Modification history

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| Release | Comments |
| Release 3 | This version released with FWP Forest and Wood Products Training Package Version [4.0]  Version created to update workplace health and safety requirements in performance criteria and clarify intent of unit and assessment requirements. |
| Release 2 | This version released with FWP Forest and Wood Products Training Package Version 3.0. |
| Release 1 | This version released with FWP Forest and Wood Products Training Package Version 2.0. |

| UNIT CODE | FWPCOT3235 Machine material using CNC machining and processing centres |
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| Application | This unit of competency describes the s required to set up, operate and maintain computer numerically controlled (CNC) machining and processing centres used to process engineered wood products and timber components in manufacturing facility. Work also involves operator maintenance.  The unit applies to individuals who work as production workers, timber fabricators and engineered timber products technicians. Operators generally work under broad or limited direction to complete routine activities related to own work and take responsibility for their work.  All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.  No licensing, legislative, regulatory, or certification requirements apply to this unit at the time of publication. |
| Prerequisite Unit | Nil |
| Unit Sector | Common Technical |

| 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. Prepare for machining engineered wood products or timber | 1.1 Review work order and machining specifications and where required check with appropriate personnel  1.2 Follow workplace health and safety requirements, environmental protection practices and emergency procedures and use personal protective equipment (PPE) in line with operational requirements throughout CNC machining operation  1.3 Identify and report hazards, accidents, incidents and/or near misses in line with operational requirements and health and safety legislative requirements to maintain safe work practices  1.4 Obtain type and quantity of material for machining from storage location |
| 2. Set up CNC machine | 2.1 Set CNC program to meet work specifications  2.2 Check cutting machines, cutting tools, jigs, emergency stops, gauges, guards and controls for safe and effective operation  2.3 Adjust cutting machine settings in line with work specifications  2.4 Complete trial run to check system and machine operation for accuracy, quality and dimensions of finished work  2.5 Accept or reject trialled material and dispose of in line with environmental protection practices  2.6 Complete final adjustments to CNC program and equipment |
| 3. Operate CNC machine | 3.1 Use equipment in line with organisational safety procedures, manufacturer instructions operational capacity and purpose and environmental protection practices  3.2 Feed engineered wood product or timber into machine, operate cutting equipment in line with tooling requirements and monitor regularly to minimise waste and ensure correct dimensions are produced  3.3 Repair or dispose of incorrect cuts, off-cuts and material with defects in line with environmental protection practices  3.4 Identify routine processing problems and resolve or report to appropriate personnel |
| 4. Complete operator maintenance | 4.1 Lock-out equipment in line with workplace health and safety procedures  4.2 Check cutting tools for bluntness or damage  4.3 Remove and replace cutting tools in line with manufacturer recommendations  4.4 Dispose of used cutting tools in line environmental protection practices  4.5 Keep machining area clear of dust and debris in line with organisational safety procedures  4.6 Record and report production outcomes, equipment faults and maintenance requirements to appropriate personnel |

| Foundation Skills  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. | |
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| Skill | Description |
| Numeracy | * identify quantities of required material within work plans and count numbers to be machined * set numerical data on CNC program according to machining specifications * calculate the feed rate to optimise quality and quantity of production output * measure finished dimensions against specifications and appropriate tolerances |
| Oral communication | * ask open and closed probe questions and actively listen to clarify contents of work orders |
| Reading | * interpret: * workplace health and safety and other organisational procedures * work orders * manufacturer instructions and maintenance recommendations |
| Writing | * complete accurate basic records for production outcomes, equipment faults and maintenance requirements |
| Plan and organise | * efficiently and logically sequence the stages of preparation and production using work order to guide activities |

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| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| FWPCOT3235 Machine material using CNC machining and processing centres | FWPCOT3235 Machine material using CNC machining and processing centres | Updated workplace health and safety requirements in performance criteria and 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 FWPCOT3235 Machine material using CNC machining and processing centres |
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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:   * followed organisational workplace health and safety requirements and environmental protection procedures for processing engineered wood product or timber using CNC machining and processing centres * machined engineered wood products or timber using CNC equipment in line with a work order and within prescribed organisational tolerances and manufacturer recommendations * set computer programs for the CNC equipment in line with work specifications * conducted operator maintenance on CNC equipment | |

| 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 operational hazards or risks related to operating a CNC machining and processing centre for processing engineered wood products and timber as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides * organisational policies and procedures specific to machining engineered wood products and timber using CNC machining and processing centres: * workplace health and safety with particular emphasis on equipment lock out and use of personal protective equipment * use of CNC equipment * communication reporting lines * recording and reporting production outcomes, equipment faults and maintenance requirements * environmental protection practices for timber manufacturing facilities : * reducing water and energy use * cleaning plant, tools and equipment * disposing of, recycling and reusing timber and other waste * range of cutting patterns used with CNC machining and processing centres to achieve accurate dimensions and quality of finished work * system functions and capabilities of CNC software for machining and processing centres * purpose, features and operation of CNC equipment used to machine engineered wood products and timber: * CNC machining and processing centres including three axis machining centres * multi-tasking machining centres * flat-bed routers and mortisers * dust extraction equipment * jigs and shaped templates for routing * timber characteristics, timber products and timber defects * methods for assessing cutter tool condition. |

| 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 equipment including * three axis machining centres * multi-tasking machining centres * flat-bed routers and mortisers * dust extraction equipment * jigs and shaped templates for routing * maintenance tools and equipment for boring, routing and mortising equipment * consumable router, boring, drilling and mortising bits * personal protective equipment suitable for machining material using CNC machining and processing centres * a diverse range of commercial timber: * beams * laminated veneer * chipboard * medium density fibreboard * dressed timber * preservative treated timber * specifications: * manufacturer instructions for use and maintenance of equipment * work order with specific instructions for machining material using CNC machining and processing centres * workplace health and safety and emergency procedures * environmental protection procedures * organisational policies and procedures for machining material using CNC machining and processing centres * template documents for recording production outcomes, equipment faults and maintenance requirements.   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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