



Australian Government

ICT41119 Certificate IV in Telecommunications Network Design

Release 2

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Modification History

Release	Comments
Release 1	This version released with ICT Information and Communications Technology Training Package Version 5.0.
Release 2	<p>This version released with ICT Information and Communications Technology Training Package Version 7.1.</p> <p>The following elective units of competency have been deleted as directed by the AISC:</p> <ul style="list-style-type: none"> • ICTNPL403 Evaluate the capability of access networks • ICTNPL404 Evaluate the planning requirements for provisioning a telecommunications building facility • ICTNPL405 Develop provisioning of telecommunications building works project • ICTNPL406 Evaluate core network architectures • ICTNPL407 Plan the deployment of core network • ICTNPL408 Produce planning specifications for end-to-end service delivery • ICTNPL411 Apply compliance requirements to telecommunications work • ICTRFN404 Undertake radio communications signals monitoring • ICTSMB402 Operate a contractor business with employees • ICTTEN407 Cut over customer premises equipment major upgrades • ICTTEN430 Design infrastructure for telecommunications network installations • ICTTEN431 Design a dense wavelength division multiplexing system. <p>The above training products were identified as having zero enrolments over a three year period.</p>

Qualification Description

This qualification reflects the role of a technician with a range of telecommunications skills and extensive knowledge of the access, building and core networks, and client capabilities of the service provider. It prepares people to work in telecommunications infrastructure network design, for network additions and implementations to accommodate network growth and new technologies within the industry.

Graduates with this qualification will be able to design:

- the customer access network

- the building network
- the core network for the service provider and asset owner
- carrier equipment infrastructure.

Licensing/Regulatory Information

Work functions in the occupational areas where this unit may be used are subject to regulatory requirements. Refer to the ICT Information and Communications Technology Companion Volume Implementation Guide or the relevant regulator for details of licencing, 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 this 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 this 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 or the ICT10 Integrated Telecommunications Training Package and enrolment in this Certificate IV 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 customer premises doing cabling or telecommunications carrier work.

Packaging Rules

Total number of units = 16

6 core units, plus

10 elective units

The elective units selected must consist of:

- up to 1 elective unit from Group A Workplace
- at least 4 elective units from Groups B Design and D Network Planning.

The remaining required elective units selected may consist of:

- up to 3 elective units from Groups C ICT Use, E Optical Networks, F Project Management, G Radio Communications, H Sustainability or I Network Engineering
- up to 4 elective units from this or any currently endorsed Training Package or accredited course where the units are packaged in an Australian Qualifications 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

ICTICT408 Create technical documentation

ICTNPL409 Apply knowledge of regulation and legislation for the telecommunications industry

ICTTEN426 Design network projects

ICTTEN427 Conduct site surveys to identify carrier installation requirements

ICTTEN428 Prepare design drawings and specification for telecommunications installations

ICTTEN429 Estimate and quote for carrier telecommunications equipment installations

Elective units

Group A Workplace

BSBLDR402 Lead effective workplace relationships

BSBMGT401 Show leadership in the workplace

BSBSMB407 Manage a small team

ICTICT401 Determine and confirm client business requirements

ICTSMB401 Set up and operate a contractor business

ICTWOR401 Undertake a civil site survey

Group B Design

BSBDES401 Generate design solutions

BSBDES402 Interpret and respond to a design brief

BSBDES403 Develop and extend design skills and practice

BSBDES501 Implement design solutions

BSBDES502 Establish, negotiate and refine a design brief

Group C ICT Use

ICTICT405 Develop detailed technical design

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 Planning

ICTNPL401 Apply business acumen to network planning

ICTNPL402 Plan the deployment of access network architectures

ICTNPL410 Plan the telecommunications access network for an estate

ICTRFN502 Test and measure cellular phone and network equipment performance

Group E Optical Networks

ICTBWN307 Use optical measuring instruments

ICTOPN403 Prepare activity plans and specifications for a fibre to the x installation

ICTOPN405 Install and test a dense wavelength division multiplexing system

Group F Project Management

ICTPMG402 Schedule installation of customer premises equipment

ICTPMG403 Manage the delivery of network infrastructure

ICTPMG503 Prepare a project brief

Group G Radio Communications

ICTBWN306 Use radio frequency measuring instruments

ICTRFN402 Select antenna system for radio communications

ICTRFN406 Maintain hybrid fibre coaxial broadband cable network

ICTRFN407 Conduct radio frequency measurements

Group H Sustainability

BSBSUS401 Implement and monitor environmentally sustainable work practices

BSBSUS402 Implement an environmental management plan

Group I Network Engineering

ICTBWN308 Work safely on live optical fibre installations*

ICTTEN208 Use electrical skills when working with telecommunications networks

ICTTEN402 Estimate and quote for customer telecommunications equipment installation

ICTTEN403 Assign a transmission path

ICTTEN406 Effect changes to existing customer premises equipment systems and equipment

ICTTEN416 Install, configure and test an internet protocol network

ICTTEN417 Install, configure and test a router

ICTTEN420 Design, install and configure an internetwork

ICTTEN421 Apply advanced routing protocols to network design

ICTTEN425 Design, install and configure a customer smart technology network

ICTTEN432 Identify requirements for customer telecommunications equipment

ICTTEN435 Solve electrical-based telecommunications circuitry and cabling problems*

*Note the following prerequisite unit requirements:

Prerequisite unit requirements in this qualification	
Unit in this qualification	Prerequisite unit
ICTBWN308 Work safely on live optical fibre installations	ICTBWN307 Use optical measuring instruments ICTWHS204 Follow work health and safety and environmental policy and procedures
ICTTEN435 Solve electrical-based telecommunications circuitry and cabling problems	ICTTEN208 Use electrical skills when working with telecommunications networks

Qualification Mapping Information

No equivalent qualification. Supersedes and is not equivalent to ICT41115 Certificate IV in Telecommunications Network Design.

Links

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