



Australian Government

ICA50111 Diploma of Information Technology

Release 2

ICA50111 Diploma of Information Technology

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 Elective Group A.
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 administer and manage information and communications technology (ICT) support in small-to-medium enterprises (SMEs) using a wide range of general ICT technologies.

Persons working at this level provide a broader rather than specialised ICT support function, applying a wide range of higher level technical skills in ICT areas such as networking, IT support, database development, programming and web development.

Job roles

Possible job titles relevant to this qualification include:

- information systems office manager
- office systems administrator
- IT office manager
- IT systems administrator
- systems manager.

Pathways Information

Pathways into the qualification

Preferred pathways for candidates considering this qualification may include:

- after achieving ICA40111 Certificate IV in Information Technology, or other relevant qualifications or units equivalent to the core of ICA40111

OR

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

Pathways from the qualification

ICA60111 Advanced Diploma of Information Technology or other ICA11 Advanced 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">liaising with clients to determine requirements and ensure that they are metanalysing, evaluating and presenting information about computer systems and information technology in conjunction with stakeholdersnegotiating the provision of goods and services with service and product suppliers
Teamwork	<ul style="list-style-type: none">establishing and improving work teams in an IT environmentworking with a project team to identify business critical functions and the security environmentworking with key stakeholders to gather, analyse and report on information
Problem-solving	<ul style="list-style-type: none">determining the uses and audience of a simple markup language documenttroubleshooting and running diagnostic tests and providing solutions to hardware or software faultsdebugging and writing scripts to solve problemssolving a range of unpredictable problems, for example when validating system design specifications or preparing a disaster recovery plan
Initiative and enterprise	<ul style="list-style-type: none">identifying and applying skills and knowledge to a wide variety of contextsinvestigating and documenting solutions to client problemsidentifying, analysing and evaluating information from a variety of sourcesinitiating alternative approaches to problem solvingparticipating in the development of strategic initiatives
Planning and organising	<ul style="list-style-type: none">creating project plans to guide the development of systems methodologiesidentifying problems, planning solutions and validating results using project planning skills to take into account project scope, time, cost, quality, communications, and risk analysis and management
Self-management	<ul style="list-style-type: none">prioritising and taking responsibility for own outputs in working and learningimplementing safe and sustainable work practicesusing personal responsibility and autonomy in performing

	complex technical operations and organising others
Learning	<ul style="list-style-type: none">• 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• transferring and applying theoretical concepts, technical information and creative skills in a range of situations
Technology	<ul style="list-style-type: none">• identifying technology needs• sourcing, purchasing, using and testing system components• applying understanding of conflicts and integration capabilities between diverse pieces of equipment

Packaging Rules

Total number of units = 20

4 core units plus

16 elective units, of which:

- 11 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
- 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

BSBSUS501A Develop workplace policy and procedures for sustainability

BSBWHS501A Ensure a safe workplace

ICAICT509A Gather data to identify business requirements

ICAICT511A Match IT needs with the strategic direction of the enterprise

Specialist elective units

Group A Networking

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

ICANWK514A Model preferred system solutions

ICANWK515A Develop configuration management protocols

ICANWK516A Determine best-fit topology for a local network

ICANWK517A Determine best-fit topology for a wide area network

ICANWK518A Design an enterprise wireless local area network
ICANWK519A Design an IT security framework
ICANWK520A Design IT system security controls
ICANWK521A Install, configure and test a payment gateway
ICANWK522A Build decks using wireless markup language
ICANWK524A Install and configure network access storage devices
ICANWK525B Configure an enterprise virtual computing environment
ICANWK527B Manage an enterprise virtual computing environment
ICANWK529A Install and manage complex ICT networks
ICANWK531A Configure an internet gateway
ICANWK532A Identify and resolve network problems
ICANWK533A Configure and manage advanced virtual computing environments
ICANWK534A Monitor and troubleshoot virtual computing environments
ICANWK535A Install an enterprise virtual computing environment
ICANWK614A Manage IT security
ICANWK615A Design and configure desktop virtualisation

Group B Programming

ICAPRG501A Apply advanced object-oriented language skills
ICAPRG502A Manage a project using software management tools
ICAPRG503A Debug and monitor applications
ICAPRG504A Deploy an application to a production environment
ICAPRG505A Build advanced user interface
ICAPRG506A Design application architecture
ICAPRG507A Implement security for applications
ICAPRG508A Create mashups
ICAPRG509A Build using rapid application development
ICAPRG510A Maintain custom software
ICAPRG511A Monitor and support data conversion to new IT system
ICAPRG512A Prepare for the build phase of an IT system
ICAPRG513A Coordinate the build phase of an IT system
ICAPRG514A Prepare for software development using rapid application development
ICAPRG515A Review developed software
ICAPRG516A Develop integration blueprint for IT systems
ICAPRG517A Install, test and evaluate pilot version of IT system
ICAPRG518A Monitor the system pilot
ICAPRG523A Apply advanced programming skills in another language
ICAPRG524A Develop high-level object-oriented class specifications
ICAPRG525A Build Java applets
ICAPRG526A Maintain functionality of legacy code programs
ICAPRG527A Apply intermediate object-oriented language skills
ICAPRG528A Perform IT data conversion
ICAPRG601A Develop advanced mobile multi-touch applications
ICASAD501A Model data objects
ICASAD502A Model data processes
ICASAD503A Minimise risk of new technologies to business solutions

Group C IT support

ICAICT501A Research and review hardware technology options for organisations
ICAICT502A Develop detailed component specifications from project specifications
ICAICT503A Validate quality and completeness of system design specifications
ICAICT504A Confirm transition strategy for a new system
ICAICT506A Implement process re-engineering strategies
ICAICT507A Select new technology models for business
ICAICT510A Determine appropriate IT strategies and solutions
ICAICT512A Plan process re-engineering strategies for business
ICAICT514A Identify and manage the implementation of current industry-specific technologies
ICAICT515A Verify client business requirements
ICASAS506A Produce a feasibility report
ICASAS501A Develop, implement and evaluate an incident response plan
ICASAS502A Establish and maintain client user liaison
ICASAS503A Perform systems tests
ICASAS504A Develop and conduct client acceptance test
ICASAS505A Review and update disaster recovery and contingency plans
ICASAS506A Update IT system operational procedures
ICASAS507A Implement and evaluate systems for regulatory and standards compliance
ICASAS509A Provide client IT support services
ICASAS510A Review and develop IT maintenance strategy
ICASAS511A Prioritise IT change requests
ICASAS512A Review and manage delivery of maintenance services
ICASAS513A Develop detailed test plans
ICASAS515A Manage the testing process
ICASAS517A Use network tools
ICASAS518A Install and upgrade operating systems

Group D Web design and development

ICAWEB411A Produce basic client-side script for dynamic web pages
ICAWEB429A Create a markup language document to specification
ICAWEB501A Build a dynamic website
ICAWEB502A Create dynamic web pages
ICAWEB503A Create web-based programs
ICAWEB504A Build a document using eXtensible markup language
ICAWEB505A Develop complex web page layouts
ICAWEB506A Develop complex cascading style sheets
ICAWEB507A Customise a complex IT content management system
ICAWEB508A Develop website information architecture
ICAWEB509A Use site server tools for transaction management
ICAWEB510A Analyse information and assign meta-tags
ICAWEB511A Implement quality assurance process for websites
ICAWEB512A Administer business websites and servers
ICAWEB515A Implement and use web services
ICAWEB516A Research and apply emerging web technology trends

Group E Digital games

ICAGAM501A Create design concepts for digital games and 3-D media

ICAGAM503A Create a complex 3-D interactive computer game
ICAGAM504A Manage interactive media production
ICAGAM506A Create complex code for mobile game devices
ICAGAM507A Develop intermediate 3-D software for games and interactive media
ICAGAM508A Develop complex 3-D software for games and interactive media
ICAGAM509A Design interactive 3-D applications for scientific and mathematical modelling
ICAGAM510A Prepare games for different platforms and delivery modes
ICAGAM511A Manage testing of games and interactive media
ICAGAM512A Create and implement designs for a 3-D games environment
ICAGAM514A Design and create models for a 3-D and digital effects environment
ICAGAM515A Design and create advanced particles, fluids and bodies for 3-D digital effects
ICAGAM516A Animate a 3-D character for digital games
ICAGAM517A Produce a digital animation sequence
ICAGAM518A Animate physical attributes of models and elements
ICAGAM519A Manage technical art and rigging in 3-D animation
ICAGAM520A Create and combine 3-D digital games and components
ICAGAM521A Create interactive 3-D environments for digital games
ICAGAM522A Complete digital editing for the 3-D and digital effects environment
ICAGAM523A Collaborate in the design of 3-D game levels and environments
ICAGAM524A Integrate multiple data sources into interactive 3-D environments
ICAGAM525A Apply digital texturing for the 3-D environment in digital games
ICAGAM526A Create complex 3-D characters for games
ICAGAM527A Integrate database with online game
ICAGAM529A Analyse business opportunities in the digital games environment

Group F Digital media technologies

BSBCRT501A Originate and develop concepts
CUFDIG502A Design web environments
CUFDIG503A Design e-learning resources
CUFDIG507A Design digital simulations
CUFPOS201A Perform basic vision and sound editing
CUFPOS401A Edit screen content for fast turnaround
CUSSOU302A Record and mix a basic music demo
CUSSOU502A Produce sound recordings
CUVPHI519A Investigate and exploit innovative imaging options
ICADMT501A Incorporate and edit digital video
ICAICT406A Build a graphical user interface
ICAICT419A Work effectively in the digital media industry

Group G Project management

ICAPMG501A Manage IT projects