Australian Government

ICT41215 Certificate IV in Telecommunications Engineering Technology

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

ICT41215 Certificate IV in Telecommunications Engineering Technology

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 2.0.

Qualification Description

This qualification reflects the role of an advanced technician (technical officer), team leader or supervisor with a wide range of telecommunications skills who can 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 qualifications also 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. It may also involve a degree of autonomy and may include limited supervision of others.

The following specialisations can be achieved through selection of specific units of competency:

- Network Engineering
- Optical Networks
- Radio Communications.

Licensing/Regulatory Information
Work functions in the occupational areas where this unit may be used are subject to regulatory requirements. Refer to the ICT Implementation Guide Companion Volume or the relevant regulator for details of licensing, legislative or certification requirements.

Entry Requirements

Nil

Packaging Rules

Total number of units = 16

8 core units plus
8 electives units

The elective units consist of:

- 2 elective units selected from Group A
- up to 6 elective units selected from Groups B, C and D, with no more than 3 at AQF Level 3 or below
- up to 2 units selected from any currently endorsed Training Package or accredited course at AQF Level 4 or above.

Elective units must be relevant to the work environment and the qualification, maintain the integrity of the Australian Qualifications Framework (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.

Refer to the *Specialisations* information below, and to the Companion Volume Implementation Guide, for advice about choosing electives to support specialisations in particular sectors of the information and communications industry.

Core Units
ICTICT408 Create technical documentation
ICTPMG403 Manage the delivery of network infrastructure
ICTTEN201 Use electrical skills in telecommunications work
ICTTEN202 Use hand and power tools
ICTTEN410 Locate, diagnose and rectify faults
ICTTEN414 Repair telecommunication system faults
ICTWHS204 Follow work health and safety and environmental policy and procedures
ICTWOR201 Work effectively in telecommunications technology

Elective Units
Group A
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

CPCCOHS1001A Work safely in the construction industry
HLTAID003 Provide first aid
ICTCBL402 Schedule and supply cabling installation
ICTCBL405 Remotely locate and identify cable network faults
ICTNWK410 Install network hardware to a network
ICTWHS203 Work safely near power infrastructure
ICTOPN401 Install and test a dense wavelength division multiplexing system
ICTOPN402 Use advanced optical test equipment
ICTOPN403 Prepare activity plans and specifications for a fibre to the x installation
ICTPMG402 Schedule installation of customer premises equipment
ICTRFN406 Maintain hybrid fibre coaxial broadband cable network
ICTSUS401 Install and test renewable energy system for ICT networks
ICTSUS402 Install and test power saving hardware
ICTSUS404 Install thin client applications for power over ethernet
ICTTEN401 Identify requirements for customer telecommunications equipment
ICTTEN403 Assign a transmission path
ICTTEN404 Install and configure a wireless mesh network
ICTTEN405 Install configuration programs on PC based customer equipment
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
ICTTEN416 Install, configure and test an internet protocol 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

Group C 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
ICTNWK406 Install, configure and test network security
ICTNWK411 Install software to networked computers
ICTNWK416 Build security into virtual private networks
ICTNWK417 Build an enterprise wireless network
ICTSUS403 Install and test power management software
ICTTEN301 Provide infrastructure for telecommunications network equipment
ICTTEN302 Install telecommunications network equipment
ICTTEN308 Maintain an electronic system
ICTTEN405 Install configuration programs on PC based customer equipment
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 D 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
ICTRFN401 Conduct radio frequency measurements
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
ICTTEN418 Install and test a radio frequency identification system
ICTWOR401 Undertake a civil site survey
ICTWOR402 Schedule equipment maintenance

Specialisations
The use of specialist streams is appropriate for this qualification in accordance with the AQF, Standards for Training Packages and the packaging rules. Where a specialist stream is achieved, testamurs must show the appropriate specialisation in brackets. Refer to the Companion Volume Implementation Guide for further advice about specialisations.

Minimum elective units required for the specific specialisations are described below.

Network Engineering
Select 6 electives from Groups B and C only.

Optical Networks
Select the following 3 electives:

- ICTOPN401 Install and test a dense wavelength division multiplexing system
- ICTOPN402 Use advanced optical test equipment
- ICTOPN403 Prepare activity plans and specifications for a fibre to the x installation.

The remaining 3 units must be selected from Groups B and C only.

Radio Communications
Select the following 4 electives:

- ICTRFN301 Install a radio communications antenna and feedline
- ICTRFN304 Construct and test a radio communications device

- ICTRFN401 Conduct radio frequency measurements
- ICTRFN402 Select antenna system for radio communications.

The remaining 2 units must be selected from Groups B and D only.

Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICT41215 Certificate IV in Telecommunications Engineering Technology	ICT40110 Certificate IV in Optical Networks ICT40210 Certificate IV in Telecommunications Network Engineering ICT40313 Certificate IV in Telecommunications Radio Communications ICT40410 Certificate IV in Radio Frequency Networks ICT40613 Certificate IV in Telecommunications Networks Technology	Updated to meet Standards for Training Packages. Changed packaging rules. Changed core units.	No equivalent qualification

Links

Companion volumes are available from the IBSA website - http://companion_volumes.vetnet.education.gov.au/Pages/TrainingPackage.aspx?pid=18