



Australian Government

Department of Education, Employment and Workplace Relations

ICA50705 Diploma of Information Technology (Software Development)

Release: 1

ICA50705 Diploma of Information Technology (Software Development)

Modification History

Not Applicable

Description

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This qualification provides the skills and knowledge for an individual to be competent in programming and software development. A competent person could work as a specialist in the area of programming including the ICT and programming aspects of games development. The qualification has a strong ICT base with the potential for inclusion of a range of broader design and multimedia units to suit particular needs. Up to 25 per cent of all units can potentially be selected from outside of ICA05 enabling significant flexibility in the composition of the qualification.

Job Roles

Possible job titles include:

- Games Developer
- Games Programmer
- Middleware Programmer
- Programming/Software Engineer
- Software Applications Specialist
- Software Architect
- Software Design Engineer
- Software Developer
- Software Developer/Programmer
- Software Development Engineer
- Software Engineer
- Xbox Programmer
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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 a Software Developer. 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	- communicating clear concepts and solutions to complex issues in an unambiguous manner to colleagues and clients - using plain English literacy and communication skills in relation to analysis, evaluation and presentation of information, for example when developing policies and procedures - using report writing skills for business, requiring depth in some areas, and analysis and evaluation of information, for example when developing supporting documentation
Teamwork	- coordinating groups and teams - delegating roles and responsibilities to team for the implementation of project plans - participating in teams concerned with planning and evaluation functions
Problem Solving	- analysing and planning approaches to technical problems or management requirements - determining the system design audit technique or methodology that will be followed - using a debugger to detect logical and coding errors

Employability Skill	Industry requirements for this qualification include:
Initiative and Enterprise	transferring and applying theoretical concepts and/or technical or creative skills to a range of situations
Planning and Organising	using project planning skills in relation to scope, time, cost, quality, communications and risk management for example when reviewing user requirements
Self-management	taking personal responsibility and autonomy in performing complex technical operations or organising others
Learning	providing learning and development opportunities for the project team
Technology	identifying technology needs, sourcing, purchasing, installing, configuring and testing software components including hardware

Packaging Rules

Qualification Structure

To attain the ICA50705 Diploma of Information Technology (Software Development) 17 units must be achieved:

- 9 core units; plus
- 8 elective units

Achieve 9 Core Units

Core

BSBPMG505A Manage project quality
 ICAA5056B Prepare disaster recovery and contingency plans
 ICAA5158B Translate business needs into technical requirements
 ICAB5223B Apply intermediate object-oriented language skills
 ICAB5226B Apply advanced object-oriented language skills
 ICAB5227B Apply advanced programming skills in another language
 ICAS5202B Ensure privacy for users
 ICAT5079B Perform integration test
 PSPPM502B Manage complex projects

Achieve 4 Elective Units from the Specialist Electives list below

Specialist Electives

ICAA5054C Validate quality and completeness of system design specifications
 ICAA5151B Gather data to identify business requirements
 ICAB5068B Build using rapid application development
 ICAB5228B Maintain functionality of legacy code programs
 ICAB5230B Maintain custom software
 ICAP5039B Match IT needs with the strategic direction of the enterprise
 ICAS5102B Establish and maintain client user liaison
 ICAT5081B Perform systems test

Achieve 4 Elective Units Chosen from the Following Sources (Listed in Recommended Order)

- further units from the Specialist Electives list above; and/or
- *ICA05 Information and Communications Technology Training Package* at Diploma or Advanced Diploma (up to 2 units can be selected at Certificate IV); and/or
- preferred Training Packages at Diploma or Advanced Diploma (ICT02 Telecommunications; BSB07 Business Services; CUF07 Screen and Media; ICP05 Printing and Graphic Arts); and/or
- any other Training Package (to maximum of 2 units) at Diploma or Advanced Diploma based on documented industry or enterprise needs
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Prerequisite Requirements

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

Code and Title	Prerequisite units required
ICAA5158B Translate business needs into technical requirements	ICAA4233B Determine and apply appropriate development methodologies
ICAB5223B Apply intermediate object-oriented language skills	ICAB4219B Apply introductory object-oriented language skills #
ICAB5226B Apply advanced object-oriented language skills	ICAB5223B Apply intermediate object-oriented language skills #
ICAB5227B Apply advanced programming skills in another language	ICAB4229B Apply intermediate programming skills in another language #

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