



Australian Government

Assessment Requirements for UEEIC0011

Develop electrical integrated systems

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 appropriate modes of programming to develop the integrated system
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including implementing risk control measures
- checking programming and diagnostic tools
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- determining types and location of loads and control devices
- documenting integrated system and giving to relevant person/s
- downloading programs to network successfully
- following manufacturer instructions and recommendations in programming devices and setting load operating parameters
- inspecting and testing electrical integrated system for compliance
- loading and testing integrated systems
- placing system devices appropriately in the system scheme
- preparing to develop an integrated system
- programming integrated system devices
- saving and backing up programmed system database
- using diagnostic tools to locate and correct system defects, faults and anomalies
- using electrical integrated systems
- using load calculations to correctly determine number of networks and current 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:

- applications and advantages of integrated systems
- system components, including:

- support devices for control bus supply and control
- support devices for programming, interconnection between networks and integration with third party systems
- types and capabilities of output devices
- lighting dimmer capabilities and selection
- controlling distributed signalling interface (DSI) and communicating with digital addressable lighting interface (DALI) electronic ballasts
- types and capabilities of input devices
- network specifications, including:
 - bus system cable type, polarity, length and acceptable topologies
 - importance of the location of output and input devices and control bus power supplies
 - ensuring control bus stability and multiple network connectivity
 - low voltage (LV) supply, overcurrent and surge protection
- software for system and device programming, monitoring and controlling
- system and device programming, including:
 - addressing conventions for networks, devices, applications, output groups, types of control and outputs, including 'on', 'off', a specific level, and over a specific time
 - personal computer (PC) programming tools and methods, including configuring networks
 - database using addressing tools and objects, function objects, editing, altering and transferring the database to a network
 - importance of project documentation and backup
- system fault-finding processes
- fault finding using multimeters, oscilloscope, system analysers and diagnostic software
- bus networks
- databases
- diagnostic tools
- electrical integrated systems
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes, including risk control measures
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- system components
- interconnections between networks and integration with third-party systems
- types and capabilities of input and output devices
- lighting dimmer capabilities and selection, including controlling DSI and communicating with DALI electronic ballasts.

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 workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated 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 other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- 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>