Australian Government

Department of Education, Employment and Workplace Relations

ICA40505 Certificate IV in Information Technology (Programming)

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

ICA40505 Certificate IV in Information Technology (Programming)

Modification History

Not Applicable

Description

Description

This qualification develops basic programming skills in languages used in commercial systems. A person with this qualification could work as a programmer within a team of software developers or implementation project. The qualification contains a strong base of ICT core units with the potential for inclusion of ICA05 or other training package units to suit particular needs.

Job Roles

Depending on the choice of electives, graduates could work in a number of 'junior' programming roles. Selecting design or games development oriented electives could equip an individual for digital, multimedia or games programming, while other electives could underpin a systems programmer role.

Possible job titles include:

- Analyst/Programmer
- Applications Analyst
- Applications Engineer
- Applications Programmer
- Computer Engineer
- Developer/Programmer
- Digital Programmer
- Games Designer
- Games Programmer
- IT Research Engineer
- Multimedia Programmer
- PC Games Programmer
- PS2 Lead Programmer
- Programmer
- Programmer/Analyst
- Software Engineer Games
- Software Support Engineer
- Streaming Media Specialist
- Systems Engineer
- Systems Programmer
- UnrealEd Level Designer
- Virtual Reality Specialist
- Web Designer
- Xbox Programmer

Prerequisite Requirements

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

Code and Title	Prerequisite units required	
ICAB4219B Apply introductory object-oriented language skills	ICAB4225B	Automate processes
ICAB4222B Apply introductory programming	ICAB4225B	Automate processes

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Code and Title	Prerequisite units required
skills in another language	
ICAB4229B Apply intermediate programming skills in another language	ICAB4222B Apply introductory programming skills in another language
ICAB4232B Maintain open source code programs	ICAB4222B Apply introductory programming skills in another language #

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

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The following table contains a summary of the Employability Skills required for an Assistant Programmer. 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 and communication skills in relation to analysis, evaluation and presentation of information
Teamwork	• exchanging messages with other project members and actively participating in community activities
Problem Solving	• analysing project design and functionality to identify reuse components • using an integrated development environment, in particular the language debugging facilities, to debug code • using problem-solving skills involving participation in the development of strategic initiatives
Initiative and Enterprise	• developing new criteria and procedures for performing current practices • identifying, analysing and evaluating information from a variety of sources
Planning and Organising	• preparing feasibility reports taking into account the scope, time, cost, quality, communications and risk management

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 ICA40505 Certificate IV in Information Technology (Programming) 21 units must be achieved:

- 17 core units; plus
- 4 elective units

Achieve 17 Core Units

Core

BSBCMN304A   Contribute to personal skill development and learning
ICAA4041C   Determine and confirm client business expectations and needs
ICAA4058B   Apply skills in object-oriented design
ICAA4233B   Determine and apply appropriate development methodologies
ICAB4075B   Use a library or pre-existing components
ICAB4178B   Build a graphical user interface
ICAB4219B   Apply introductory object-oriented language skills
ICAB4222B   Apply introductory programming skills in another language
ICAB4225B   Automate processes
ICAB4229B   Apply intermediate programming skills in another language
ICAB4232B   Maintain open source code programs
ICAD4043B   Develop and present a feasibility report
ICAD4217B   Create technical documentation
ICAT4221B   Locate equipment, system and software faults
ICAT4242B   Perform unit test for a class
ICAW4214B   Maintain ethical conduct
PSPPM402B   Manage simple projects

Achieve 2 Elective Units Chosen from:

- *ICA05 Information and Communications Technology Training Package* (at Certificate III [maximum of 2 units], Certificate IV or Diploma)

Achieve 2 Elective Units Chosen from the Following Sources   (Listed in Recommended Order)

- *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
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