



Australian Government

Assessment Requirements for UEEIC0007 Design and use advanced programming tools, PC networks and HMI Interfacing

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- designing a programmable logic controller (PLC) computer-based control system
- dealing with unplanned situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- developing computer applications design
- obtaining design approval for computer applications
- planning and preparing to design of computer application for control processes
- testing design concepts by real or virtual prototyping, where it cannot be shown easily by other means, and confirming that particular aspects of the design meet specified requirements.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- alternative/enhancing programming methods
- bus monitor, including capturing and filtering
- communications methods and requirements, including:
 - common protocols and interface standards
 - communication mediums
 - network types and topologies
 - peer to peer networks
 - remote input/output (I/O)
 - requirements when networking/interfacing PLCs
- high-speed ethernet specification/requirements
- intelligent terminals/graphic interfaces installation and communication requirements

- proportional integral derivative (PID) computer-based control system and system applications
- relevant manufacturer specifications
- relevant job safety assessments or risk mitigation processes
- relevant specialist instructions, including interrupt driven applications, high-speed counters and positional encoders
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- system diagnostics techniques.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated suitable workplace operational situations that replicate workplace conditions.

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.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, facilities and equipment currently used in industry
- resources that reflect current industry practices in relation to design a computer-based control system
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>