Australian Government

ICA40111 Certificate IV in Information Technology

Release 2

**INDUSTRY
SKILLS
COUNCILS**
Creating Australia's Future

ICA40111 Certificate IV in Information Technology

Modification History

Release	Comments
Release 2	*This version first released with ICA11 Information and Communications Technology Training Package Version 2.* Addition of two new units of competency to Elective Group A.
Release 1	This Qualification first released with *ICA11 Information and Communications Technology Training Package version 1.0*

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	- liaising with clients to determine requirements and ensure that they are met - interpreting software manual instructions - writing reports and documents - consulting with end users to determine requirement sign-off
Teamwork	- consulting with work team to review proposed changes against current and future business requirements - establishing and improving work teams in an IT environment
Problem-solving	- determining the uses and audience of a simple markup language document - troubleshooting and running diagnostic tests and providing solutions to hardware or software faults - debugging and writing scripts to solve problems
Initiative and enterprise	- assessing and recording information from various sources - identifying and applying skills and knowledge to a wide variety of contexts - investigating and documenting solutions to client problems - developing new criteria and procedures for performing current practices - identifying, analysing and evaluating information from a variety of sources
Planning and organising	- creating project plans to guide the development of systems methodologies - developing installation plans - preparing feasibility reports that take into account project scope, time, cost, quality, communications and risk management
Self-management	- prioritising and taking responsibility for own outputs in working and learning - implementing safe and sustainable work practices - taking responsibility for own output in relation to specified quality standards - incorporating into the work environment suitable ethics regarding security, legal, moral and ethical issues
Learning	- adopting and transferring skills and knowledge to new environments - keeping up-to-date with current industry-accepted hardware

	and software products and services • reviewing client feedback and identifying areas for improvement • gathering and organising feedback on draft documentation and client satisfaction • maintaining knowledge of tools and software applications and the goods and services provided
Technology	• selecting, installing and using computer software and hardware products • configuring, optimising and testing system software for a small home office or a small to medium business network • selecting, sourcing and using appropriate software and tools based on analysis of technical needs

     Innovation and Business Skills Australia

Packaging Rules

Total number of units = 20
5 core units plus
15 elective units, of which:

- a minimum of 10 units must be 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 units may be from the elective units below or elsewhere in ICA11 or any other Training Package or accredited course at Certificate III, IV or Diploma level.

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

Core units
BSBSUS301A Implement and monitor environmentally sustainable work practices
BSBWHS304A Participate effectively in WHS communication and consultative processes
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
ICAICT423A Select cloud storage strategies
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

ICANWK419A Identify and use current virtualisation technologies

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

ICADBS503B 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
ICAGAM404A Apply artificial intelligence in game development
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
CUFSOU204A Perform basic sound editing
CUFSOU301A 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