based on design requirements
2. Develop and select timber structure layout options	2.1 Transfer fixed design details to component layout drawings 2.2 Nominate engineered or pre-assembled components in line with budgetary constraints 2.3 Define design sizes and spacing details in line with industry codes and standards 2.4 Select layouts and spacing of individual structural members progressively to meet design requirements 2.5 Fix component sizes to clarify and firm design options

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
3. Detail timber structure component design	3.1 Calculate, scale or extract physical dimensions for components from applicable code tables 3.2 Interpret effective lengths and spans for individual components from layout, and select cross-sections in line with applicable codes 3.3 Select material options for suitability, availability, cost effectiveness and use consistently throughout design 3.4 Provide alternative materials and sizes for components within scope of design and production requirements 3.5 Design component placement and spacing to meet construction plans and specifications 3.6 Provide design specifications for engineered or pre-assembled components in line with manufacturer's recommendations 3.7 Present detailed and accurate production information, dimensions and notes within drawing views 3.8 Complete and maintain design records and documentation in line with organisational procedures
4. Provide design and production advice	4.1 Answer questions about designs and assembly requirements clearly and comprehensively 4.2 Use effective communication techniques to assist and develop production personnel 4.3 Produce clear and detailed documents to support interpretation of drawings and assist with production and installation

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
Oral communication	- Ask detailed open and closed probe questions and actively listen to clarify contents of designs, plans, drawings and notes - Provide clear unambiguous information about designs and assembly requirements - Negotiate solutions to site installation problems
Numeracy	- Interpret numerical data from designs involving height, length, angles, shape and load - Input complex numerical data into designs for layout, spacing and dimensions of structural members

Unit Mapping Information			
Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4XXX Design timber structures	FWPCOT4202 Design timber structures	Application clarified Elements renamed Performance Criteria, Foundation Skills and Assessment Requirements updated	Equivalent unit

Links	
	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47

TITLE	Assessment requirements for FWPCOT4XXX Design timber structures
Performance Evidence	
An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has: - designed floor framing, wall framing and roof trusses for a structure with a minimum of 100 square metres - met the design requirements of the construction plan, building codes and standards - prepared and documented designs for timber structures in line with an individual design and set of drawing views and notes - interpreted and calculated loading conditions from construction plans and specifications - interpreted and applied technical information and conveyed information in written, sketch and oral form - developed and selected truss, frame and floor layout options - provided design and production advice.	
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: - organisational policies and procedures for designing preparing drawings, documenting and communicating information relating to timber floor and wall frames and roof trusses. - applicable building regulations, codes and standards: - AS1684 and supplementary tables - CSIRO supplementary tables - National Construction Code (NCC) - dimensions defining geometry and loading of individual structural members - industry standard layouts, spacing and sizing dimensions of individual members for timber floor, wall frames, roof trusses - loading information: - live and dead loads - construction industry terminology for all components of timber wall frames, roof and floor trusses - characteristics, properties and limitations of timber products and components: - nail/connector plates - timber species and types - processes and methods of: - producing structural layout drawings and assembly drawings - producing designs for timber floor, wall and roof structures - applying mass, wind, live and dead loads to a structure - determining impact of surrounding buildings - key features of constructions plans	
Assessment Conditions	
Assessment of the skills in this unit of competency must take place under the following conditions: - physical conditions: - skills must be demonstrated in the workplace or an environment that accurately represents workplace conditions - resources, equipment and materials: - construction plans and specifications - computer and drawing programs - specifications: - AS1684 and supplementary tables - CSIRO supplementary tables - National Construction Code (NCC) - relationships: - persons to communicate with and assist with production	

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