



Australian Government

Assessment Requirements for MEM07019 Program NC and CNC machining centre

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MEM07019C Program NC/CNC machining centre

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications, charts, lists, drawings and other applicable reference documents in programming numerically controlled (NC) and computer numerically controlled (CNC) machining centres
- calculating coordinates for tooling and producing operation sheets for the program and process
- writing NC/CNC program in standard code format and incorporating, where appropriate, canned cycles and sub-routines
- producing NC/CNC operation sheets in accordance with SOPs
- operating the machine centre to test it operates to specification including undertaking any required editing of the program
- checking components or products for conformance to specifications.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- elements of NC and CNC program and the function of elements in controlling the operation of NC and CNC machines
- machining operations to be performed in the manufacture of the given part or product
- appropriate types of NC and CNC machines to perform the required machining operations
- machining operations to be controlled by the program to be written
- tool paths to be followed when producing the part or product and the sequence and reasons for selecting the sequence of machining operations to be programmed
- zero point of the NC and CNC machine
- canned cycles and sub-routines accessible in a particular NC and CNC machine and the application of each canned cycle and sub-routine available
- canned cycles and/or sub-routines to be used in the NC and CNC program and reasons for selecting the chosen canned cycles and/or sub-routines

- standard codes and their application used in the writing of NC and CNC programs
- procedures for writing NC and CNC programs in standard code format
- procedures for completing NC and CNC operation sheets and information to be included
- relevant Australian Standards for programming of NC and CNC machine centres
- procedures for manual operation of the NC and CNC machine
- reasons for testing and proving the NC and CNC program
- procedures for editing the NC and CNC program via the machine controller and the effects of editing on the operation of the NC and CNC machine and the part or product to be produced
- specifications of the part or product and measuring equipment/techniques to be used to check for conformance with specifications.

Assessment Conditions

- Assessors must:
 - have vocational competency in programming NC and CNC machining centre at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the Standards for Registered Training Organisations 2015 or its replacement and comply with the National Vocational Education and Training Regulator Act 2011, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Assessment must include evidence of 80 hours of workplace practice associated with the skills of this unit in a functioning workplace.
- All aspects of competent application of the unit must be addressed including prerequisite competency units and associated workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Knowledge assessment may be either verbal or written but must adequately reflect the knowledge requirements of the unit and its prerequisites in a functioning workplace.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>