



Australian Government

FWPCOT4201 Produce complex truss and frame plans and details using computers

Release: 1

FWPCOT4201 Produce complex truss and frame plans and details using computers

Modification History

Release	Comment
1	Replaces superseded equivalent FPICOT4201B Produce complex truss and frame plans and details using computers, which was first released with FPI11 Forest and Forest Products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.

Application

This unit of competency describes the outcomes required to use computerised systems to produce complex truss or frame plans, including layout production, fabrication and installation instructions. Work is completed in a forest and wood products office setting.

The unit applies to a designer or developer of truss and frame plans.

No licensing, legislative, regulatory, or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
1. Interpret plans and	1.1 Interpret and assess plans, drawing views and notes; identify

ELEMENTS	PERFORMANCE CRITERIA
loading conditions	loading information, design requirements and restrictions. 1.2 Obtain additional information and data from appropriate personnel or sources. 1.3 Create functional and pictorial image of structure, trusses or frames based on design requirements. 1.4 Refer design requirements outside software limitations to appropriate personnel for resolution.
2. Test and select design options	2.1 Transfer fixed design details to layout data in line with software requirements. 2.2 Specify frame or truss design types, and select timber type and species in line with material suitability and availability. 2.3 Set common industry spacing of frames, trusses and their components to defined design structure in line with industry standards. 2.4 Fix component sizes to clarify and firm design options. 2.5 Select layouts, spacing and sizing of individual structural members progressively in line with software requirements. 2.6 Select, review and revise design details in line with work order.
3. Produce layouts and cutting requirements	3.1 Review design records for design integrity, completeness and consistency in line with certifying authority standards. 3.2 Produce structure layout drawings and truss or frame assembly drawings using appropriate software. 3.3 Produce component cutting detail in line with production requirements and schedules. 3.4 Prepare and document production and installation advice in line with organisational procedures and industry standards. 3.5 Complete and maintain design records and documentation in line with organisational procedures.
4. Provide advice on design and production issues	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 Provide alternative materials and sizes for components within design scope and production requirements. 4.4 Discuss common site problems and select appropriate prevention strategies to ensure future practice meets design requirements.

Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.

Numeracy skills to:	- interpret numerical data from designs involving height, length, angles, shape, and load - input complex numerical data into software systems for layout, spacing and dimensions of structural members.
Oral communication skills to:	- 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.
Reading skills to:	interpret detailed and unfamiliar designs and technical notes.
Writing skills to:	- input clear written text into software systems - produce clear and detailed documents to support interpretation of drawings and assist with production and installation.
Planning and organising skills to:	plan and organise own work in logical sequence and manage own timing and productivity to complete plans, drawings and documents within deadlines.

Range of Conditions

Not Applicable

Unit Mapping Information

FPICOT4201B Produce complex truss and frame plans and details using computers

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4201 Produce complex truss and frame plans and details using computers

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Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. If a specific volume or frequency is not stated below, then evidence must be provided that the following requirements have been performed on at least one occasion:

- prepare and document computerised plans and details of manufactured timber products in line with an individual design and set of drawing views and notes using appropriate software, systems and techniques
- produce component cutting details
- prepare a package of production and installation advice documents to support interpretation of plans and drawings.

Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- computer software and hardware used to produce complex truss and frame plans and details including:
 - system functions and capabilities
 - available drawings
 - design limitations
 - methods to input and amend design factors and other data

- methods used to produce structural layout drawings, assembly drawings and component cutting detail
- methods to store and retrieve drawings and other data
- building and structural regulations for complex timber wall frames, roof and floor trusses
- common industry terminology for all components of complex timber wall frames, roof and floor trusses
- common industry standard layouts, spacing and sizing dimensions of individual members for complex timber wall frames, roof and floor trusses
- relationship between component loads and supports and spans, including
 - details defining mass loads and externally applied loads (wind, surrounding structures, common or special building usage)
 - dimensions defining geometry and loading of individual structural members
- timber species and types that are suitable for the manufacture of complex timber wall frames, roof and floor trusses
- industry and specific organisational:
- processes for producing computerised plans and details for complex timber wall frames, roof and floor trusses
- formats for and inclusions of documents providing production and installation advice.

Assessment Conditions

The following resources must be made available:

- computers, keyboards and industry current software programs used to produce plans and details for complex trusses and frames
- designs, plans, drawing views and notes for complex timber wall frames, roof and floor trusses on which to base plan and details
- template documents for developing production and installation advice
- organisational procedures for preparing and documenting computerised plans and details for complex timber wall frames, roof and floor trusses.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and
- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.

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