

## Vocational Qualifications Pathway (VQP) for Information Security

Job Area Job Level	Information Security
<b>Master Level</b>	<i>The ICT practitioners at this level mainly responsible for decision-making processes. They oversee the entire IT operations and strategic development direction in the organization. Professionals at this level require broad corporate perspective, good communication skills and great technology knowledge.</i>
Job Title	Chief Information Security Officer
	Information Security Director
<b>Specialist Level</b>	<i>The ICT practitioners at this level mainly involve in managerial processes. They may associate with individual technical departments and manage those departments by applying their technical and managerial skills. The major tasks performed by the professionals at this level is to manage the individual activities and project segments to lead the project towards completion within the assigned budget and stipulated deadline.</i>
Job Title	Information Security Architect
	Information Security Engineer
	Information Security Analyst
	Cryptographer
<b>Practitioner Level</b>	<i>The ICT practitioners at this level manage certain parts of technical processes depending on their subject matter expertise. Many different profiles are served by professionals at this level who maybe fresh sub-degree graduates or those who possess certain experience in their field.</i>
Job Title	Information Security Technician
	Junior Information Security Analyst
	Junior Information Security Engineer
<b>Support Level</b>	<i>The ICT practitioners at this level provide basic technical support depending on their subject matter expertise. Many different profiles are served by the practitioners at this level who maybe S6 graduates with relevant ICT skills and knowledge or those who possess little experience in their field.</i>
Job Title	Computer Operator
	User Support Staff
	Technical Support Services Staff
	Help Desk Operator
	Field technician

**Proposed Competency Requirements (Information Security - Master Level)**

**Relevant Job Titles:**

- Chief information Security Officer / information Security Director

Area of Work / Cluster Name	Major Task	Competency Requirements	Units of Competency (UoCs) Number	Relevant Qualification for fulfilling Competency Requirements
organisational policies and strategies for information security	1. Provide the direction for the organization’s data and information security protection, and oversee technology governance and policies	<ul style="list-style-type: none"> <li>▪ Review and comply with organisational policies and procedures, relevant laws and regulatory requirements</li> <li>▪ Review key controls metrics regularly to fulfill the security standard</li> </ul>	<p style="text-align: center;">111205L6</p> <p style="text-align: center;">111166L6</p>	Obtain qualification via training programmes (QF Level 6)
	2. Develop the organization’s security strategy, security awareness programs, security architecture, and security incident response	<ul style="list-style-type: none"> <li>▪ Establish corporate information security standards</li> <li>▪ Develop information security standard, policies and guidelines for the company</li> <li>▪ Develop an information system security audit plan</li> <li>▪ Set policy to control data security and privacy</li> </ul>	<p style="text-align: center;">ITSWIS612A</p> <p style="text-align: center;">111164L6</p> <p style="text-align: center;">ITSWIS618A</p> <p style="text-align: center;">111206L6</p>	

Area of Work / Cluster Name	Major Task	Competency Requirements	Units of Competency (UoCs) Number	Relevant Qualification for fulfilling Competency Requirements
Risk Management for information security	3. Evaluate new information security threats and IT trends and develops effective security controls	<ul style="list-style-type: none"> <li>▪ Review the emerging technologies and cross-functional strategies</li> <li>▪ Design the evaluation criteria security test plans</li> </ul>	111207L6  111168L6	(Continued) Obtain qualification via training programmes (QF Level 6)
	4. Provide strategic risk guidance for IT projects, including evaluation and recommendation of technical controls	<ul style="list-style-type: none"> <li>▪ Review key controls metrics regularly to fulfil the security standard</li> <li>▪ Devise processes for detecting, identifying and analyzing security incident</li> </ul>	111166L6  ITSWIS613A	
	5. Collaborate with IT and other internal teams of the organization, and coordinate the IT component of both internal and external audits, to ensure security policies are in compliance with relevant laws and regulations	<ul style="list-style-type: none"> <li>▪ Manage IT service management strategy</li> <li>▪ Conduct security investigation</li> </ul>	111204L6  ITSWOS619A	

**Proposed Competency Requirements (Information Security - Specialist Level)**

**Relevant Job Titles:**

- Information Security Architect / Information Security Engineer / Information Security Analyst / Cryptographer

Area of Work / Cluster Name	Major Task	Competency Requirements	Units of Competency (UoCs) Number	Relevant Qualification for fulfilling Competency Requirements
Identification of security threats	1. Keep up to date with the latest security and technology developments	<ul style="list-style-type: none"> <li>▪ Compare the strengths and weaknesses of different cryptographic algorithms and determine the suitable algorithm for the company operation</li> <li>▪ Appraise the security threats in emerging technologies</li> <li>▪ Appraise Open-source intelligence (OSINT) methodology in the security process</li> </ul>	<p>111183L5</p> <p>11182L5</p> <p>111181L5</p>	Obtain qualification via training programmes (QF Level 5)
	2. Monitor for attacks, intrusions and unusual, unauthorised or illegal activity	<ul style="list-style-type: none"> <li>▪ Identify the potential security threats to the organisation</li> <li>▪ Deliver security services for operations</li> <li>▪ Ensure availability, integrity and confidentiality of information systems</li> </ul>	<p>111174L5</p> <p>ITSWOS521A</p> <p>ITSWIS508A</p>	

Area of Work / Cluster Name	Major Task	Competency Requirements	Units of Competency (UoCs) Number	Relevant Qualification for fulfilling Competency Requirements
Investigation and evaluation of security incidents	3. Research/evaluate emerging information security threats and ways to manage them. Test and evaluate security products	<ul style="list-style-type: none"> <li>▪ Conduct investigation of Information Security Incidents</li> <li>▪ Review the possible causes of the threats for remedial actions recommendation</li> <li>▪ Evaluate and assess effectiveness of corporate information security practices</li> </ul>	<p style="text-align: center;">111169L5</p> <p style="text-align: center;">111180L5</p> <p style="text-align: center;">ITSWIS507A</p>	(Continued) Obtain qualification via training programmes (QF Level 5)
	4. Identify potential weaknesses and implement measures, such as firewalls and encryption. Plan for disaster recovery and create contingency plans in the event of any security breaches	<ul style="list-style-type: none"> <li>▪ Develop procedures to implement incident response plan</li> <li>▪ Evaluate the results of application security assessment for improvement recommendation</li> <li>▪ Perform network security assessment for the company</li> <li>▪ Propose appropriate countermeasures to prevent security attacks</li> </ul>	<p style="text-align: center;">111170L5</p> <p style="text-align: center;">111173L5</p> <p style="text-align: center;">111176L5</p> <p style="text-align: center;">111179L5</p>	

Area of Work / Cluster Name	Major Task	Competency Requirements	Units of Competency (UoCs) Number	Relevant Qualification for fulfilling Competency Requirements
Investigation and evaluation of security incidents (Continued)	5. Maintain an information security risk register and assist with internal and external audits relating to information security	<ul style="list-style-type: none"> <li>▪ Develop procedures to maintain and comply the information security standard and policies of the organisation</li> <li>▪ Prepare and deliver information system security audit report</li> <li>▪ Prepare documentation to report the security testing and findings</li> <li>▪ Conduct operation security risk assessment and audit</li> <li>▪ Enact information system security audit plan</li> </ul>	<p>111171L5</p> <p>111177L5</p> <p>111178L5</p> <p>ITSWOS530A</p> <p>ITSWIS513A</p>	<p>(Continued)</p> <p>Obtain qualification via training programmes (QF Level 5)</p>

**Proposed Competency Requirements (Information Security - Practitioner Level)**

**Relevant Job Titles:**

- Information Security Technician / Junior Information Security Analyst / Junior Information Security Engineer

Area of Work / Cluster Name	Major Task	Competency Requirements	Units of Competency (UoCs) Number	Relevant Qualification for fulfilling Competency Requirements
Implementation and maintenance of information security system	1. Assists with planning, implementation, and maintenance of the organization wide security systems	<ul style="list-style-type: none"> <li>▪ Apply suitable network development tools in the deployment of secure network system</li> <li>▪ Support and implement information security practices and procedures</li> </ul>	<p>111190L4</p> <p>ITSWIS404A</p>	Obtain qualification via training programmes (QF Level 4)
	2. Monitor system security access. Perform routine security tests and user account auditing	<ul style="list-style-type: none"> <li>▪ Implementing monitoring equipment to monitor infrastructure failure and security breaches</li> <li>▪ Perform application security assessment for the organisation</li> <li>▪ Conduct drills according to response and recovery plans</li> </ul>	<p>111429L4</p> <p>111191L4</p> <p>ITSWIS406A</p>	

Area of Work / Cluster Name	Major Task	Competency Requirements	Units of Competency (UoCs) Number	Relevant Qualification for fulfilling Competency Requirements
Implementation and maintenance of information security system (continued)	3. Respond to all reported security incidents and other reports of suspicious activity	<ul style="list-style-type: none"> <li>▪ Maintain the security control documents</li> <li>▪ Carry out the first line of communication for triggering client response and alert internal security teams</li> <li>▪ Maintain security files by receiving, processing and filing the system data</li> </ul>	<p>ITSWOS418A</p> <p>111192L4</p> <p>111193L4</p>	<p>(Continued)</p> <p>Obtain qualifications via training programmes (QF Level 4)</p>
Implementation of information security policies and guidelines for an organisation	4. Manages user accounts; assures defined user authentication procedures are strictly followed	<ul style="list-style-type: none"> <li>▪ Ensure information security procedures and guidelines support information security policies</li> <li>▪ Monitor and perform the system security access checking</li> </ul>	<p>ITSWIS402A</p> <p>111194L3</p>	



**Proposed Competency Requirements (Information Security - Support Level)**

**Relevant Job Titles:**

- Computer operator / User support staff / Technical support services staff (TSS) / Help desk operator / Field technician

Area of Work / Cluster Name	Major Task	Competency Requirements	Units of Competency (UoCs) Number	Relevant Qualification for fulfilling Competency Requirements
Network Support	1. Network Support	<ul style="list-style-type: none"> <li>▪ Install and configure client/server application</li> <li>▪ Configure WAN connection</li> <li>▪ Troubleshoot network issues</li> </ul>	<p>107882L3</p> <p>107883L3</p> <p>107884L3</p>	<p>Obtain qualifications via training programmes (QF Level 3)</p> <p>Or</p> <p>RPL Mechanism (QF Level 3 RPL Cluster: TOS010L3)</p>
Network Security Support (Technical Support)	2. Network Security Support	<ul style="list-style-type: none"> <li>▪ Administer basic network security</li> <li>▪ Administer basic website security</li> <li>▪ Administer perimeter firewall</li> <li>▪ Strengthen workstation protection</li> </ul>	<p>107887L3</p> <p>107889L3</p> <p>107890L3</p> <p>107891L3</p>	<p>Obtain qualifications via training programmes (QF Level 3)</p> <p>Or</p> <p>RPL Mechanism (QF Level 3 RPL Cluster: ITOS011L3)</p>
User Support	3. User Support	<ul style="list-style-type: none"> <li>▪ Provide support to mobile device users</li> <li>▪ Troubleshoot client device hardware issues</li> <li>▪ Perform remote support</li> </ul>	<p>107904L3</p> <p>107905L3</p> <p>107907L3</p>	<p>Obtain qualifications via training programmes (QF Level 3)</p> <p>Or</p> <p>RPL Mechanism (QF Level 3 RPL Cluster: ITOS012L3)</p>
System Security Support	4. System Security Support	<ul style="list-style-type: none"> <li>▪ Create and maintain user accounts on server</li> <li>▪ Configure user access control on server</li> <li>▪ Administer system security</li> </ul>	<p>107885L2</p> <p>107886L3</p> <p>107888L3</p>	<p>Obtain qualifications via training programmes (QF Level 3)</p> <p>Or</p> <p>RPL Mechanism (QF Level 3 RPL Cluster: ITOS009L3)</p>

Area of Work / Cluster Name	Major Task	Competency Requirements	Units of Competency (UoCs) Number	Relevant Qualification for fulfilling Competency Requirements
Web Support	5. Web Support	<ul style="list-style-type: none"> <li>▪ Troubleshoot web browser and connection issues</li> <li>▪ Maintain website performance</li> <li>▪ Build simple web site using content management systems</li> <li>▪ Maintain website</li> </ul>	<p style="text-align: center;">107909L3</p> <p style="text-align: center;">107910L3</p> <p style="text-align: center;">107911L3</p> <p style="text-align: center;">107912L3</p>	<p style="text-align: center;">Obtain qualifications via training programmes (QF Level 3)</p> <p style="text-align: center;">Or</p> <p style="text-align: center;">RPL Mechanism (QF Level 3 RPL Cluster: ITOS013L3)</p>
Network and Security Support	6. Network and Security Support	<ul style="list-style-type: none"> <li>▪ Build a small wireless LAN</li> <li>▪ Install and configure network components/devices</li> <li>▪ Install and configure client/server application</li> <li>▪ Strengthen workstation protection</li> <li>▪ Troubleshoot web browser and connection issues</li> </ul>	<p style="text-align: center;">107879L2</p> <p style="text-align: center;">107880L2</p> <p style="text-align: center;">107882L3</p> <p style="text-align: center;">107891L3</p> <p style="text-align: center;">107909L3</p>	<p style="text-align: center;">Obtain qualifications via training programmes (QF Level 3)</p> <p style="text-align: center;">Or</p> <p style="text-align: center;">RPL Mechanism (QF Level 3 RPL Cluster: ITOS016L3)</p>