

Field Engineering and Technology**Review of *Electronic Engineering* unit standards**

Subfield	Domain	ID
Electronic Engineering	Core Electronics	5934, 8195, 8211, 8216, 20430-20434, 20615, 20712-20720
	Electronic Installation and Maintenance	6061-6063, 6066, 8191, 8213, 8218, 20721-20726
	Electronics Technology	19745, 19747

The ElectroTechnology Industry Training Organisation (ETITO) has completed the review of the unit standards listed above.

Date new versions published

July 2011

Planned review date

December 2016

Summary

Meetings involving ETITO, industry representatives from all areas of the industry such as manufacturers, repairers, and maintenance personnel as well as training providers were convened through 2009 and 2010 to review of Electronic Engineering unit standards that comprise the National Certificate in Electronic Engineering (Level 2) [Ref: 1092], the National Certificate in Electronic Engineering (Level 3) [Ref: 1093] and the National Certificate in Electronic Engineering (Level 4) [Ref: 1123].

The consultation group was asked to consider the following:

- the currency of the unit standards and their suitability for existing and future qualifications
- the appropriateness of unit standards to their domain
- the accuracy and appropriateness of their content
- whether levels and credits reflected performance outcomes and training needs
- any gaps in skills and/or knowledge that could be captured by amending the existing unit standards or the development of new unit standards
- the assessability of the unit standards.

In addition the format and terminology for all the unit standards have been updated to reflect the introduction of *Quality assurance criteria for the listing of unit standards on the Directory of Assessment Standards* in August 2010. The main differences are: changes to terminology – Special Notes, Elements, and Performance Criteria renamed Explanatory notes, Outcomes and Evidence requirements respectively; and the provision to include grades and specify last dates for assessment of previous versions.

Main changes

- Titles, levels, credits, and special notes (now explanatory notes), where necessary, were updated to better reflect the learning outcome requirements.
- Standard 8195 credit value increased from 3 to 4, and standard 20715 credit value increased from 9 to 12.
- Standard 8216 was set to expire as it is no longer required.

- Standards 19745 and 19747 moved from *Electronics Technology* Domain to *Core Electronics* Domain.
- Standard 19745 was reduced from Level 3 to Level 2.
- Standard 26723 developed to cover underpinning knowledge for generic electronic products.
- Standard 26724 replaced standards 6062 and 6063.
- Standard 26725 replaced standards 20718 and 20721.
- Standard 26726 replaced standards 20723, 20724, and 20725.
- Standard 26727 replaced standard 8191 and registered in the *Electrotechnology* domain in the *Electrical Engineering* Subfield as the new standard is generic across the electrotechnology industry.

Category C and D unit standards will expire at the end of December 2013

Impact on existing accreditations

Current Accreditation for			Accreditation extended to		
Nature of accreditation	Classification or ID	Level	Nature of accreditation	Classification or ID	Level
Subfield	Electronic Engineering	3	Standard	26727	3
Domain	Electronic Installation and Maintenance	3	Standard	26727	3
		4	Standard	26725	4
Domain	Electronic Technology	3	Standards	19745 and 19747	3
Standards	6062 and 6063	4	Standard	26724	4
Standard	8191	3	Standard	26727	3

Impact on registered qualifications

Key to type of impact	
Affected	The qualification lists a reviewed classification (domain or subfield) in an elective set The qualification lists a standard that has changes to level or credits The qualification lists a C or D category standard
Not materially affected	The qualification lists a standard that has a new title The qualification lists a standard that has a new classification

The following ETITO qualifications are impacted by the outcome of this review and will be updated when they are reviewed. The classifications and/or standards that generated the status *Affected* are listed in **bold**.

Ref	Qualification Title	Classification or ID
0410	National Certificate in Industrial Measurement and Control (Level 4)	8191, 8195
0767	National Certificate in Telecommunications (Level 3) with strands in Bearer and Switch, Building and Data Cabling, Customer Access Network, Customer Premises Equipment, Information and Communications Technology, Radio, and Rigging	8191,
1093	National Certificate in Electronic Engineering (Level 3)	8191, 8195, 8216, 8218, 19745, 19747
1123	National Certificate in Electronic Engineering (Level 4)	6062, 6063, 8213, 8216, 8218, 20715, 20718, 20721, 20723, 20724, 20725
1266	National Certificate in Electrical Engineering (Electrical Appliance and Electronic Servicing) (Level 4) with strands in Commercial Electrical Appliances, Domestic Electrical Appliances, Electronic Consumer Goods, Office Equipment, and Portable Electrical Appliances and Power Tools	8191, 8195, 8218, 20721 20724

The following table identifies a Competenz qualification that is *Affected* by the outcome of this review. They have been advised that the qualification requires revision.

Ref	Title	ID
0569	National Certificate in Fire Detection and Alarm Systems (Level 4)	8191

Detailed list of unit standards – classification, title, level, and credits

All changes are in **bold**.

Key to review category	
A	Dates changed, but no other changes are made - the new version of the standard carries the same ID and a new version number
B	Changes made, but the overall outcome remains the same - the new version of the standard carries the same ID and a new version number
C	Major changes that necessitate the registration of a replacement standard with a new ID
D	Standard will expire and not be replaced

Engineering and Technology > Electronic Engineering > Core Electronics

ID	Title	Level	Credit	Review Category
5934	Prevent electrostatic damage to electronic components	2	1	B
8195	Test and select batteries used in electronic applications, and select suitable chargers Test and select batteries used in electronic applications and select suitable chargers	3	3 4	B
8211	Demonstrate and apply knowledge of switching power supplies	4	4	B
8216	Demonstrate and apply knowledge of cathode ray tubes	3	2	D

ID	Title	Level	Credit	Review Category
20430	Demonstrate and apply introductory knowledge of d.c. principles for electronics technicians Demonstrate and apply fundamental knowledge of d.c. principles for electronics technicians	3	7	B
20431	Demonstrate and apply introductory knowledge of a.c. principles for electronics technicians Demonstrate and apply fundamental knowledge of a.c. principles for electronics technicians	3	7	B
20432	Demonstrate and apply introductory knowledge of digital electronics for technicians Demonstrate and apply fundamental knowledge of digital electronics for electronics technicians	3	7	B
20433	Demonstrate and apply introductory knowledge of analogue electronics for technicians Demonstrate and apply fundamental knowledge of analogue electronics for electronics technicians	3	7	B
20434	Demonstrate knowledge of practical mathematics for electronics technicians	3	8	B
20615	Use electronic test equipment	3	6	B
20712	Demonstrate and apply advanced knowledge of d.c. principles for electronics technicians Demonstrate and apply knowledge of d.c. principles for electronics technicians	4	6	B
20713	Demonstrate and apply advanced knowledge of a.c. principles for electronics technicians Demonstrate and apply knowledge of a.c. principles for electronics technicians	4	7	B
20714	Demonstrate and apply advanced knowledge of digital principles for electronics technicians Demonstrate and apply knowledge of digital principles for electronics technicians	4	7	B
20715	Demonstrate and apply advanced knowledge of analogue electronics for technicians Demonstrate and apply knowledge of analogue electronics for electronics technicians	4	9 12	B
20716	Demonstrate and apply knowledge of transducers and their interfaces with digital circuits	4	10	B
20717	Demonstrate and apply knowledge of electronic filters, oscillators, and frequency synthesisers	4	6	B
20719	Demonstrate and apply knowledge of radio communications for technicians Demonstrate and apply knowledge of radio communications for electronics technicians	4	15	B
20720	Demonstrate knowledge of radar principles for technicians Demonstrate knowledge of radar principles for electronics technicians	4	15	B

ID	Title	Level	Credit	Review Category
26723	Demonstrate knowledge of generic electronic products or systems for electronics technicians	4	10	New

Engineering and Technology > Electronic Engineering > Electronic Installation and Maintenance

ID	Title	Level	Credit	Review Category
6061	Performance test and repair faulty radar equipment Performance test and repair faulty radar equipment to unit or component level	4	12	B
6062	Performance test and repair faulty radio transmitter equipment	4	12	C
6063	Performance test and repair faulty communications radio receiver equipment	4	12	C
26724	Performance test and repair faulty electronic communications equipment	4	15	
6066	Diagnose and repair faulty electronic office equipment to module level	4	25	B
8213	Diagnose and repair a faulty microprocessor or microcontroller system	4	6	B
8218	Carry out surface mounted device (SMD) soldering, de-soldering, and printed circuit board repair Carry out soldering and de-soldering of printed circuit board mounted components and printed circuit board repair	3	8	B
20722	Install and commission electronic equipment	4	25	B
20723	Diagnose and repair faulty industrial electronic equipment to component level	4	40	C
20724	Diagnose and repair faulty consumer electronic equipment to component level	4	40	C
20725	Diagnose and repair faulty telecommunications equipment to component level	4	40	C
26726	Diagnose and repair faulty electronic equipment to component level	4	40	
20726	Diagnose and repair faulty electronic systems to module level	4	25	B

Engineering and Technology > Electronic Engineering > Electronic Installation and Maintenance

Engineering and Technology > Electrical Engineering > Electrotechnology

ID	Title	Level	Credit	Review Category
8191	Demonstrate systematic and logical fault finding techniques in electronic products or systems	3	6	C
26727	Describe and apply techniques for identifying and locating faults in electrotechnology products or systems	3	5	

Engineering and Technology > Electronic Engineering

ID	Domain	Title	Level	Credit	Review Category
20718	Core Electronics	Demonstrate and apply knowledge of advanced electronic measurement	4	6	C
20721	Electronic Installation and Maintenance	Demonstrate and apply knowledge of advanced diagnostics for electronics technicians	4	5	C
26725	Core Electronics	Demonstrate and apply knowledge of electronic product reliability and advanced electronic measurement and diagnosis	4	10	
19745	Electronics Technology Core Electronics	Demonstrate basic knowledge of signals and the transmission of information Demonstrate and apply elementary knowledge of wireless transmission	3 2	5	B
19747	Electronics Technology Core Electronics	Demonstrate and apply basic knowledge of microcontrollers Demonstrate and apply fundamental knowledge of microcontrollers	3	5	B