



**Australian Government**

# **ICA50411 Diploma of Information Technology Networking**

**Release 2**

# ICA50411 Diploma of Information Technology Networking

## Modification History

Release	Comments
Release 2	<i>This version first released with ICA11 Information and Communications Technology Training Package Version 2.</i> Addition of three new units of competency to electives.
Release 1	<i>This Qualification first released with ICA11 Information and Communications Technology Training Package version 1.0</i>

## Description

This qualification provides the skills and knowledge for an individual to manage, as an independent ICT specialist or as part of a team, the installation of a range of networks, including internetworking, security and e-business integration.

### Job roles

Possible job titles relevant to this qualification include:

- network administrator
- IT administrator
- IT operations administrator
- network services administrator
- network support coordinator
- network operations analyst
- network security coordinator
- network e-business coordinator.

## Pathways Information

### *Pathways into the qualification*

Preferred pathways for candidates considering this qualification include:

- after achieving ICA40411 Certificate IV in Information Technology Networking, or other relevant qualifications or units equivalent to the core of ICA40411

OR

- with demonstrated vocational experience in a range of work environments in senior network support roles, including administrator, operations analyst, technician, operations or support coordinator/technician.

### *Pathways from the qualification*

ICA60211 Advanced Diploma of Network Security, or a range of other ICA11 Advanced Diploma or Vocational Graduate Certificate qualifications, or other relevant higher education sector qualifications.

## Licensing/Regulatory Information

There is no link between this qualification and licensing, legislative or regulatory requirements. However users should confirm requirements with the relevant federal, state or territory authority. There may be some alignment with industry standard certification competencies.

## Entry Requirements

There are no entry requirements for this qualification.

## Employability Skills Summary

The following table contains a summary of the employability skills required by industry for this qualification. The employability skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability skill	Industry/enterprise requirements for this qualification
Communication	<ul style="list-style-type: none"> <li>• applying plain English to written documents and reports</li> <li>• writing complex briefs and reports for businesses, requiring depth of analysis and evaluation of information</li> <li>• conducting meetings and briefing sessions for team members</li> </ul>
Teamwork	<ul style="list-style-type: none"> <li>• consulting with work team and providing directions to review proposed changes against current and future business requirements</li> <li>• establishing and improving work teams in an IT environment</li> </ul>
Problem-solving	<ul style="list-style-type: none"> <li>• debugging code</li> <li>• solving network problems related to the installation of hardware, software and networks</li> </ul>
Initiative and enterprise	<ul style="list-style-type: none"> <li>• developing new criteria and procedures for performing current practices</li> <li>• identifying, analysing and evaluating information from a variety of sources</li> </ul>
Planning and organising	<ul style="list-style-type: none"> <li>• creating project plans to guide the development of systems methodologies</li> <li>• planning and designing networking structures</li> </ul>
Self-management	<ul style="list-style-type: none"> <li>• taking responsibility for own and others' output in relation to specified quality standards</li> <li>• meeting ethical standards in the areas of security, legal, moral and ethical practice</li> </ul>
Learning	<ul style="list-style-type: none"> <li>• maintaining knowledge of diagnostic tools and software applications and the goods and services provided</li> <li>• obtaining client evaluation and feedback</li> <li>• providing instructions to clients and users</li> </ul>
Technology	<ul style="list-style-type: none"> <li>• selecting and using software, hardware and networking components and diagnostic tools in a wide range of different environments</li> </ul>

## Packaging Rules

**Total number of units = 16**

**5 core units** plus

**11 elective units**, of which:

- 8 units must be from the elective units listed below
- the remaining units may be from the elective units below or from elsewhere in ICA11 or any other Training Package or accredited course at Certificate IV, Diploma or Advanced Diploma level.

The elective units chosen must be relevant to the work outcome and meet local industry needs.

### Core units

ICAICT418A Contribute to copyright, ethics and privacy in an IT environment

ICAICT511A Match IT needs with the strategic direction of the enterprise

ICANWK529A Install and manage complex ICT networks

ICTSUS5187A Implement server virtualisation for a sustainable ICT system

ICTTEN6206A Produce an ICT network architecture design

### Elective units

BSBSUS501A Develop workplace policy and procedures for sustainability

ICAICT501A Research and review hardware technology options for organisations

ICAICT509A Gather data to identify business requirements

ICAICT514A Identify and manage the implementation of current industry-specific technologies

ICAICT603A Manage the use of appropriate development methodologies

ICANWK501A Plan, implement and test enterprise communication solutions

ICANWK502A Implement secure encryption technologies

ICANWK503A Install and maintain valid authentication processes

ICANWK504A Design and implement an integrated server solution

ICANWK505A Design, build and test a network server

ICANWK506A Configure, verify and troubleshoot WAN links and IP services in a medium enterprise network

ICANWK507A Install, operate and troubleshoot medium enterprise routers

ICANWK508A Install, operate and troubleshoot medium enterprise switches

ICANWK509A Design and implement a security perimeter for ICT networks

ICANWK510A Develop, implement and evaluate system and application security

ICANWK511A Manage network security

ICANWK513A Manage system security

ICANWK524A Install and configure network access storage devices

ICANWK525B Configure an enterprise virtual computing environment

ICANWK527B Manage an enterprise virtual computing environment

ICANWK531A Configure an internet gateway

ICANWK533A Configure and manage advanced virtual computing environments

ICANWK534A Monitor and troubleshoot virtual computing environments

ICANWK535A Install an enterprise virtual computing environment

ICANWK615A Design and configure desktop virtualisation

ICAPMG501A Manage IT projects  
ICASAD506A Produce a feasibility report  
ICASAS406A Implement and hand over system components  
ICASAS501A Develop, implement and evaluate an incident response plan  
ICASAS502A Establish and maintain client user liaison  
ICASAS503A Perform systems test  
ICASAS505A Review and update disaster recovery and contingency plans  
ICASAS512A Review and manage delivery of maintenance services  
ICASAS515A Manage the testing process  
ICTOPN5119A Perform acceptance and commissioning tests on optical network  
ICTOPN5120A Plan for an optical system upgrade and cut over  
ICTOPN5122A Test the performance of specialised optical devices  
ICTOPN5123A Analyse and integrate specialised optical devices in the network  
ICTSUS6233A Integrate sustainability in ICT planning and design projects  
ICTSUS6234A Establish a business case for sustainability and competitive advantage in ICT projects  
ICTTEN4213A Configure and troubleshoot advanced network switching  
ICTTEN5168A Design and implement an enterprise voice over internet protocol and a unified communications network  
ICTTEN5201A Install, configure and test a server  
ICTTEN5203A Dimension and design a radio frequency identification system  
ICTTEN5204A Produce technical solutions from business specifications  
ICTTEN5217A Plan a wireless mesh network  
ICTTEN6172A Design and configure an IP-MPLS network with virtual private network tunnelling

### **Selecting elective units for different outcomes**

The following examples are designed to assist in the selection of appropriate electives for particular outcomes at this level, but are in no way prescriptive.

### **Certified technology specialist – communications technologies**

Core units plus:

ICANWK501A Plan, implement and test enterprise communication solutions

### **Certified technology specialist – network and applications infrastructure**

Core units plus:

ICANWK505A Design, build and test a network server

### **Certified technician or technology specialist – infrastructure configuration**

Core units plus:

ICANWK505A Design, build and test a network server

ICANWK503A Install and maintain valid authentication processes

### **Certified network associate specialist**

Core units plus:

ICANWK529A Install and manage complex ICT networks

ICANWK506A Configure, verify and troubleshoot WAN links and IP services in a medium enterprise network

ICANWK507A Install, operate and troubleshoot medium enterprise routers

ICANWK508A Install, operate and troubleshoot medium enterprise switches

### **Certified security and architect specialist**

Core units plus:

ICANWK529A Install and manage complex ICT networks

ICANWK503A Install and maintain valid authentication processes

ICANWK511A Manage network security

### **Certified technology specialist – internet security**

Core units plus:

ICANWK509A Design and implement a security perimeter for ICT networks