



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **ICA40111 Certificate IV in Information Technology**

**Release: 1**

## ICA40111 Certificate IV in Information Technology

### Modification History

Release	Comments
Release 1	This Qualification first released with <i>ICA11 Information and Communications Technology Training Package version 1.0</i>

### Description

This qualification provides the skills and knowledge for an individual to be competent in a wide range of general information and communications technology (ICT) technologies and to support small to medium enterprises (SMEs) that require broader rather than more specialised ICT support.

Persons working at this level apply a wide range of knowledge and skills in basic networking, IT support, database development, programming and web development support; working safely and ethically in a sustainable work environment.

### Job roles

Possible job titles relevant to this qualification include:

- computer technician
- customer support
- customer support professional
- information systems operator
- PC support
- systems administrator
- systems support
- technical support
- user support technician
- network operations technician.

## **Pathways Information**

### **Pathways into the qualification**

Preferred pathways for candidates considering this qualification may include:

- after achieving ICA30111 Certificate III in Information, Digital Media and Technology, or other relevant qualifications or units equivalent to the core of ICA30111

OR

- with demonstrated vocational experience in a range of work environments using a range of information technologies.

### **Pathways from the qualification**

ICA50111 Diploma of Information Technology, or a range of other Diploma 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>• liaising with clients to determine requirements and ensure that they are met</li> <li>• interpreting software manual instructions</li> <li>• writing reports and documents</li> <li>• consulting with end users to determine requirement sign-off</li> </ul>
Teamwork	<ul style="list-style-type: none"> <li>• consulting with work team 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>• determining the uses and audience of a simple markup language document</li> <li>• troubleshooting and running diagnostic tests and providing solutions to hardware or software faults</li> <li>• debugging and writing scripts to solve problems</li> </ul>
Initiative and enterprise	<ul style="list-style-type: none"> <li>• assessing and recording information from various sources</li> <li>• identifying and applying skills and knowledge to a wide variety of contexts</li> <li>• investigating and documenting solutions to client problems</li> <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>• developing installation plans</li> <li>• preparing feasibility reports that take into account project scope, time, cost, quality, communications and risk management</li> </ul>
Self-management	<ul style="list-style-type: none"> <li>• prioritising and taking responsibility for own outputs in working and learning</li> <li>• implementing safe and sustainable work practices</li> <li>• taking responsibility for own output in relation to specified quality standards</li> <li>• incorporating into the work environment suitable ethics regarding security, legal, moral and ethical issues</li> </ul>
Learning	<ul style="list-style-type: none"> <li>• adopting and transferring skills and knowledge to new environments</li> </ul>

	<ul style="list-style-type: none"><li>• keeping up-to-date with current industry-accepted hardware and software products and services</li><li>• reviewing client feedback and identifying areas for improvement</li><li>• gathering and organising feedback on draft documentation and client satisfaction</li><li>• maintaining knowledge of tools and software applications and the goods and services provided</li></ul>
Technology	<ul style="list-style-type: none"><li>• selecting, installing and using computer software and hardware products</li><li>• configuring, optimising and testing system software for a small home office or a small to medium business network</li><li>• selecting, sourcing and using appropriate software and tools based on analysis of technical needs</li></ul>

## Packaging Rules

**Total number of units = 20**

**5 core units *plus***

**15 elective units**

The elective units consist of:

- up to 15 from the specialist elective groups below, with a maximum of 5 units from any one group:
  - Group A Networking
  - Group B Programming
  - Group C IT support
  - Group D Web design and development
  - Group E Digital games
  - Group F Digital media technologies
  - Group G Project management
- up to 5 from elsewhere in ICA11 or any other Training Package or accredited course at Certificate IV or Diploma level.

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

### Core units

BSBOHS302B Participate effectively in OHS communication and consultative processes

BSBSUS301A Implement and monitor environmentally sustainable work practices

ICAICT202A Work and communicate effectively in an IT environment

ICAICT401A Determine and confirm client business requirements

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

### Elective units

#### *Specialist elective units*

#### **Group A Networking**

ICANWK401A Install and manage a server

ICANWK402A Install and configure virtual machines for sustainable ICT

ICANWK403A Manage network and data integrity

ICANWK404A Install, operate and troubleshoot a small enterprise branch network

ICANWK405A Build a small wireless local area network

ICANWK406A Install, configure and test network security

ICANWK407A Install and configure client-server applications and services

ICANWK408A Configure a desktop environment

ICANWK409A Create scripts for networking

ICANWK410A Install hardware to a network

ICANWK411A Deploy software to networked computers

ICANWK412A Create network documentation

ICANWK414A Create a common gateway interface script

ICANWK416A Build security into virtual private networks

ICANWK417A Build an enterprise wireless network  
ICANWK418A Implement backbone technologies in a local area network  
ICASAS307A Install, configure and secure a small office home office network

### **Group B Programming**

ICAICT410A Conduct post-implementation IT system reviews  
ICAICT420A Develop client user interface  
ICAPRG401A Maintain open-source code programs  
ICAPRG402A Apply query language  
ICAPRG403A Develop data-driven applications  
ICAPRG404A Test applications  
ICAPRG405A Automate processes  
ICAPRG406A Apply introductory object-oriented language skills  
ICAPRG407A Write script for software applications  
ICAPRG409A Develop mobile applications  
ICAPRG410A Build a user interface  
ICAPRG412A Configure and maintain databases  
ICAPRG413A Use a library or pre-existing components  
ICAPRG414A Apply introductory programming skills in another language  
ICAPRG415A Apply skills in object-oriented design  
ICAPRG416A Manage a software component reuse library  
ICAPRG417A Apply mathematical techniques for software development  
ICAPRG418A Apply intermediate programming skills in another language  
ICAPRG419A Analyse software requirements  
ICAPRG425A Use structured query language  
ICAPRG426A Prepare software development review  
ICAPRG427A Use XML effectively  
ICAPRG428A Use regular expressions in programming languages

### **Group C IT support**

ICADBS403A Create basic databases  
ICADBS407A Monitor physical database implementation  
ICADBS408A Link an RFID system to a database  
ICADBS503A Create a data warehouse  
ICAICT402A Determine project specifications and secure client agreement  
ICAICT403A Apply software development methodologies  
ICAICT404A Use online learning tools  
ICAICT405A Develop detailed technical design  
ICAICT406A Build a graphical user interface  
ICAICT408A Create technical documentation  
ICAICT411A Select and employ software and hardware testing tools  
ICAICT412A Coordinate and maintain IT work teams  
ICAICT413A Relate to clients on a business level  
ICAICT415A Provide one-to-one instruction  
ICAICT416A Contribute to the development of strategic plans  
ICAICT417A Identify, evaluate and apply current industry-specific technologies to meet industry standards  
ICASAD401A Develop and present feasibility reports

ICASAS402A Implement configuration management strategies  
ICASAS403A Review site environmental factors prior to IT system implementation  
ICASAS404A Acquire IT system components  
ICASAS405A Identify and evaluate IT industry vendor technologies  
ICASAS407A Conduct pre-installation audit for software installation  
ICASAS408A Complete data transition in data migration process  
ICASAS409A Manage risks involving ICT systems and technology  
ICASAS410A Identify and resolve client IT problems  
ICASAS411A Assist with policy development for client support procedures  
ICASAS412A Action change requests  
ICASAS413A Manage resolution of system faults on a live system  
ICASAS414A Evaluate system status  
ICASAS415A Optimise IT system performance  
ICASAS416A Implement maintenance procedures  
ICASAS417A Undertake IT system capacity planning  
ICASAS418A Monitor and administer security of an IT system  
ICASAS419A Support system software  
ICASAS420A Provide first-level remote help-desk support  
ICASAS421A Support users and troubleshoot desktop applications  
ICASAS424A Support different operating systems

#### **Group D Web design and development**

ICAICT407A Maintain website information standards  
ICAWEB401A Design a website to meet technical requirements  
ICAWEB402A Confirm accessibility of websites for people with special needs  
ICAWEB403A Transfer content to a website using commercial packages  
ICAWEB404A Maintain website performance  
ICAWEB405A Monitor traffic and compile website traffic reports  
ICAWEB406A Create website testing procedures  
ICAWEB407A Conduct operational acceptance tests of websites  
ICAWEB408A Ensure basic website security  
ICAWEB409A Develop cascading style sheets  
ICAWEB410A Apply web authoring tool to convert client data for websites  
ICAWEB411A Produce basic client-side script for dynamic web pages  
ICAWEB412A Produce interactive web animation  
ICAWEB413A Optimise search engines  
ICAWEB414A Design simple web page layouts  
ICAWEB415A Produce server-side script for dynamic web pages  
ICAWEB416A Customise content management system  
ICAWEB417A Integrate social web technologies  
ICAWEB418A Use development software and IT tools to build a basic website  
ICAWEB419A Develop guidelines for uploading information to a website  
ICAWEB420A Write content for web pages  
ICAWEB421A Ensure website content meets technical protocols and standards  
ICAWEB422A Ensure website access and useability  
ICAWEB423A Ensure dynamic website security  
ICAWEB424A Evaluate and select a web hosting service  
ICAWEB425A Apply structured query language to extract and manipulate data



ICAWEB429A Create a markup language document to specification

### **Group E Digital games**

ICAGAM401A Produce an interactive game

ICAGAM402A Identify and apply principles of games design and game playing

ICAGAM403A Create design documents for interactive games

ICAGAM405A Write story and content for digital games

ICAGAM406A Create visual design components for interactive games

ICAGAM407A Write scripts for interactive games

ICAGAM408A Use 3-D animation interface and toolsets

ICAGAM409A Create 3-D characters for interactive games

ICAGAM410A Develop 3-D components for interactive games

ICAGAM412A Design interactive media

ICAGAM413A Design and create 3-D digital models

ICAGAM414A Create audio for digital games

ICAGAM415A Develop simple environments for 3-D games

ICAGAM416A Prepare and complete image rendering processes

ICAGAM417A Apply digital effects to interactive products

ICAICT419A Work effectively in the digital media industry

### **Group F Digital media technologies**

BSBCRT401A Articulate, present and debate ideas

CUFANM301A Create 2D digital animations

CUFANM302A Create 3D digital animations

CUFANM402A Create digital visual effects

CUFDIG401A Author interactive media

CUFPPM404A Create storyboards

CUFSSOU204A Perform basic sound editing

CUFSSOU301A Prepare audio assets

ICADMT401A Create visual design components for digital media

ICADMT402A Produce interactive animation

ICADMT403A Produce and edit digital images

### **Group G Project management**

ICAPMG401A Support small scale IT projects