



Australian Government

ICT60615 Advanced Diploma of Telecommunications Network Engineering

Release 1

ICT60615 Advanced Diploma of Telecommunications Network Engineering

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 a technical specialist with high level skills and knowledge in telecommunications and information technology networks using internet protocol (IP) systems who can:

- forecast network growth for enterprise network planning
- design and manage IP based network telecommunications equipment
- implement convergence technologies in enterprise telecommunications networks
- design and manage optical and wireless network telecommunications architectures for high speed broadband capability.

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 = 10

4 Core units plus

6 Elective units

The elective units consist of:

- all 6 units may be selected from the electives units listed below, with a minimum of 2 electives at AQF Level 6
- up to 2 elective units may be substituted with units of competency from any currently endorsed Training Package or accredited course at AQF Level 6 or above.

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 are available within the ICT Information and Telecommunications Technology Training Package.

Core Units

ICTPMG610 Develop a project management plan

ICTPMG611 Prepare a detailed design brief

ICTSUS601 Integrate sustainability in ICT planning and design projects

ICTTEN611 Produce an ICT network architecture design

Elective Units

ICT use (IP networks)

ICTNWK502 Implement secure encryption technologies

ICTNWK503 Install and maintain valid authentication processes

ICTNWK509 Design and implement a security perimeter for ICT networks

ICTNWK517 Determine best-fit topology for a wide area network

ICTNWK518 Design an enterprise wireless local area network

ICTNWK520 Design ICT system security controls

ICTSAS409 Manage risks involving ICT systems and technology

ICTSAS505 Review and update disaster recovery and contingency plans

Network planning

ICTNPL601 Plan the development and growth of the telecommunications network

ICTNPL602 Forecast service demand

ICTNPL603 Undertake network performance analysis

Planning

BSBDES601 Manage design realisation

BSBDES602 Research global design trends

Work health and safety

BSBWHS501 Ensure a safe workplace
BSBWHS504 Manage WHS risks

Optical networks

ICTOPN601 Manage optical ethernet transmission
ICTOPN602 Manage dense wavelength division multiplexing transmission system
ICTOPN603 Design a dense wavelength division multiplexing system
ICTOPN604 Analyse optical transmission systems

Radio frequency networks

ICTRFN601 Monitor the capacity of and recommend changes to the cellular mobile network
ICTRFN602 Produce and evaluate architecture designs for WiMAX networks

Sustainability

ICTSUS602 Establish a business case for sustainability and competitive advantage in ICT projects

Telecommunications engineering networks

ICTTEN601 Undertake qualification testing of new or enhanced equipment and systems
ICTTEN602 Undertake system administration
ICTTEN603 Undertake network traffic management
ICTTEN604 Coordinate fault rectification and restoration of service following network outages
ICTTEN605 Implement planned network changes with minimal impact to the customer
ICTTEN606 Manage a common channel signalling network
ICTTEN607 Analyse and organise repair of highly complex telecommunications network faults
ICTTEN608 Verify new software and hardware releases
ICTTEN609 Produce and evaluate architecture designs for convergent cellular mobile networks

Emerging technologies

ICTTEN612 Design and manage internet protocol TV in a service provider network

IP networks

ICTTEN610 Install and configure an IP-MPLS network with virtual private network tunnelling

Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICT60615 Advanced Diploma of Telecommunications Network Engineering	ICT60210 Advanced Diploma of Telecommunications Network Engineering	Updated to meet Standards for Training Packages	Equivalent qualification
	ICT60110 Advanced Diploma of Optical Networks	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