



Australian Government

**Assessment Requirements for MEM07020
Program multiple spindle and multiple axis
NC and CNC machining centre**

Release: 2

Assessment Requirements for MEM07020 Program multiple spindle and multiple axis NC and CNC machining centre

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM07020 Program multiple spindle and multiple axis NC and CNC machining centre (Release 1).

Release 1. Supersedes and is equivalent to MEM07020C Program multiple spindle and/or multiple axis NC and 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 multiple spindle and multiple axis 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 and CNC programs in standard code format and incorporating, where appropriate, canned cycles and sub-routines
- producing NC and CNC operation sheets in accordance with SOPs
- operating the multiple spindle and multiple axis NC and CNC machining centre to test it operates to specification 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 machine
- 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 path(s) to be followed when producing the part or product
- sequence of machining operations to be programmed and reasons for selecting the chosen tool path(s) and sequence of operations

- zero point of the NC and CNC machine
- canned cycles and sub-routines accessible in the 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 the information to be included
- relevant Australian Standards for programming multiple spindle and multiple axis NC and CNC machining centres
- procedures for manual operation of a NC and CNC machine
- reasons for testing and proving a 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 multiple spindle and multiple axis NC and CNC machining centres 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 occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills.
- 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.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

