Modification history

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| Release | Comments |
| Release 2 | This version released with FWP Forest and Wood Products Training Package Version 4.0.Version created to update workplace health and safety requirements and foundation skills and to clarify intent of unit and assessment requirements. |
| Release 1 | This version replaces equivalent unit FPITMM5201B Assess product feasibility of designs, 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 | FWPTMM5205 Optimise CNC operations |
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| Application | This unit of competency describes the skills and knowledge required to optimize overall performance of computer numerically controlled (CNC) sizing machines and CNC machining and processing centres, to maximise production output in a timber manufacturing facility. The unit applies to individuals who work as managers or supervisors in timber manufacturing facilities. They generally demonstrate autonomy, judgement and limited responsibility in known or changing contexts and within established parameters.No licensing, legislative, regulatory, or certification requirements apply to this unit at the time of publication. |
| Prerequisite Unit | Nil |
| Unit Sector | Timber Manufactured ProductsTimber Merchandising |

| Elements | Performance Criteria |
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| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 1. Establish optimal operating conditions | 1.1 Review workplace health and safety requirements and emergency procedures, identify and report hazards and use personal protective equipment (PPE) in line with workplace requirements throughout operations 1.2 Assess production potential of system components1.3 Analyse production orders and plans to identify sustained production requirements1.4 Identify and analyse integration options to establish optimal integration model1.5 Assess and record software and programming requirements to attain and sustain optimal integration |
| 2. Prepare for software installation | 2.1 Diagnose program format and operational purpose and identify specified applications2.2 Check specifications for intended operating conditions2.3 Check program instructions for compliance with specifications2.4 Counter set software timers to specification |
| 3. Install and integrate automatic process machine control programs | 3.1 Select appropriate program loading technique3.2 Connect external loading devices correctly to automatic process machine control system3.3 Place machine control system in correct operational mode to accept program loading3.4 Download program in line with manufacturer recommended procedure3.5 Check during and after downloading to ensure accurate and complete data transfer3.6 Disconnect external program loading devices and connections from process and machine control system3.7 Complete integration protocols and actions |
| 4. Commission automatic process and machine control program | 4.1 Monitor operation of equipment using the program for accuracy and safe performance4.2 Measure and check outputs for compliance with specifications and ensure maximum output4.3 Check external inputs for compliance with specifications4.4 Check total operation for compliance with specifications and resolve any issues4.5 Identify location for storage of program master copy and store accordingly4.6 Record installation and commissioning process and problems and report to appropriate personnel |

| Foundation SkillsThis 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. |
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| Skill | Description |
| Reading  | * interpret detailed and sometimes unfamiliar instructions for installing CNC software and commissioning machinery
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| Numeracy  | * interpret sizing specifications for machines and monitor the operation of commissioned machines to ensure accurate calibration
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| Navigate the world of work | * understand main tasks, responsibilities and boundaries of own role
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| Interact with others | * use modes of communication suitable to purpose to confirm and clarify understanding
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| Get the work done | * use computerised operating controls for CNC machines to monitor accurate and safe performance
* recognise and respond to routine problems
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| Unit Mapping Information |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| FWPTMM5205 Optimise CNC operations | FWPTMM5205 Optimise CNC operations | Updated workplace health and safety requirements and foundation skills; clarified intent of unit and assessment requirements | Equivalent unit  |

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

| TITLE | Assessment requirements for FWPTMM5205 Optimise CNC operations |
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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:* installed and commissioned CNC integrated software to attain and sustain optimal integration in CNC sizing machines and/or CNC machining and processing centres to produce different outputs
* checked that machine is operating safely in line with its intended purpose and program and to maximum output
* completed a detailed and accurate report, for each installation, on the installation and commissioning process and problems encountered.
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| Knowledge Evidence |
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| 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:* health and safety hazards or risks related to optimising CNC operations as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
* workplace procedures for optimising CNC operations:
* health and safety requirements
* installing software and commissioning machinery
* recording and reporting on installation and commissioning processes and problems
* for the CNC software:
* program format and operational purpose
* compatibility of two or more sets of software
* system functions and capabilities
* methods to install and collate two or more sets of software information established through a common identifier
* methods to maximise the program to maximise machine output
* methods to commission machinery to operational specification
* requirements for safe storage of program master copy
* for the machinery being commissioned:
* operational purpose and sizing specifications
* maximum production capacity
* methods to monitor the operation of commissioned machines and check calibration.
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| Assessment Conditions |
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| Assessment of skills must take place under the following conditions:* physical conditions:
* skills must be demonstrated in an environment that accurately represents workplace conditions
* resources, equipment and materials:
* CNC sizing machines and CNC machining and processing centres
* CNC software programs
* personal protective equipment suitable for optimising CNC machines and operations
* specifications:
* production plans and information on production orders
* machine sizing specifications
* instructions for installing CNC software and commissioning machinery
* template reports for installation and commissioning processes and problems
* workplace procedures for installing software and commissioning machinery including health and safety and emergency procedures
* relationships:
* relevant personnel for the purposes of communicating information.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. |

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