



Australian Government

UEEIC0004 Calibrate, adjust and test measuring instruments

Release: 1

UEEIC0004 Calibrate, adjust and test measuring instruments

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 calibrate, adjust and test measuring instruments.

It includes working safely, following calibration and adjustment procedures, applying knowledge of parameters to be measured, testing and reporting.

Permits may be required for some work environments, such as confined spaces, working aloft, near live electrical apparatus and site rehabilitation.

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

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

UEEIC0047 Use instrumentation drawings, specifications, standards and equipment manuals

Competency Field

Instrumentation & Control

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to calibrate, adjust and test measuring

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) processes and workplace procedures for a

instruments		given work area are identified, obtained and applied
	1.2	WHS/OHS risk control measures and workplace procedures are followed in preparation for work
	1.3	Safety hazards that have not previously been identified are noted and established risk control measures implemented
	1.4	Relevant person/s is consulted to ensure work is coordinated effectively with others involved on worksite
	1.5	Instrument parameters are identified by reviewing process specifications and manufacturer instructions
	1.6	Tools, equipment and testing devices needed for the work are obtained in accordance with workplace procedures and checked for correct operation and safety
2 Calibrate, adjust and test measuring instruments	2.1	WHS/OHS risk control measures and workplace procedures for carrying out the work are followed
	2.2	Calibration testing/measuring arrangement is connected and arranged in accordance with manufacturer instructions and certification requirements for relevant instrument
	2.3	Factors effecting instrument error are determined and recorded in the calibration process in accordance with manufacturer specifications and relevant industry standards
	2.4	Instrument set-point is determined and error adjustments noted in accordance with manufacturer specifications and relevant industry standards
	2.5	Instrument is tested and adjustment made, as required, to ensure instrument meets calibration requirements
	2.6	Methods for dealing with unplanned situations are discussed with relevant person/s and documented
	2.7	Unplanned situations are dealt with safely and with the approval of relevant person/s
	2.8	Quality checks of process output are undertaken to ensure control loop is tuned in accordance with workplace procedures

	2.9	Calibration is carried out efficiently without waste of materials or damage to apparatus, the surrounding environment or services using sustainable energy principles
3 Complete and report calibration activities	3.1	WHS/OHS risk control work completion measures and workplace procedures are followed
	3.2	Worksite is cleaned and made safe in accordance with workplace procedures
	3.3	Calibration is documented in accordance with certification requirements and relevant 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.

Calibrating, adjusting and testing measuring instruments must include at least one of the following:

- electrical/electronic
- non-electrical instrument

Unit Mapping Information

This unit replaces and is equivalent to UEENEEI117A Calibrate, adjust and test measuring instruments.

Links

Companion Volume implementation guides are found in VETNet - -

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

Assessment Requirements for UEEIC0004 Calibrate, adjust and test measuring instruments

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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, including
 - using risk control measures
- calibrating instrument to measure within specified tolerance
- carrying out calibration without waste of materials or damage to apparatus, the surrounding environment or services using sustainable energy principles
- connecting calibration testing/measuring arrangement in accordance with manufacturer instructions and certification requirements for instrument
- dealing with unplanned situations safely and in discussion with relevant person/s
- determining factors effecting instrument error
- documenting calibration with certification requirements
- identifying instrument parameters
- obtaining tools, equipment and testing devices
- preparing to calibrate, adjust and test measuring instruments
- quality checking of process outputs in accordance of workplace procedures.

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:

- problem-solving techniques
- relevant calibration techniques
- relevant fundamentals of calibration
- relevant industry standards
- relevant instrument parameters and tolerance
- relevant job safety assessments or risk mitigation processes
- relevant manufacturer specifications and operating instructions

- relevant measurement standards applicable to scientific instruments
- relevant tools, equipment and testing devices
- relevant WHS/OHS legislated requirements
- relevant workplace documentation, including certification
- relevant workplace quality, instructions, policies and procedures
- sustainable energy principles.

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 calibrating and testing measuring instruments
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

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