Australian Government

Department of Education, Employment and Workplace Relations

ICA40605 Certificate IV in Information Technology (Testing)

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

ICA40605 Certificate IV in Information Technology (Testing)

Modification History

Not Applicable

Description

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This qualification provides the skills and knowledge for an individual to be competent in a range of ICT positions directly related to testing either as an independent specialist or as part of a team. The qualification has a strong ICT core competency base with the potential for inclusion of a range of broader units through stream choice to suit particular needs.

This new ICA05 Certificate IV qualification has clustered and structured test units together with 'non-test' ICT units to form the first nationally recognised testing qualification in ICT. It also has validity as a more broad qualification (sharing a number of common core units with other Certificate IVs) but with a stronger testing emphasis than other qualifications.

Its development has highlighted the testing discipline more generally within the overall package. This potentially enables other ICA05 qualifications to pick up clusters of testing units from the specialist streams as part of a holistic or 'full delivery cycle' approach to ICT development.

The *Applications* stream of Certificate III provides one pathway to this qualification, while several Diploma qualifications may be the next step for a Certificate IV in IT (Testing) graduate.

There are 4 specialist streams in the qualification to provide flexibility in choice and focus while ensuring strong core competencies.

- Software
- Websites
- Multimedia
- Networking

Job Roles

Industry requirements in respect of testing, tend to come from one of two perspectives: that testing is an inherent and integral part of all ICT roles within the full delivery cycle or that testing is a discipline in its own right. The latter perspective is more easily identified in the recruitment marketplace and is reflected below.

Possible job titles include:

- Computer Systems Auditor
- ICT Auditor
- ICT Quality Management Specialist
- ICT Quality Specialist
- ICT Tester
- IT Auditor
- IT Tester
- Quality Assurance Analyst
- Quality Assurance Specialist
- Quality Assurance Engineer
- Software Design Engineer and Tester
- Software QA Specialist
- Software Tester
- Systems Tester
- Team Leader QA/Software testing
- Test Analyst
- Test Engineer

- Tester
- Testing Engineer
- Web Tester

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

Code and Title		Prerequisite units required	
ICAB4220B	Create scripts for networking	ICAB4225B	Automate processes
ICAB4222B	Apply introductory programming skills in another language	ICAB4225B	Automate processes
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
ICAT4186B	Conduct operational acceptance tests of websites	ICAT4184B	Ensure site usability for full range of users
ICAT4194B	Ensure basic website security	ICAI3101B	Install and manage network protocols
ICAT4195B	Ensure dynamic website security	ICAI3020B	Install and optimise operating system software
		ICAT4194B #	Ensure basic website security

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

Pathways Information

Not Applicable

Licensing/Regulatory Information

Not Applicable

Innovation and Business Skills Australia

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
ICA40605 Certificate IV in Information Technology (**Testing**)
The following table contains a summary of the Employability Skills required for a Software Tester. 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	• using plain English literacy communication skills in relation to analysis, evaluation and presentation of information, for example when conducting user acceptance testing
Teamwork	• exchanging messages with other project members and actively participating in community activities • scheduling feedback meetings to discuss reports and possible next actions with stakeholders
Problem Solving	• recording and investigating discrepancies and corrections of client acceptance tests according to the project procedures and timeframe
Initiative and Enterprise	• transferring and applying theoretical concepts and/or technical or creative skills to a range of situations
Planning and Organising	• effectively managing and administering the end to end testing process including test definition, execution and reporting • planning and conducting acceptance testing • planning for testing by collating documentation of conditions and expected results

Employability Skill	Industry requirements for this qualification include:
Self-management	• taking responsibility for own outputs in relation to specified quality standards • working within the Australian Computer Society code of ethics regarding security, legal, moral and ethical issues
Learning	• maintaining knowledge of tools and software applications and the goods and services provided • obtaining client evaluation and feedback • providing one-to-one instruction for clients and users
Technology	• selecting and using software and hardware diagnostic tools, including for multimedia contexts and automated testing environments

Packaging Rules

Qualification Structure

To attain the *ICA40605 Certificate IV in Information Technology* (*Testing*) 21 to 23 units must be achieved (depending upon the specialist stream selected):

- 12 common core units; plus
- 3 specialist core stream units - Software; or
- 5 specialist core stream units - Websites; or
- 4 specialist core stream units - Multimedia; or
- 4 specialist core stream units - Networking; plus
- 6 elective units

Achieve 12 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
ICAS4022B   Determine and action client computing problems
ICAT4221B   Locate equipment, system and software faults
ICAT4242B   Perform unit test for a class
ICAU4205B   Select and employ software and hardware tools
ICAW4027B   Relate to clients on a business level
ICAW4214B   Maintain ethical conduct
PSPPM402B   Manage simple projects

Achieve all Core Units in 1 of the 4 Specialist Streams   (Software, Websites, Multimedia, Networking) below

Specialist Core Stream -Software (3 Units)

ICAA4058B   Apply skills in object-oriented design

ICAA4233B	Determine and apply appropriate development methodologies
ICAB4222B	Apply introductory programming skills in another language

Specialist Core Stream - **Websites** (**5 Units**)

ICAT4183B	Confirm accessibility of website for people with special needs
ICAT4185B	Create a website testing procedure
ICAT4186B	Conduct operational acceptance tests of websites
ICAT4194B	Ensure basic website security
ICAT4195B	Ensure dynamic website security

Specialist Core Stream - **Multimedia** (**4 Units**)

CUFDIG501A	Coordinate the testing of interactive media products
CUFMEM07A	Apply principles of visual design and communication to the development of a multimedia product
CUSADM08A	Address copyright requirements
CUFDIG201A	Maintain interactive content

Specialist Core Stream - **Networking** (**4 Units**)

ICAB4220B	Create scripts for networking
ICAS4107B	Manage resolution of system faults on a live system
ICAS4109B	Evaluate system status
ICAS4113C	Identify and resolve common database performance problems

Achieve 3 Elective Units from the ICA40605 Testing Electives Units list below

Testing Electives

ICAT4184B	Ensure site usability for full range of users
ICAT5077B	Develop detailed test plan
ICAT5079B	Perform integration test
ICAT5081B	Perform systems test
ICAT5082B	Manage the testing process
ICAT5083B	Develop and conduct client acceptance test
ICAT5084B	Perform stress and load testing on integrated platform

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

- other *ICA40605* Specialist units not previously chosen (above); and/or
- *ICA40605* Testing Electives units list not previously chosen (above); and/or
- *ICA40605* General Electives units list below; and/or
- elsewhere in the *ICA05 Information and Communications Technology Training Package* (at Certificate III [maximum of 2 units], Certificate IV or Diploma); and/or
- any other Training Package (at Certificate IV or Diploma) based on documented industry or enterprise needs

General Electives

BSBPMG508A	Manage project risk
ICAA4051B	Develop client user interface
ICAA5054C	Validate quality and completeness of system design specifications
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
ICAB4170B	Build a database

ICAB4178B   Build a graphical user interface
ICAB4219B   Apply introductory object-oriented language skills
ICAB4224B   Apply mathematical techniques for software development
ICAB5063B   Monitor and support data conversion
ICAB5074B   Monitor the system pilot
ICAB5228B   Maintain functionality of legacy code programs
ICAB5230B   Maintain custom software
ICAD4190B   Maintain information standards
ICAD4198B   Develop guidelines for uploading information to a website
ICAD5092B   Update and document operational procedures
ICAI4029C   Install network hardware to a network
ICAI4030B   Install software to networked computers
ICAI4097C   Install and configure a network
ICAI4188B   Install and maintain a server
ICAI4189B   Ensure website content meets technical protocols and standards
ICAI5152B   Implement risk management processes
ICAS4023B   Provide one-to-one instruction
ICAS4033B   Assist with policy development for client support procedures
ICAS4106B   Action and complete change requests
ICAS4108B   Complete database back-up and recovery
ICAS4112B   Optimise system performance
ICAS4114B   Implement maintenance procedures
ICAS4200B   Monitor traffic and compile website traffic reports
ICAS5105B   Coordinate change requests
ICAS5122C   Identify and resolve network problems