



Australian Government

UEEEEC0014 Design signal-conditioning 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.

Application

This unit involves the skills and knowledge required to design signal-conditioning sub-systems incorporating digital and analogue elements.

It includes following design brief, applying knowledge of digital and analogue devices, interpreting device specifications, constructing prototypes, testing developed system prototype operation, and documenting design and development work.

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

Pre-requisite Unit

Not applicable

Competency Field

Electronics and Communications

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Identify design signal-conditioning sub-system requirements	1.1 Work health and safety (WHS)/occupational health and safety (OHS) processes and workplace procedures for a given work area are obtained and applied
	1.2 Hazards are identified, WHS/OHS risks are assessed, control measures and workplace procedures are

- implemented in preparation for work
- 1.3 Scope of proposed signal-conditioning sub-system is determined from design brief in consultation with appropriate person/s
 - 1.4 Design signal-conditioning sub-systems development work is planned to meet scheduled timelines in consultation with person/s involved on the worksite
 - 1.5 Materials and devices/components required for work are determined on compatibility of their specifications with data acquisition system requirements and project budget constraints
- 2 Design signal-conditioning sub-system**
- 2.1 WHS/OHS risk control work measures and workplace procedures are followed
 - 2.2 Digital and analogue device elements used in signal-conditioning sub-systems and relevant industry standards are applied to the design specification
 - 2.3 Alternative design/s are considered based on the design brief
 - 2.4 Safety, functional and budget considerations are incorporated in the design specification
 - 2.5 Prototype devices and circuits are constructed, programmed and tested for compliance with design brief and regulatory requirements
 - 2.6 Prototype faults are rectified and retested to ensure effective operation of design
 - 2.7 Design specifications are documented for submission to appropriate person/s for approval
 - 2.8 Solutions to unplanned situations are implemented in accordance with workplace policy
- 3 Obtain design approval for signal-conditioning sub-system**
- 3.1 Signal-conditioning sub-system design is presented and explained to client representative and/or relevant person/s
 - 3.2 Modifications to design are negotiated with relevant person/s within the constraints of workplace policy, as required
 - 3.3 Final sub-system design is documented and approval

obtained from appropriate person/s

- 3.4** Quality of work is monitored against performance agreement and/or workplace or industry standards

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEENEEH185A Design signal-conditioning subsystems.

Links

Companion Volume implementation guides are found in VETNet - -

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