



Australian Government

Assessment Requirements for UEEEC0045 Modify digital signal processing (DSP) based sub-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 and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - implementing workplace procedures and practices
 - using of risk control measures
- constructing digital signal processing (DSP) based sub-system prototypes
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- obtaining design approval for final modification
- developing the DSP sub-system design modification within the safety and functional requirements and budget limitations
- documenting action/s justification to be implemented in accordance with relevant industry standards
- documenting and presenting design effectively
- negotiating design alteration requests successfully
- planning to modify DSP based system
- reading and interpreting design brief.

Knowledge Evidence

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

- design brief specifications and work requirements
- digital and analogue devices
- digital processing steps in practical DSP applications
- DSP requirements
- DSP current industry practices and technologies, including:
 - currently available DSP support chips
 - relevant materials and devices/components

- DSP development technologies, including:
 - concept of complex signals
 - data-rate conversion
 - discrete Fourier transform (DFT) to a signal
 - DSP system
 - fast Fourier transform (FFT)
 - finite impulse response (FIR) filtering using FFT
 - high-order infinite impulse response (IIR) filter
 - IIR filter
 - modulation and de-modulation techniques
- prototype devices and circuit construction/build requirements
- relevant job safety assessments or risk mitigation processes
- relevant manufacturer specifications
- relevant industry standards, regulations, codes of practice and WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures.

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 similar workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated similar 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 modifying DSP based systems
- 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>

