Australian Government

MEM50822 Diploma of Applied Technologies

Release 1

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Modification History

Release 1. New qualification.

Qualification Description

This qualification provides the skills and knowledge required to apply modern cloud and locally-based digitisation strategies to manufacturing and engineering workplaces and enterprises in their supply chain. The qualification includes strategies for networking of machines and sites, automation, digital data collection and processing, and other systems and techniques required to implement the cyber-physical systems and technologies often referred to under the general terms of Industry 4.0.

The qualification includes Industry 4.0–specific units of competency and units supplying supporting skills and knowledge. The qualification is suitable for both existing employees and new entrants to manufacturing and engineering organisations or supporting service organisations.

Completion of this qualification will enable a person to work in a variety of Industry 4.0–related roles including as a lead or 'champion' for Industry 4.0–implementation in an organisation or in more direct roles implementing automation, networking, data handling and other digital systems in an enterprise, either individually or as part of a multi-disciplinary team.

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

Entry Requirements

Nil

Packaging Rules

Total number of units = 18

- Seven core units
- Eleven elective units, consisting of:
  - at least five units from Group A
  - at least three units from Group B
  - other units to bring the total number of elective units to eleven. These may come from Groups A or B or (up to three units) from any endorsed Training Package or accredited course – these units must contribute to a valid, industry-supported vocational outcome.

CORE UNITS

Unit code	Unit title	Prerequisites
MEM13015	Work safely and effectively in manufacturing and engineering	
MEM16006	Organise and communicate information	*
MEM30012	Apply mathematical techniques in a manufacturing engineering or related environment	
MEM30025	Analyse a simple electrical system circuit	*
MEM29001	Work in Industry 4.0	
MEM29002	Commission a cyber-physical system	
MEM29008	Analyse and manage data in cloud-based systems	

ELECTIVE UNITS

Group A – Industry 4.0 technical units

Unit code	Unit title	Prerequisites
BSBPMG428	Apply project life cycle management processes	
MEM29003	Apply CAD and CAM technologies in an Industry 4.0 workplace	
MEM29004	Analyse and problem solve a PLC based industrial control system	
MEM29005	Diagnose faults in digital control systems	
MEM29006	Use a SCADA system to assist Industry 4.0 operations in manufacturing and engineering	
MEM29007	Apply networking technology principles for manufacturing and engineering applications	
MEM29009	Prepare, configure and test collaborative robots for industrial operations	
MEM29010	Plan and implement preventative maintenance procedures in an Industry 4.0 manufacturing workplace	

MEM29011	Develop a business case for Industry 4.0 implementation in a workplace	
MEM29012	Access and use a digital twin for operational purposes	
MEM29013	Integrate sensors into digital manufacturing processes	

Group B – Technical support units

Unit code	**Unit title**	**Prerequisites**
ICTTEN202	Use hand and power tools	
MEM09229	Read and interpret technical engineering drawings	
MEM12024	Perform computations	*
MEM14091	Integrate manufacturing fundamentals into an engineering task	*
MEM16012	Interpret technical specifications and manuals	*
MEM16014	Report technical information	*
MEM23004	Apply technical mathematics	
MEM23111	Select electrical equipment and components for engineering applications	*
MEM234028	Produce and manage technical documentation	
MEM30007	Select common engineering materials	
MSS402003	Apply competitive systems and practices	
MSS402084	Undertake root cause analysis	
MSS403057	Map an operational process	

Qualification Mapping Information

No equivalent qualification.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2