Australian Government

Department of Education, Employment and Workplace Relations

ICA40105 Certificate IV in Information Technology (General)

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

ICA40105 Certificate IV in Information Technology (General)

Modification History

Not Applicable

Innovation and Business Skills Australia

Description

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This qualification provides the skills and knowledge for an individual to be competent in a range of ICT fields at Certificate IV level. The qualification has a strong core ICT base sharing the same core competencies as several other IT qualifications of the same level. Depending on the stream chosen, this qualification offers pathways into a number of IT qualifications at Diploma level.

It is a broad and flexible qualification with multiple internal pathways and no direct equivalent in ICA99 Version 3. However, where the combination of core and elective units selected matches another ICA05 Certificate IV in IT equivalent, the latter award must be issued in preference to this 'general' qualification. Note: This alternative qualification must be on the RTO's scope of registration to issue the latter award. This will ensure that there is clear identification of the work-related area of specialisation that has been undertaken.

Small to Medium Enterprises (SMEs) will find the contents of this qualification useful at a technical specialist support level.

It has 7 specialist streams (both core and elective) which enable maximum choice and flexibility to suit enterprise needs. Selection of units from at least 3 of the 7 specialist streams are required to complete this qualification. The 7 streams are:

- Software
- Networking
- Client Support
- Hardware/Operating Systems
- Communications/Documentation
- Analysis/Management
- Multimedia

Job Roles

It is difficult to identify one specific vocational outcome for this qualification because of the 'general' nature of this qualification and the diverse array of unit choices and streams available. Graduates exiting this qualification will be likely to secure employment in an ICT 'generalist' role with useful skills and knowledge across several of the specialist streams. The judicious choice of stream and electives units would provide for more specialist vocational outcomes associated with the streams. Job titles listed for other ICA05 Certificate IV qualifications that in part match the above streams could provide some guidance.

Prerequisite Requirements

A number of units within this qualification have prerequisites. These are detailed as follows:

Code and Title	Prerequisite units required
ICAA4047B Determine project specifications and secure client agreement	ICAA4041C Determine and confirm client business expectations and needs
ICAA4058B Apply skills in object-oriented design	ICAA4233B Determine and apply appropriate development methodologies
ICAB4136B Use structured query language to create database structures and manipulate data	ICAB4225B Automate processes

Code and Title	Prerequisite units required
ICAB4219B Apply introductory object-oriented language skills	ICAB4225B Automate processes
ICAB4220B Create scripts for networking	ICAB4225B Automate processes
ICAB4222B Apply introductory programming skills in another language	ICAB4225B Automate processes
ICAB4247A Link an RFID system to a database	ICAB4136B Use structured query language to create database structures and manipulate data
ICAD4190B Maintain information standards	ICAD4217B Create technical documentation
ICAD4198B Develop guidelines for uploading information to a website	ICAD3218B Create user documentation ICAD4217B Create technical documentation
ICAI4097C Install and configure a network	ICAI3101B Install and manage network protocols
ICAI4175C Select and install a router	ICAI3101B Install and manage network protocols
ICAI4188B Install and maintain a server	ICAI3101B Install and manage network protocols ICAI3020B Install and optimise operating system software [#] ICAS3120C Configure and administer a network operating system [#]
ICAI4244A Install and maintain an RFID system	ICAI3101B Install and manage network protocols ICAI4029B Install network hardware to a network
ICAI4249A Implement and evaluate data security	ICAS3024B Provide basic system administration ICAS4124B Monitor and administer network security [#]
ICAI4251A Implement and evaluate network and telecommunication security	ICAS4119B Monitor and administer system security [#]

Code and Title	Prerequisite units required
	ICAS4124B Monitor and administer network security #
ICAP4037B Contribute to the development of a strategy plan	ICAA4041C Determine and confirm client business expectations and needs
ICAS4107B Manage resolution of system faults on a live system	ICAS3024B Provide basic system administration
	ICAT3025B Run standard diagnostic tests
	ICAT4221B Locate equipment, system and software faults
ICAS4109B Evaluate system status	ICAT3025B Run standard diagnostic tests
ICAS4112B Optimise system performance	ICAI3110C Implement system software changes #
ICAS4114B Implement maintenance procedures	ICAT3025B Run standard diagnostic tests
ICAS4119B Monitor and administer system security	ICAI3020B Install and optimise operating system software
	ICAS3024B Provide basic system administration
ICAS4124B Monitor and administer network security	ICAS3032B Provide network systems administration#
ICAS4125B Monitor and administer a database	ICAS3024B Provide basic system administration
ICAS4127B Support system software	ICAI3020B Install and optimise operating system software

\#   This unit has prerequisite requirements. Section 1.6 provides further details.

Pathways Information

Not Applicable

Licensing/Regulatory Information

Not Applicable

Entry Requirements

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The following units contain the basic fundamentals of ICT knowledge and skills for all qualifications at Certificate III in IT and above. These units or demonstrated equivalence are required for entry into this qualification:

BSBCMN106A   Follow workplace safety procedures
ICAD2012B   Design organisational documents using computing packages
ICAU1128B   Operate a personal computer
ICAU2005B   Operate computer hardware
ICAU2006B   Operate computing packages
ICAU2013B   Integrate commercial computing packages
ICAU2231B   Use computer operating system
ICAW2001B   Work effectively in an IT environment
ICAW2002B   Communicate in the workplace

Employability Skills Summary

Employability Skills Summary
ICA40105 Certificate IV in Information Technology (**General**)

The following table contains a summary of the Employability Skills appropriate for a person who is a generalist with responsibility for web site development and maintenance. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry requirements for this qualification include:
Communication	• being able to undertake open ended questioning techniques and to exercise active listening skills in relation to dealing with clients and team members (e.g. eliciting information for network troubleshooting) • consulting with end users and clients before, during and after development of services to determine their issues and ensure that their needs are met
Teamwork	• consulting with the work team to review proposed changes against current and future business requirements • establishing and improving work teams in an IT environment
Problem Solving	• debugging code • determining criteria for writing script for web pages for example, criteria such as dynamic functionality and appropriate language
Initiative and Enterprise	• developing new criteria and procedures for performing current practices • identifying, analysing and evaluating information from a

Employability Skill	Industry requirements for this qualification include:
	variety of sources • providing input into the disaster recovery plan
Planning and Organising	• creating project plans to guide the development of systems methodologies • developing installation plans • preparing feasibility reports taking into account the scope, time, cost, quality, communications and risk management
Self-management	• taking responsibility for own output in relation to specified quality standards • working within the Australian Computer Society code of ethics regarding security, legal, moral and ethical issues
Learning	• gathering and organising feedback on draft documentation and client satisfaction • maintaining knowledge of tools and software applications that may be useful and the goods and services provided
Technology	• selecting, sourcing and using appropriate software and tools based on analysis of technical needs

Packaging Rules

Qualification Structure
To attain the ICA40105 Certificate IV in Information Technology (General) 23 units must be achieved:

- 8 common core units; plus
- 9 specialist stream core units (3 units chosen from any   3 specialist core streams - Software, Networking, Client Support, Hardware/Operating Systems, Communications/Documentation, Analysis/Management, Multimedia); plus
- 6 elective units

Achieve 8 Common Core Units
Common Core
BSBCMN304A   Contribute to personal skill development and learning
ICAA4041C   Determine and confirm client business expectations and needs
ICAB4225B   Automate processes
ICAD4043B   Develop and present a feasibility report
ICAD4217B   Create technical documentation
ICAT4221B   Locate equipment, system and software faults
ICAW4214B   Maintain ethical conduct
PSPPM402B   Manage simple projects
Achieve 9 Specialist Core Stream Units   (by choosing 3 units from any 3 specialist streams below - Software, Client Support, Hardware/Operating Systems, Communications/Documentation, Analysis/Management, Multimedia, Networking)

Specialist Core Stream - **Software**

ICAA4051B   Develop client user interface
ICAA4058B   Apply skills in object-oriented design
ICAA4233B   Determine and apply appropriate development methodologies
ICAB4075B   Use a library or pre-existing components
ICAB4135B   Create a simple mark-up language document to specification
ICAB4136B   Use structured query language to create database structures and manipulate
data
ICAB4137B   Produce basic client side script for dynamic web pages
ICAB4169B   Use development software and IT tools to build a basic website
ICAB4178B   Build a graphical user interface
ICAB4219B   Apply introductory object-oriented language skills
ICAB4222B   Apply introductory programming skills in another language
ICAI4189B   Ensure website content meets technical protocols and standards
ICAS4125B   Monitor and administer a database
ICAS4201B   Transfer content to a website using commercial packages
ICAT4242B   Perform unit test for a class

Specialist Core Stream - **Client Support**

ICAS4022B   Determine and action client computing problems
ICAS4033B   Assist with policy development for client support procedures
ICAS4106B   Action and complete change requests
ICAW4027B   Relate to clients on a business level

Specialist Core Stream - **Hardware/Operating Systems**

ICAI4188B   Install and maintain a server
ICAS4109B   Evaluate system status
ICAS4114B   Implement maintenance procedures
ICAS4127B   Support system software

Specialist Core Stream - **Communications/Documentation**

ICAD4190B   Maintain information standards
ICAD4198B   Develop guidelines for uploading information to a website
ICAD4209B   Write content for web pages
ICAS4023B   Provide one-to-one instruction
ICAW4026B   Coordinate and maintain work teams
ICAW4027B   Relate to clients on a business level

Specialist Core Stream - **Analysis/Management**

ICAA4047B   Determine project specifications and secure client agreement
ICAA4051B   Develop client user interface
ICAA4058B   Apply skills in object-oriented design
ICAA4233B   Determine and apply appropriate development methodologies
ICAB4076B   Implement configuration management
ICAP4037B   Contribute to the development of a strategy plan

Specialist Core Stream - **Multimedia Stream**

CUFWRT601A   Write scripts
CUFANM403A   Create titles for screen production
ICPPP325B   Create graphics using a graphics application
ICPMM321B   Capture a digital image
ICPMM344B   Manipulate and incorporate audio into multimedia presentations
CUFIMA05A   Create 3D digital models and images

CUFDIG201A Maintain interactive content
CUFMEM10A   Design and create a multimedia interface

Specialist Core Stream - **Networking**
ICAB4220B   Create scripts for networking
ICAB4235B   Build basic perimeter security into a network
ICAB4236B   Build security into a virtual private network
ICAB4239C   Build a small wireless local area network
ICAB4240C   Build an enterprise wireless network
ICAI4029C   Install network hardware to a network
ICAI4030B   Install software to networked computers
ICAI4097C   Install and configure a network
ICAI4175C   Select and install a router
ICAI4188B   Install and maintain a server
ICAS4107B   Manage resolution of system faults on a live system
ICAS4108B   Complete database back-up and recovery
ICAS4112B   Optimise system performance
ICAS4113C   Identify and resolve common database performance problems
ICAS4119B   Monitor and administer system security
ICAS4124B   Monitor and administer network security
ICAS4191B   Maintain website performance
ICAS4200B   Monitor traffic and compile website traffic reports

Achieve 3 Elective Units Chosen from the ICA40105 Specialist Cores (above) or Specialist Elective Streams (below) Not Already Selected

Specialist Electives Stream - **Software**
ICAB4057B   Manage a reuse library
ICAB4224B   Apply mathematical techniques for software development
ICAB5067B   Prepare for software development using rapid application development
ICAB5068B   Build using rapid application development
ICAB5165B   Create dynamic web pages
ICAB5177B   Build Java applets
ICAB5180C   Integrate database with a website
ICAB5228B   Maintain functionality of legacy code programs
ICAB4229B   Apply intermediate programming skills in another language
ICAT5079B   Perform integration test
ICAT5081B   Perform systems test
ICAT5083B   Develop and conduct client acceptance test

Specialist Electives Stream - **Client Support**
ICAI5088B   Evaluate and negotiate vendor offerings
ICAS5102B   Establish and maintain client user liaison
ICAS5103B   Establish and maintain client user liaison during support activity
ICAS5105B   Coordinate change requests

Specialist Electives Stream - **Hardware/Operating Systems**
ICAB4163B   Create a common gateway interface script
ICAA5150C   Evaluate vendor products and equipment
ICAI5087B   Acquire system components
ICAS5104B   Determine maintenance strategy

Specialist Electives Stream - **Communications/Documentation**
ICAD5092B   Update and document operational procedures

Specialist Electives Stream - **Analysis**/**Management**

ICAA5049B   Develop high-level object-oriented class specifications
ICAA5050B   Develop detailed component specifications from project specifications
ICAB4064B   Prepare software development review
ICAI5089B   Implement and hand over system components
ICAI5090B   Conduct pre-installation audit for software installation

Specialist Electives Stream - **Multimedia Stream**

ICPKN315B   Apply knowledge and requirements of the multimedia sector
ICPMM581B Manage multimedia production
ICPMM582B Manage multimedia projects

Specialist Electives Stream - **Networking Stream**

ICAA5045C   Produce network architecture design
ICAB4247A   Link an RFID system to a database
ICAI4244A   Install and maintain an RFID system
ICAI4249A   Implement and evaluate data security
ICAI4251A   Implement and evaluate network and telecommunication security
ICAI5085B   Review site in preparation for implementation

Achieve 3 Elective Units Chosen from the Following Sources   (Listed in Recommended Order)

- any of the above core or elective streams; and/or
- elsewhere in the *ICA05 Information and Communications Technology Training Package* (at Certificate III [maximum 2 units], Certificate IV or Diploma); and/or
- any other Training Package (at Certificate IV or Diploma) based on documented industry or enterprise needs
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