Australian Government

ICT41219 Certificate IV in Telecommunications Engineering Technology

Release 1

ICT41219 Certificate IV in Telecommunications Engineering Technology

Modification History

Release	Comments
Release 1	This version released with ICT Information and Communications Technology Training Package Version 5.0.

Qualification Description

This qualification reflects the role of an advanced technician (technical officer), team leader or supervisor with a wide range of telecommunications skills. The skills required for this role may include, but are not restricted to, the ability to install and maintain:

- enterprise networks in emerging and converging technologies
- optical and wireless equipment for high speed broadband network infrastructure
- internet protocol (IP) based network telecommunications equipment
- IP based networks in home networks and small and medium enterprises
- telecommunications, data cabling and cabling products in line with the specifications of the access network owner
- telecommunications access network cabling and infrastructure, systems and customer equipment.

The qualification enables technicians to assess installation requirements of converging voice, video and data IP networks, plan and perform installations and test installed equipment and fault find.

Licensing/Regulatory Information

Work functions in the occupational areas where this qualification may be used are subject to regulatory requirements. Refer to the ICT Information and Communications Technology Training Package Companion Volume Implementation Guide or the relevant regulator for details of licensing, legislative or certification requirements.

Entry Requirements

Entry into this qualification requires:

- a qualification at AQF level 2 or 3 in telecommunications from the ICT Information and Communications Technology Training Package or the ICT10 Integrated Telecommunications Training Package and certified evidence of at least 700 hours of work experience within the related scope of the qualification, which may have occurred concurrent with or after the qualification was achieved

or

- a qualification at AQF level 2 or 3 in electrotechnology from the UEE Electrotechnology Training Package and certified evidence of at least 700 hours of work experience within the related scope of the qualification, which may have occurred concurrent with or after the qualification was achieved

or

- a current unrestricted electrical licence from any Australian State or Territory electrical regulator

or

- a qualification at AQF level 2 or 3 in telecommunications from the ICT Information and Communications Technology Training Package and enrolment in the ICT41219 Certificate IV in Telecommunications Engineering Technology as part of a traineeship or apprenticeship program or concurrently employed within the ICT industry

or

- open registration as an ACMA registered cabler with certified evidence of at least 2100 hours of work experience within the customer premises doing cabling or telecommunications carrier work.

Packaging Rules

Total number of units = 17

5 core units, plus

12 elective units

The elective units selected may consist of:

- up to 1 elective unit from Group A Workplace
- up to 12 elective units from Groups B General, C IT Use, D Network Engineering, and E Radio Communications
- up to 4 elective units from this and any currently endorsed Training Package or accredited course where the units are packaged in an Australian Qualification Framework (AQF) Level 4 or above qualification.

Elective units must be relevant to the work environment and the qualification, maintain the integrity of the AQF alignment and contribute to a valid, industry-supported vocational outcome.

Units selected from other Training Packages or accredited courses must not duplicate units selected from or available within the ICT Information and Communications Technology Training Package.

Core units

ICTTEN208 Use electrical skills when working with telecommunications networks
ICTTEN410 Locate, diagnose and rectify faults
ICTTEN414 Repair telecommunication system faults
ICTTEN416 Install, configure and test an internet protocol network
ICTTEN435 Solve electrical-based telecommunications circuitry and cabling problems*

Elective units

Group A Workplace

BSBCUS402 Address customer needs
BSBSMB401 Establish legal and risk management requirements of small business
BSBSMB405 Monitor and manage small business operations
BSBSMB407 Manage a small team
ICTCBL403 Supervise cabling project
ICTICT401 Determine and confirm client business requirements
ICTSMB401 Set up and operate a contractor business
ICTSMB402 Operate a contractor business with employees
ICTTEN402 Estimate and quote for customer telecommunications equipment installation

Group B General

BSBSUS401 Implement and monitor environmentally sustainable work practices
BSBSUS402 Implement an environmental management plan
ICTCBL402 Schedule and supply cabling installation
ICTCBL405 Remotely locate and identify cable network faults
ICTDRE302 Locate and rectify digital reception equipment faults
ICTEDU301 Train customers in new technology
ICTICT408 Create technical documentation
ICTNWK410 Install hardware to a network
ICTOPN403 Prepare activity plans and specifications for a fibre to the x installation
ICTOPN404 Test optical communications systems and components
ICTOPN405 Install and test a dense wavelength division multiplexing system
ICTPMG402 Schedule installation of customer premises equipment
ICTRFN406 Maintain hybrid fibre coaxial broadband cable network
ICTSUS402 Install and test power saving hardware
ICTSUS404 Install thin client applications for power over ethernet

ICTTEN403 Assign a transmission path
ICTTEN404 Install and configure a wireless mesh network
ICTTEN406 Effect changes to existing customer premises equipment systems and equipment
ICTTEN407 Cut over customer premises equipment major upgrades
ICTTEN408 Complete equipment and software upgrades
ICTTEN409 Commission an electronic system
ICTTEN412 Undertake routine maintenance of the telecommunications network
ICTTEN413 Undertake remote diagnosis and repair of network faults
ICTTEN415 Install and configure internet protocol TV in a home network
ICTTEN417 Install, configure and test a router
ICTTEN419 Implement and troubleshoot enterprise routers and switches
ICTTEN424 Install and configure internet protocol TV in a service provider network
ICTTEN425 Design, install and configure a customer smart technology network
ICTTEN432 Identify requirements for customer telecommunications equipment
ICTTEN433 Install configuration programs on PC based customer equipment

Group C IT Use

ICTICT428 Select cloud storage solutions
ICTNWK409 Create scripts for networking
ICTNWK419 Identify and use current virtualisation technologies
ICTPRG301 Apply introductory programming techniques
ICTPRG430 Apply introductory object-oriented language skills

Group D Network Engineering

ICTCBL401 Prepare design drawings and specification for a cable installation
ICTCBL404 Test cable bearers
ICTDRE401 Integrate customer digital reception equipment
ICTDRE402 Integrate data delivery modes
ICTICT405 Develop detailed technical design
ICTNWK411 Deploy software to networked computers
ICTNWK416 Build security into virtual private networks
ICTNWK417 Build an enterprise wireless network
ICTNWK421 Install, configure and test network security
ICTPMG403 Manage the delivery of network infrastructure
ICTSUS403 Install and test power management software
ICTTEN301 Provide infrastructure for telecommunications network equipment
ICTTEN312 Install telecommunications network equipment
ICTTEN321 Maintain an electronic system

ICTTEN411 Monitor, analyse and action telecommunications network alarms

ICTTEN420 Design, install and configure an internetwork

ICTTEN421 Apply advanced routing protocols to network design

ICTTEN422 Configure and troubleshoot advanced network switching

ICTTEN423 Install and maintain a wide area network

ICTTEN514 Install, configure and test a server

Group E Radio Communications

ICTCMP501 Undertake radio communications site audit

ICTRFN301 Install a radio communications antenna and feedline

ICTRFN303 Install WiMAX customer premises equipment broadband wireless access equipment

ICTRFN304 Construct and test a radio communications device

ICTRFN305 Operate and maintain radio communications technical instruments and field equipment

ICTRFN402 Select antenna system for radio communications

ICTRFN403 Test and repair cellular network equipment

ICTRFN404 Undertake radio communications signals monitoring

ICTRFN405 Install radio communications base station equipment

ICTRFN502 Test and measure cellular phone and network equipment performance

ICTRFN407 Conduct radio frequency measurements

ICTTEN418 Install and test a radio frequency identification system

ICTWOR401 Undertake a civil site survey

ICTWOR402 Schedule equipment maintenance

*Note the following prerequisite unit requirements:

Prerequisite unit requirements in this qualification	
Unit in this qualification	**Prerequisite unit**
ICTTEN435 Solve electrical-based telecommunications circuitry and cabling problems	ICTTEN208 Use electrical when working with telecommunications networks

Specialisations

Where relevant, specialisations can be used for this qualification in:

- network engineering

- optical networks
- radio communications
- smart device installation
- telecommunications network technician – hybrid fibre coaxial.

The achievement of a specialisation will be identified on testamurs as follows:

- ICT41219 Certificate IV in Telecommunications Engineering Technology (Network Engineering)
- ICT41219 Certificate IV in Telecommunications Engineering Technology (Optical Networks)
- ICT41219 Certificate IV in Telecommunications Engineering Technology (Radio Communications)
- ICT41219 Certificate IV in Telecommunications Engineering Technology (Smart Device Installation)
- ICT41219 Certificate IV in Telecommunications Engineering Technology (Telecommunications Network Technician – Hybrid Fibre Coaxial).

Network Engineering

Select 7 elective units from Group D Network Engineering.

Optical Networks

Select the following 3 elective units from Group B General:

- ICTOPN403 Prepare activity plans and specifications for a fibre to the x installation
- ICTOPN404 Test optical communications systems and components
- ICTOPN405 Install and test a dense wavelength division multiplexing system

Radio Communications

Select the following 5 elective units:

- ICTRFN301 Install a radio communications antenna and feedline
- ICTRFN304 Construct and test a radio communications device
- ICTRFN402 Select antenna system for radio communications
- ICTRFN407 Conduct radio frequency measurements
- ICTTEN312 Install telecommunications network equipment

Smart Device Installation

Select the following 6 elective units:

- ICTDRE302 Locate and rectify digital reception equipment faults
- ICTEDU301 Train customers in new technology
- ICTICT428 Select cloud storage solutions

- ICTRFN407 Conduct radio frequency measurements
- ICTTEN415 Install and configure internet protocol TV in a home network
- ICTTEN425 Design, install and configure a customer smart technology network

Telecommunication Network Technician – Hybrid Fibre Coaxial

Select the following 6 elective units:

- ICTRFN406 Maintain hybrid fibre coaxial broadband cable network
- ICTRFN407 Conduct radio frequency measurements
- ICTTEN208 Use electrical skills when working with telecommunications networks
- ICTTEN312 Install telecommunications network equipment
- ICTTEN409 Commission an electronic system
- ICTTEN410 Locate, diagnose and rectify faults

Qualification Mapping Information

No equivalent qualification. Supersedes and is not equivalent to ICT41215 Certificate IV in Telecommunications Engineering Technology.

Links

Companion Volume Implementation Guides are available from VETNet - https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2