

# GAMES DEVELOPMENT

---

CREATIVE INDUSTRIES WORKFORCE SKILLS QUALIFICATIONS – MEDIA & COMMUNICATIONS | Competency Map

Effective Date : 26 June 2014

## INTRODUCTION | GAMES DEVELOPMENT

### INTRODUCTION TO THE GAMES DEVELOPMENT COMPETENCY MAP

The Games Development Competency Map is part of the Creative Industries Workforce Skills Qualifications (WSQ) Framework, which comprises 26 competency maps covering three Creative Industries clusters of Arts and Culture, Design and Media and Communications.

<b>ARTS AND CULTURE</b>	<b>DESIGN</b>	<b>MEDIA AND COMMUNICATIONS</b>
<b>Creative Practice</b> <b>Cultural Heritage</b> <b>Events Management</b> <b>Performing Arts</b> <b>Technical Theatre</b> <b>Visual Arts</b>	<b>Architecture</b> <b>Exhibition Design</b> <b>Interior Design</b> <b>Industrial Design</b> <b>Visual Communication</b>	<b>Advertising</b> <b>Broadcast</b> <b>Direct &amp; Interactive Marketing</b> <b>Film &amp; TV</b> <b>Digital Media – Animation</b> <b>Digital Media – Games Development</b> <b>Digital Media – Interactive Media</b> <b>Library &amp; Information Services</b> <b>Media</b> <b>Music</b> <b>Public Relations</b> <b>Printing</b> <b>Publishing – Book</b> <b>Publishing – Magazine</b> <b>Publishing – Web</b>

Each competency map of the Creative Industries WSQ Framework has been endorsed by the Manpower Skills and Training Council to steer the training and development of professionals in the Creative Industries.

This Games Development Competency Map provides an overview of the competencies required of different functions and job roles of the Games Development industry. The development of the Games Development Competency Map was guided by the Industry Key Purpose (IKP) and it was developed after detailed consultation with representatives from the Games Development industry.

Each of the competency units listed in this competency map are further developed into competency standards that provide information on the expected work activities, expected work outcomes and skills and knowledge required of a person to perform the work activities addressed by the competency standards. The competency units are further grouped together into qualifications to provide guides for competency progression pathways for the Games Development industry.

# INTRODUCTION | GAMES DEVELOPMENT

The Games Development Competency Map serves as a resource for employers and individuals to chart training and development and career development pathways and for training providers to identify potential training programmes to develop and deliver.

The details of the competency standards and qualifications documents are recorded in separate documents from the Games Development Competency Map and should be read together to serve the needs of employers, individuals and training providers.

The Games Development Competency Map would be reviewed on a regular basis (i.e., at least every three years). This will help to ensure that the Games Development Competency Map is current and continually meet industry needs.

## CONTENTS

Introduction to Games Development Competency Map	2
Industry Key Purpose	4
Job Titles	5
Competency Units	7
Competency Category	8
Art Competencies	9
Business Competencies	18
Technical Competencies	22

## INDUSTRY KEY PURPOSE | GAMES DEVELOPMENT

### Industry Key Purpose

The Industry Key Purpose describes what the industry delivers in terms of product and services meeting the needs of industry, the attributes/attitudes of workforce, and the aspirations of the industry. The Key Industry Purpose provides guidance and direction in the development of the competency map and identification of competency units so as to ensure that the competency units listed in the competency map would help the industry to achieve its industry key purpose.

**Games Development Industry Key Purpose: To support the development and delivery of creative art forms in different genres contributing towards enhancing the quality of life in the community.**

## JOB TITLES | GAMES DEVELOPMENT

The following table provides an overview of the various functions and job roles within a typical games development organisation. Competency Units are identified and sorted based on the functions, job role and WSQ qualifications level, to enable identification and development of appropriate training and development interventions by employers, individuals and training providers and to enable planning of progression and development pathways.

WSQ Level	Functional Track		
	Art	Business	Technical
6		Executive Producer	
5	Game Director / Design Director / Creative Director	Game Producer	Technical Director / Chief Technology Director
	Art Director / CG Director / Cinematography Director		
4	Lead/Senior Animator		Lead Game Programmer / Senior Programmer / Network Programmer
	Lead/Senior Artist		Lead Game Designer / Lead Scenario Designer
	Sound Engineer		Lead QA /QA/Test Lead
	Lead/ Senior Modeler		Localisation Manager
			Community Manager
3	Story Writer / Writer		Systems Administrator /
	Interface Artist / GUI Artist		IT Administrator

# JOB TITLES | GAMES DEVELOPMENT

WSQ Level	Functional Track		
	Art	Business	Technical
3	Concept Artist / Storyboard Artist / Weapons Artist / Vehicle Artist / 3D Environment Artist / Background Artist / 3D Artist/ Character Designer / Scenario Designer		Game Programmer / Game Scripter / Event Programmer / Battle Programmer / Combat Programmer / Gameplay Programmer / AI Programmer / SA Programmer / Tools Programmer / Engine Programmer / Physics Programmer / Sound Programmer / UI Programmer / System Programmer / Graphics Programmer / Communications Programmer / Porting Programmer
	Texture Artist / Background Texture Artist		QA Tester
	Technical Artist / VFX Artist / Lighting Artist		
	3D Animator		
	Game Designer / Level Designer / Writer / Scenario Designer / Character Designer		
	3D Modeler		

## COMPETENCY UNITS | GAMES DEVELOPMENT

Competency Units	
<b>Competency unit:</b>	A competency unit represents a set of work activities that can be undertaken by an individual, and the skills, knowledge and abilities associated with the work activities that can be used to certify an individual's competence in performing the set of work activities.
<b>Competency unit code:</b>	<p>A competency unit code is assigned to each competency unit to identify the WSQ framework and competency category that the competency unit originates from. The competency unit code also identifies the WSQ qualifications level that is associated with the competency unit providing an indication of the level of complexity of skills and knowledge required under the competency unit.</p> <p>For example, for a competency unit coded as CI-GD-505S-0:</p> <ul style="list-style-type: none"><li>- 'CI' indicates that the competency unit originates from the Creative Industries WSQ framework;</li><li>- 'GD' indicates that the competency unit originates from the competency category of Games Development; '5' indicates that it is pegged to WSQ qualifications level 5 which is WSQ Diploma level;</li><li>- '05' is the serial number assigned to the competency unit;</li><li>- 'S' indicates that the competency unit is usually a specialization unit when used by an individual to achieve a WSQ qualification, other types of units include core units ('C') and elective units ('E'); and</li><li>- '0' indicates the version number of the competency unit which would increase as the competency unit is reviewed at every review cycle.</li></ul>

The competencies units of the Games Development competency map are presented according as shown below, starting from Arts, to Business and finally the Technical track.

## COMPETENCY UNITS | GAMES DEVELOPMENT

This section explains the use of the various Competency Categories in the Games Development Competency Map and the imported competencies from other WSQ frameworks.

<b>Competency Categories</b>	
<p>The Competency Category indicates the functional nature of the skills and knowledge identified under a competency unit. The competency categories that are found within the Creative Industries WSQ framework and relevant to the Games Development Competency Map and their descriptors are presented below.</p>	
<p><b><u>Change and Innovation (CI)</u></b> Covers skills and knowledge required for inspiring an environment to encourage change and innovation within the working environment.</p>	<p><b><u>Games Development (GD)</u></b> Covers the games design and games programming skills and knowledge of games development.</p>
<p><b><u>Communications (COM)</u></b> Covers the transmission of thoughts, ideas and feelings from one's mind to another to accomplish tasks and to achieve goals</p>	<p><b><u>Project Management (PM)</u></b> Covers organising and managing resources in such a way that the project is completed within defined scope, quality, time and cost constraints.</p>
<p><b><u>Finance Competency Category (FIN)</u></b> Covers skills and knowledge required for basic budgeting to offering full coverage of financial operations within an organisation.</p>	<p><b><u>Public Relations (PR)</u></b> Covers the managing of outside communication of an organisation or business to create and maintain a positive image including popularising successes, downplaying failures and announcing changes.</p>

<b>Legend of Imported Competency Unit from other WSQ frameworks</b>			
BM	Business Management WSQ Framework	PM	Project Management Competency Category
IT	IT WSQ Framework / National Infocomm Competency Framework (NICF)	BD	Business Development Competency Category
		CIO	IT Management Competency Category
		DD	Development & Deployment Competency Category
		GSM	Generic Sales and Marketing Competency Category
		IS	Infrastructure Support Competency Category
		MC	Marketing Communications Competency Category
		SA	Sales Competency Category
		SS	System Support Competency Category
LPM	Leadership and People Management WSQ Framework	CHG	Drive Change Competency Category
		DEV	Develop People Competency Category
		PER	Personal Effectiveness Competency Category
		RES	Achieve Results Competency Category
		RLT	Build Relationships Competency Category
		VIS	Lead with Vision Competency Category



# **ART | FUNCTIONAL TRACK**

---

GAMES DEVELOPMENT **Competency Map**

## ART | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
5	Game Director / Design Director / Creative Director	CI-GD-601S-0	Create concept paper*	LPM-CHG-501C-0	Facilitate change*
		CI-GD-509S-0	Develop technical design document*	CI-CI-501E-0	Identify, implement and manage change and innovation*
		To be developed	Direct game design	CI-COM-607C-0	Direct communications in a creative environment
		To be developed	Direct research and development of game design	CI-COM-502S-0	Present effectively to engage and manage your audience*
		To be developed	Direct audit and assess pipeline	IT-CIO-401S-1	Contribute to the development of a strategy plan*
				LPM-CHG-601C-0	Lead change*
				LPM-VIS-501C-0	Lead managers*
				CI-COM-508E-0	Oversee communications in a creative environment
				IT-CIO-502S-1	Develop a budget*
				LPM-RLT-501C-0	Foster business relationships*
				LPM-DEV-501C-0	Engage people*
				CI-PR-507S-0	Formulate and coordinate crisis management communication strategies
				CI-PM-509C-0	Manage project scope*
		CI-PM-510E-0	Manage project time*		

## ART | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
				CI-PM-605C-0	Direct the scope and integration of multiple projects / programmes*
5	Art Director / CG Director / Cinematography Director	CI-GD-601S-0	Create concept paper*	LPM-CHG-501C-0	Facilitate change*
		CI-GD-505S-0	Create the Art Bible*	CI-CI-501E-0	Identify, implement and manage change and innovation*
		To be developed	Direct concept art for a game	LPM-VIS-501C-0	Lead managers*
				IT-CIO-517S-1	Review and plan for risk to business solution providers*
				LPM-PER-501C-0	Develop personal effectiveness*
				CI-COM-501C-0	Manage project communications
				CI-COM-508E-0	Oversee communications in a creative environment
				IT-CIO-502S-1	Develop a budget*
				LPM-RLT-501C-0	Foster business relationships*
				LPM-DEV-501C-0	Engage people*
				CI-PM-509C-0	Manage project scope*
		IT-GSM-401S-1	Develop and plan sales and marketing activities*		
		IT-SA-403S-1	Close the deal*		

## ART | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
				LPM-RES-501C-0	Facilitate achievement of results*
				IT-BD-401S-1	Analyse marketing strategy*
4	Lead/Senior Animator	CI-GD-413S-1	Audit and assess art pipeline*	LPM-CHG-401C-0	Manage change*
		To be developed	Create 2D/3D Animation assets for a game	CI-COM-403C-0	Apply communications management techniques*
				LPM-RLT-401C-0	Cultivate workplace relationships*
				LPM-VIS-401C-0	Lead team*
				LPM-RES-401C-0	Manage achievement of results*
				BM-PM-401E-1	Conduct project feasibility study*
				BM-PM-402E-1	Manage project scope*
				BM-PM-403E-1	Manage project team*
				BM-PM-404E-1	Manage project stakeholders relations*
				BM-PM-405E-1	Manage project resources*
				BM-PM-406E-1	Manage project procurement*
				BM-PM-407E-1	Manage project costs*

## ART | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
				BM-PM-408E-1	Manage project timeline*
				BM-PM-409E-1	Manage project quality*
				BM-PM-4101E-1	Manage project risk*
				BM-PM-411E-1	Manage project knowledge and communication*
				BM-PM-412E-1	Conduct project after action review*
4	Lead/Senior Artist	To be developed	Create advanced concept art for a game	LPM-CHG-401C-0	Manage change*
		To be developed	Review technical art solutions for the game	CI-COM-403C-0	Apply communications management techniques*
				LPM-RLT-401C-0	Cultivate workplace relationships*
				LPM-VIS-401C-0	Lead team*
				LPM-RES-401C-0	Manage achievement of results*
4	Sound Engineer	CI-GD-412S-0	Design in-game audio*	LPM-CHG-401C-0	Manage change*
				CI-COM-403C-0	Apply communications management techniques*
				LPM-RLT-401C-0	Cultivate workplace relationships*
				LPM-VIS-401C-0	Lead team*

## ART | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
				LPM-RES-401C-0	Manage achievement of results*
4	Lead Senior Modeler	CI-GD-413S-1	Audit and assess art pipeline*	LPM-CHG-401C-0	Manage change*
		To be developed	Create 2D/3D Animation assets for a game	CI-COM-403C-0	Apply communications management techniques*
		To be developed	Review technical art solutions for the game	LPM-RLT-401C-0	Cultivate workplace relationships*
				LPM-VIS-401C-0	Lead team*
				LPM-RES-401C-0	Manage achievement of results*
		CI-GD-318S-0	Create dialogue, scripts, items and entity descriptions*	LPM-RLT-301C-0	Build team relationships*
				LPM-DEV-301C-0	Encourage people*
3	Interface Artist / GUI Artist	CI-GD-324S-0	Design and implement the layout and user flow of the player interface (GUI or UI) of a game*	CI-COM-304C-0	Communicate effectively in a creative environment
		CI-GD-333S-0	Design game levels (maps) and environments for games*	LPM-RLT-301C-0	Build team relationships*
				LPM-DEV-301C-0	Encourage people*
				LPM-VIS-301C-0	Support team*
3	Concept Artist / Storyboard Artist /	CI-GD-325S-0	Create 3D art assets for a game*	CI-COM-304C-0	Communicate effectively in a creative environment

## ART | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
	Weapons Artist / Vehicle Artist / 3D Environment Artist / Background Artist / 3D Artist/ Character Designer / Scenario Designer	CI-GD-322S-0	Create concept art for a game*	LPM-RLT-301C-0	Build team relationships*
		CI-GD-323S-0	Create storyboards*	LPM-DEV-301C-0	Encourage people*
				LPM-VIS-301C-0	Support team*

## ART | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
3	Texture Artist / Background Texture Artist	CI-GD-325S-0	Create 3D art assets for a game*	CI-COM-304C-0	Communicate effectively in a creative environment
				LPM-RLT-301C-0	Build team relationships*
				LPM-DEV-301C-0	Encourage people*
				LPM-VIS-301C-0	Support team*
3	Technical Artist / VFX Artist / Lighting Artist	CI-GD-335S-0	Create visual effects for games*	CI-COM-304C-0	Communicate effectively in a creative environment
		CI-GD-336S-0	Develop technical art solutions for the game*	LPM-RLT-301C-0	Build team relationships*
				LPM-DEV-301C-0	Encourage people*
				LPM-VIS-301C-0	Support team*
3	3D Animator	To be developed	Create 3D animations for a game	CI-COM-304C-0	Communicate effectively in a creative environment
				LPM-RLT-301C-0	Build team relationships*
				LPM-DEV-301C-0	Encourage people*
				LPM-VIS-301C-0	Support team*
3	3D Modeler	CI-GD-325S-0	Create 3D art assets for a game*	CI-COM-304C-0	Communicate effectively in a creative environment
		CI-GD-336S-0	Develop technical art solutions for the game*	LPM-RLT-301C-0	Build team relationships*



## ART | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
3	Game Designer / Game Level Designer	CI-GD-326S-0	Balance game rules*	LPM-DEV-301C-0	Encourage people*
		CI-GD-332S-0	Test usability of the game UI*	LPM-VIS-301C-0	Support team*
		CI-GD-333S-0	Design game levels (maps) and environments for games*	LPM-RLT-301C-0	Build team relationships*
		CI-GD-239S-1	Implement Standard Work Practices Used in Games Development*		
		CI-GD-237S-1	Apply Basic Programming Skills to Develop Application Software*		

# **BUSINESS | FUNCTIONAL TRACK**

---

GAMES DEVELOPMENT **Competency Map**

## BUSINESS | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
6	Executive Producer			LPM-CHG-601C-0	Lead change*
				LPM-PER-601C-0	Master personal effectiveness*
				CI-COM-607C-0	Direct communications in a creative environment
				CI-COM-502S-0	Present effectively to engage and manage your audience*
				CI-FIN-601E-0	Secure finance for a project in a cross-platform environment*
				IT-CIO-502S-1	Develop a budget*
				CI-PR-507S-0	Formulate and coordinate crisis management communication strategies
				IT-GSM-401S-1	Develop and plan sales and marketing activities*
				IT-SA-403S-1	Close the deal*
				IT-SA-302S-1	Sell products or services*
				LPM-RES-601C-0	Lead achievement of results*
				LPM-VIS-601C-0	Lead organisation*
				IT-BD-401S-1	Analyse marketing strategy*
				IT-MC-402S-1	Assess marketing opportunities within international and/or diverse markets*

## BUSINESS | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
				IT-CIO-503S-1	Develop strategic and action plans*
5	Game Producer			LPM-CHG-501C-0	Facilitate change*
				CI-CI-501E-0	Identify, implement and manage change and innovation*
				IT-CIO-517S-1	Review and plan for risk to business solution providers*
				LPM-PER-501C-0	Develop personal effectiveness*
				CI-COM-501C-0	Manage project communications
				CI-COM-502S-0	Present effectively to engage and manage your audience*
				CI-COM-508E-0	Oversee communications in a creative environment
				CI-FIN-601E-0	Secure finance for a project in a cross-platform environment*
				IT-CIO-502S-1	Develop a budget*
				LPM-RLT-501C-0	Foster business relationships*
				LPM-DEV-501C-0	Engage people*
				CI-PR-507S-0	Formulate and coordinate crisis management communication strategies
				CI-PM-509C-0	Manage project scope*

## BUSINESS | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
				CI-PM-508E-0	Manage project procurement
				CI-PM-510E-0	Manage project time
				CI-PM-605C-0	Direct the scope and integration of multiple projects / programmes*
				IT-GSM-401S-1	Develop and plan sales and marketing activities*
				IT-SA-403S-1	Close the deal*
				LPM-RES-501C-0	Facilitate achievement of results*
				LPM-VIS-501C-0	Lead managers*
				IT-BD-401S-1	Analyse marketing strategy*
				IT-MC-402S-1	Assess marketing opportunities within international and/or diverse markets*

# TECHNICAL | FUNCTIONAL TRACK

---

GAMES DEVELOPMENT **Competency Map**

## TECHNICAL | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
5	Technical Director / Chief Technology Director	CI-GD-601S-0	Create concept paper*	LPM-CHG-501C-0	Facilitate change*
		CI-GD-506S-0	Analyse and develop the game UI design through appropriate information architecture*	CI-CI-501E-0	Identify, implement and manage change and innovation*
		To be developed	Direct technical art solutions for the game	IT-CIO-517S-1	Review and plan for risk to business solution providers*
				LPM-VIS-501C-0	Lead managers*
				LPM-PER-501C-0	Develop personal effectiveness*
				CI-COM-501C-0	Manage project communications
				CI-COM-508E-0	Oversee communications in a creative environment
				IT-CIO-502S-1	Develop a budget*
				LPM-RLT-501C-0	Foster business relationships*
				LPM-DEV-501C-0	Engage people*
				CI-PM-509C-0	Manage project scope*
				CI-PM-508E-0	Manage project procurement
				CI-PM-510E-0	Manage project time
		CI-PM-605C-0	Direct the scope and integration of multiple projects / programmes*		

## TECHNICAL | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
				LPM-RES-501C-0	Facilitate achievement of results*
4	Lead Game Programmer / Senior Programmer / Network Programmer	To be developed	Design game software tools for use in games creation for the production pipeline	LPM-CHG-401C-0	Manage change*
		To be developed	Review design and implementation of the layout and user flow of the player interface (GUI or UI) of a game	CI-COM-403C-0	Apply communications management techniques*
		CI-GD-417S-0	Develop and implement testing tools*	LPM-RLT-401C-0	Cultivate workplace relationships*
		CI-GD-420S-0	Modify and Maintain code for game engines*	LPM-VIS-401C-0	Lead team*
		CI-GD-419S-0	Modify and optimise graphics rendering*	LPM-RES-401C-0	Manage achievement of results*
4	Lead Game Designer / Lead Scenario Designer	To be developed	Review design and implementation of the layout and user flow of the player interface (GUI or UI) of a game	LPM-CHG-401C-0	Manage change*
		CI-GD-415S-0	Design game's economic system*	CI-COM-403C-0	Apply communications management techniques*
		CI-GD-416S-0	Document Game Design*	LPM-RLT-401C-0	Cultivate workplace relationships*
		CI-GD-418S-0	Research and develop game design*	LPM-VIS-401C-0	Lead team*
		To be developed	Review artificial intelligence behaviours for games	LPM-RES-401C-0	Manage achievement of results*
		To be developed	Develop and implement core mechanics		



## TECHNICAL | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
4	Lead QA/QA / Test Lead	CI-GD-417S-0	Develop and implement testing tools*	LPM-CHG-401C-0	Manage change*
		CI-GD-414S-0	Manage game quality and lead design in testing*	CI-COM-403C-0	Apply communications management techniques*
		To be developed	Review and report games to improve game play	LPM-RLT-401C-0	Cultivate workplace relationships*
		To be developed	Review usability of the game UI	LPM-VIS-401C-0	Lead team*
				LPM-RES-401C-0	Manage achievement of results*
4	Localisation Manager	CI-GD-411S-0	Adapt games to meet language and cultural context*	LPM-CHG-401C-0	Manage change*
				CI-COM-403C-0	Apply communications management techniques*
				LPM-RLT-401C-0	Cultivate workplace relationships*
				LPM-VIS-401C-0	Lead team*
				IT-BD-401S-1	Analyse marketing strategy*
4	Community Manager	CI-GD-334S-0	Maintaining MMOG communities *	CI-COM-403C-0	Apply communications management techniques*
		CI-GD-236S-1	Provide assistance to gamers*	LPM-RLT-301C-0	Build team relationships*
				LPM-DEV-301C-0	Encourage people*
				LPM-VIS-301C-0	Support team*

## TECHNICAL | FUNCTIONAL TRACK – GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
3	Systems Administrator / IT Administrator	IT-IS-303S-1	Action and complete change requests*	CI-COM-403C-0	Apply communications management techniques*
		IT-IS-316S-1	Connect internal hardware components*	LPM-RLT-301C-0	Build team relationships*
		IT-IS-404S-1	Implement system software changes*	LPM-DEV-301C-0	Encourage people*
		IT-IS-316S-1	Connect internal hardware components*	LPM-VIS-301C-0	Support team*
		IT-IS-306S-1	Maintain equipment and software in working order*	IT-IS-406S-1	Establish business continuity processes*
		IT-IS-403S-1	Implement maintenance procedures*	IT-CIO-513S-1	Manage innovation and continuous improvement*
		IT-IS-305S-1	Locate equipment, system and software faults*		
		IT-IS-401S-1	Complete equipment/software upgrades*		
		IT-SS-301S-1	Install and configure new hardware and system software*		
		IT-SS-302S-1	Apply system patches and updates*		
		IT-IS-313S-1	Provide system administration*		
		IT-IS-412S-1	Support system software*		
		IT-IS-411S-1	Optimise system performance*		
		IT-CIO-509S-1	Implement new technologies for business*		
		IT-CIO-519S-1	Conduct research to evaluate new technologies*		

**TECHNICAL | FUNCTIONAL TRACK – GAMES DEVELOPMENT**

Level	Job Titles	Code	Specialisation	Code	Generic
		IT-CIO-301S-1	Evaluate vendor services, products and equipment*		
		IT-CIO-517S-1	Review and plan for risk to business solution providers*		
		IT-CIO-402S-1	Develop a feasibility report*		

## TECHNICAL | FUNCTIONAL TRACK –GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
3	Game Programmer / Game Scripter / Event Programmer / Battle Programmer / Combat Programmer / Gameplay Programmer / AI Programmer / SA Programmer / Tools Programmer / Engine Programmer / Physics Programmer / Sound Programmer / UI Programmer / System Programmer / Graphics Programmer / Communications Programmer / Porting Programmer	CI-GD-327S-0	Create or modify game software tools for use in games creation*	CI-COM-403C-0	Apply communications management techniques*
		CI-GD-324S-0	Design and implement the layout and user flow of the player interface (GUI or UI) of a game*	LPM-RLT-301C-0	Build team relationships*
		To be developed	Edit code for game engines	LPM-DEV-301C-0	Encourage people*
		CI-GD-331S-0	Review and test game source code to find and repair errors*	LPM-VIS-301C-0	Support team*
		CI-GD-240S-1	Optimise the Computing Environment for Games Development*		
		CI-GD-238S-1	Apply Basic Mathematical Concepts in Game Programming*		
		CI-GD-321S-0	Scripting artificial intelligence behaviours for games*		
		IT-DD-302S-1	Build a graphical user interface (GUI)*		
		IT-DD-305S-1	Develop program*		

\*Competency standard available

## TECHNICAL | FUNCTIONAL TRACK –GAMES DEVELOPMENT

Level	Job Titles	Code	Specialisation	Code	Generic
<b>3</b>	QA Tester	CI-GD-332S-0	Test usability of the game UI*	CI-COM-403C-0	Apply communications management techniques*
		CI-GD-235S-0	Play and analyse games to improve game play*	LPM-VIS-301C-0	Support team*
		CI-GD-331S-0	Review and test game source code to find and repair errors*		

\*Competency standard available