Updating **ANZSCO**
Reflecting a modern Australian labour market

Australian Bureau of Statistics

ANZSCO [Preliminary] Proposed Changes
Version 2.0

Computer system design and related services

ANZSCO Comprehensive Review

Australian Bureau of Statistics

17/6/2024

Essential Notes

The Australian and New Zealand Statistical Classification of Occupations (ANZSCO) describes all occupations for the Australian and New Zealand labour market.

The ABS has undertaken a comprehensive review of the Australian and New Zealand Standard Classification of Occupations (ANZSCO) to reflect the contemporary labour market and better meet stakeholders' needs. Public consultation rounds were held across 2023, with each round targeting selected occupations grouped by focus area.

Statistics New Zealand (Stats NZ) have elected not to participate in the current review and therefore occupation changes have only been considered in respect of the Australian labour market.

Updates to document

This document has been updated based on stakeholder feedback and further research. Minor updates have been made to a handful of occupations. The format of the document has also been updated to improve usability based on feedback received. A preliminary proposed changes document has been created for each of the 43 focus areas. Focus areas were designed to group occupations for consultation purposes only and will not be present in the classification structure.

The preliminary proposed changes presented do not include the full scope of not elsewhere classified categories (nec). Exclusion statements are incomplete and do not reference specific occupation locations within the classification. Outstanding nec categories, exclusion statements and final tweaks to occupations are currently being finalised in preparation for the release of the draft proposed classification in July on the ABS website. The July release will provide users with an opportunity to provide feedback on the structure of the proposed changes, before finalising the update for release by December 2024. These preliminary proposed changes documents are for information only.

Task lists

ABS recognises the potential of Artificial Intelligence (AI) to enhance our operations and efficiency. To this end, we have employed AI to assist in the creation of initial task lists. However, human experts are responsible for the final content, and AI serves as a tool, not a decision-maker. We value stakeholder input and incorporate it into our editing process placing importance on stakeholder submissions and other relevant research contributions.

Learn more about ANZSCO and the review at Updating ANZSCO | Australian Bureau of Statistics (abs.gov.au)

Occupations in the Computer system design and related services focus area include:

About the focus area

The Computer system design and related services focus area covers occupations which require specialised knowledge and skills to:

- plan, organise, direct and coordinate the acquisition, development, maintenance, quality assurance and use of computer systems, database management systems, operating systems or information and communications technology (ICT) security policies and procedures
- manage client accounts and represent companies in selling a range of ICT goods and services
- create computer animation, audio, video and graphic image files for various mediums, including games, motion pictures and the web
- plan, produce and maintain websites, computer infrastructure and web applications and technology
- design, test, maintain and document program code in accordance with user requirements and system specifications
- recommend strategies for network architecture and development or manage network hardware and software performance
- conduct risk and security control assessments, interpret security policy and contribute to the development of standards and guidelines, review information system designs, and provide guidance on security strategies to manage identified risks, systems security and the strengths and weaknesses, and analyse, plan and conduct cyber threat emulation activities verify deficiencies in technical security controls.

Summary of consultation

Consultation with stakeholders spanned over three consultation rounds, reflecting the complexity, growth and variation of occupations within the Computer system design and related services focus area. Feedback focused on the need to separately identify occupations in IT and digital technology leadership roles, which have grown in both scope and demand. In addition, the rapid pace of technological change, and shift towards cloud technologies and hybrid environments within Australia, and globally, required the recognition of ICT architect and engineer occupations.

Given the high degree of similarity of some roles in the industry, feedback from stakeholders has led to the consolidation of many existing occupations, and the update of alternative titles and specialisations to define the scope of responsibility of these occupations across the focus area.

135111 Chief Information Officer

Existing	Proposed	
135111 Chief Information Officer Alternative Title: • Chief Technology Officer Plans, organises, directs, controls and coordinates the ICT strategies, plans and operations of an organisation to ensure the ICT infrastructure supports the organisation's overall operations and priorities. Skill Level: 1 Specialisation: • Chief Information Security Officer	135113 Chief Information Officer Alternative Title: • Chief Technology Officer Plans, organises, directs, controls and coordinates the information and communications technology (ICT) strategies, plans and operations of an organisation to ensure the ICT infrastructure supports the organisation's overall operations and priorities. Chief Information Security Officers are excluded from this occupation. Skill Level: 1 Main Tasks: • Analyses information needs and specifies technology to meet those needs • Formulates and directs ICT strategies and aligns ICT strategies with business objectives • Oversees ICT infrastructure, ensuring optimal performance and security • Assesses suitability of current ICT and data systems and processes, and oversees upgrades and maintenance • Evaluates and manages risks related to ICT infrastructure, data security and other related areas • Establishes business continuity and disaster recovery plans to minimise the impact and duration of disruptions to operations and ICT resources	135114 Chief Information Security Officer Plans, organises, directs, controls and reviews the cyber security strategies, plans and operations in an organisation to ensure compliance with cyber security policy, standards, regulations and legislation. Skill Level: 1 Main Tasks: • Formulates cyber security frameworks to secure an organisation's data and technology systems from threats • Aligns cyber security initiatives with business objectives • Reports on the cyber security risk profile, status of systems, security risks and security incidents • Translates information security risks into operational risks • Oversees an organisation's response to cyber security incidents, including crisis management • Contributes to business continuity and disaster recovery plans related to cyber security

135112 ICT Project Manager

Existing	Proposed
135112 ICT Project Manager Plans, organises, directs, controls and coordinates quality accredited ICT and cyber security projects. Accountable for day-to-day operations of resourcing, scheduling, prioritisation and task coordination, and meeting project milestones, objectives and deliverables within agreed timeframes and budgets. Skill Level: 1 Specialisations: • ICT Development Manager • ICT Security Project Manager	135112 ICT Project Manager Alternative Title: • ICT Program Manager Plans, organises, directs, controls and coordinates quality accredited information and communications technology (ICT) projects. Accountable for day-to-day operations of resourcing, scheduling, prioritisation and task coordination, and meeting project milestones, objectives and deliverables within agreed timeframes and budgets. Skill Level: 1 Main Tasks: • Manages the entire lifecycle of ICT projects including initiation, planning, execution, monitoring and closure • Manages the selection, implementation and integration of new technology solutions into ICT projects • Creates detailed project plans to outline deliverables, timelines, resource allocation and budgeting specific to ICT projects • Identifies, analyses and manages risks associated with ICT projects to ensure smooth execution and delivery • Implements and maintains quality assurance processes to ensure that ICT projects meet specified standards and requirements • Manages multidisciplinary teams of various ICT professionals to ensure efficient project execution Specialisation: • ICT Security Project Manager

135199 ICT Managers nec

Existing	Proposed		
135199 ICT Managers nec This Occupation group covers ICT Managers not elsewhere classified. Skill Level: 1 The occupations in this group include: • IT Service Delivery Manager • Network Manager	135115 ICT Service Delivery Manager Alternative Titles: • ICT Service Manager • ICT Service Owner Manages and coordinates the effective delivery of information and communications technology (ICT) services within an organisation in accordance with predefined service level agreements. Skill Level: 1 Main Tasks: • Manages end-to-end ICT service delivery, ensuring adherence to agreed service levels and customer satisfaction • Develops and oversees an effective communication infrastructure for incident management response and resolution • Monitors service metrics to ensure performance and quality standards • May manage relationships with external vendors, negotiate contracts and monitor services Specialisation: • ICT Service Desk Manager	135116 ICT Operations Manager Alternative Titles: • Application Support Manager • ICT Support Manager Oversees daily operations of information and communications technology (ICT) systems and infrastructure in an organisation. Ensures the availability and reliability of servers, networks, hardware, and software systems, optimises performance and coordinates ICT maintenance and upgrades. Skill Level: 1 Main Tasks: • Oversees the design, implementation and maintenance of ICT infrastructure to ensure optimal performance and reliability • Develops and enforces ICT policies, procedures and standards for efficient operations • Monitors and analyses system performance, and recommends and implements enhancements as required • Implements disaster recovery and business continuity plans to ensure that critical information technology systems can be quickly restored in case of a disaster or system failure	135199 ICT Managers nec This occupation comprises ICT Managers not elsewhere classified. Examples: • IT Service Delivery Manager • Network Manager Skill Level: 1

224411 Intelligence Officer

Existing	Proposed
224411 Intelligence Officer Collects and analyses information and data to produce intelligence for an organisation to support planning, operations and human resource functions. Skill Level: 1 Specialisations: - Criminal Intelligence Analyst - Defence Intelligence Analyst	**224411 Intelligence Analyst** Collects and analyses information and data to produce intelligence for an organisation to support planning, operations and human resource functions. Skill Level: 1 Main Tasks: - Collects, assesses and analyses data to develop intelligence information and assist in intelligence activities - Determines organisational and client intelligence requirements - Ascertains the accuracy of data collected and the reliability of sources - Analyses intelligence data to identify patterns related to potential security threats or criminal activity - Predicts future illegal activity based on the analysis of intelligence information Specialisations: - Criminal Intelligence Analyst - Intelligence Analyst (Defence) - Intelligence Officer

225211 ICT Account Manager

Existing	Proposed
225211 ICT Account Manager Manages sale of computer hardware, software and services to existing account clients and identifies further sales opportunities within these accounts, builds new account clients, manages customer satisfaction and retention, and coordinates the preparation and presentation of ICT sales proposals and tenders. Skill Level: 1	225211 ICT Account Manager Manages sale of computer hardware, software and services to existing account clients and identifies further sales opportunities within these accounts, builds new account clients, manages customer satisfaction and retention, and coordinates the preparation and presentation of information and communications technology (ICT) sales proposals and tenders. Skill Level: 1 Main Tasks: • Develops and manages lists of prospective clients to establish client relationships and sales opportunities • Develops and maintains key accounts and portfolio plans • Acquires and updates knowledge of ICT goods, services and market conditions to differentiate from competition and maximise business opportunities • Engages with clients to understand their requirements and explain the ICT goods and services that meet their needs • Engages with existing and prospective clients to promote relevant ICT goods and services • Follows up with clients to ensure their satisfaction with provided ICT goods and services and resolves problems arising • Coordinates the preparation and presentation of ICT sales reports, proposals and tenders

225212 ICT Business Development Manager

Existing	Proposed
225212 ICT Business Development Manager Identifies and generates new ICT business opportunities to further improve market share and awareness by gaining an understanding of customers' ICT needs and promoting goods and services to these customers. May manage some key customer accounts. Skill Level: 1	225212 ICT Business Development Manager Identifies and generates new information and communications technology (ICT) business opportunities to further improve market share and awareness by gaining an understanding of customers' ICT needs and promoting goods and services to these customers. May manage some key customer accounts. Skill Level: 1 Main Tasks: • Develops and executes strategic business plans to promote existing and new ICT goods and services • Conducts research to identify market trends, emerging technologies and ICT business opportunities • Presents, promotes and sells ICT goods and services to existing and prospective client businesses in meetings through products demonstrations • Provides ICT business recommendations to senior management and business leadership to the team • Arranges delivery of ICT goods, installation of equipment and the provision of services

225213 ICT Sales Representative

Existing	Proposed
225213 ICT Sales Representative Develops and converts sales opportunities into sales of computer hardware, software and ICT services. Skill Level: 1	225213 ICT Sales Representative Develops and converts sales opportunities into sales of computer hardware, software and information and communications technology (ICT) services. Skill Level: 1 Main Tasks: - Quotes and negotiates prices and credit terms, and completes contracts and records orders - Arranges delivery of goods, installation of equipment and the provision of services - Reports to sales management on sales made and the marketability of ICT goods and services - Follows up with clients to ensure satisfaction with ICT goods and services purchased, arranges modifications and resolves any problems that arise - Prepares sales reports and maintains and submits records of business expenses incurred

261111 ICT Business Analyst

Existing	Proposed				
261111 ICT Business Analyst Alternative Titles: • BA (ICT) • Business Consultant (ICT) Identifies and communicates with users to formulate and produce a requirements specification to create system and software solutions. Skill Level: 1 Specialisation: • Business Systems Analyst	261114 Cloud Architect Alternative Titles: • Cloud Infrastructure Architect • Cloud Solution Architect Designs, develops and manages scalable, reliable and secure cloud infrastructure for an organisation. Skill Level: 1 Main Tasks: • Defines the cloud architecture blueprints to meet business objectives • Considers security implications and incorporates security best practice into	261115 Data Architect Designs, develops and manages complex data models within an organisation. Skill Level: 1 Main Tasks: • Develops and maintains a data architecture strategy aligned with business objectives and data management principles • Assesses appropriate technologies for data management, storage, analysis and disposal for the organisation • Designs conceptual data models and implements	261116 Enterprise Architect Develops, maintains and communicates the overarching enterprise architecture for an organisation, aligning processes, information, and technology with business strategy. Ensures coherence and alignment across departments and optimises systems and processes to achieve business goals. Skill Level: 1 Main Tasks: • Creates and maintains the strategic enterprise architecture roadmap and frameworks in alignment with business objectives • Describes the interrelationships between the organisation's business, data, applications and infrastructure	261117 ICT Business Analyst Alternative Titles: • ICT BA • ICT Business Consultant Identifies and communicates with users to formulate and produce a requirements specification to create system and software solutions. Non-ICT Business Analysts are excluded from this occupation. Skill Level: 1 Main Tasks: • Gathers requirements from stakeholders to define business, technical and functional needs and specification of a project • Analyses and interprets data to understand trends to inform information and communications	261118 Solution Architect Alternative Title: • Technical Architect Designs and coordinates the implementation of end-to-end technology solutions to meet business outcomes. Ensures the solution has technological compatibility, efficiency and scalability. Cloud Solution Architects are excluded from this occupation. Skill Level: 1 Main Tasks: • Designs and develops scalable, efficient, secure and cost-effective technical solutions to meet business infrastructure or functional needs • Researches and selects appropriate technologies,

	• cloud infrastructure • Assesses and recommends cloud platforms and technologies • Conducts capacity planning and resource allocation for cloud infrastructure • Manages cloud infrastructure migration projects • Implements and manages cloud-based disaster recovery and business continuity plans	metadata standards to provide a clear understanding of organisational data assets • Defines data flow, data usage and data integration processes within an organisation • Designs, develops and implements physical databases or data warehouses to support requirements for transactional data, business intelligence and data analytics • Assesses proposed changes to object or data structures and evaluates alternative options	• Assesses existing functions and capabilities and identifies gaps and vulnerabilities • Develops strategies to improve and support enterprise efficiency and performance • Evaluates new technologies for potential adoption to improve efficiency and achieve business requirements • Ensures compliance between business strategies, enterprise transformation activities, technology directions, policies and practices • Facilitates architectural changes in the organisation, helps mitigate the associated risks, and evaluates the effectiveness	technology (ICT) systems decisions • Maps business processes and systems using techniques such as business process modelling • Evaluates risks associated with ICT initiatives and recommends mitigations • Creates functional and technical specifications, use cases, and workflow diagrams to communicate requirements • Develops and implements training programs for users and provides support to ensure effective use of ICT systems Specialisations: • ICT Business Systems Analyst	platforms, and tools that best meet the project's requirements • Defines the interfaces and data flows between different systems and third-party services so that each component works together • Creates technical documentation, architectural diagrams, and specifications to guide development teams and communicate the solution architecture • Coordinates teams during the implementation of the chosen solution, addresses technical challenges, and oversees that the designs are effectively realised

261112 Systems Analyst

Existing	Proposed
261112 Systems Analyst Evaluates processes and methods used in existing ICT systems, proposes modifications, additional system components or new systems to meet user needs as expressed in specifications and other documentation. Skill Level: 1	261112 Systems Analyst Evaluates processes and methods used in existing information and communications technology (ICT) systems, proposes modifications, additional system components or new systems to meet user needs as expressed in specifications and other documentation. Skill Level: 1 Main Tasks: - Analyses existing business processes and systems to identify issues, errors and areas for improvement - Collaborates with stakeholders to determine system requirements - Creates functional solutions and system test plans to meet quality expectations - Develops functional specifications for use by system developers - Tests and troubleshoots system changes

261113 User Experience Designer

Existing	Proposed
261113 User Experience Designer Alternative Titles: • UI Designer • Usability Architect • User Interface Designer • UX Designer A User Experience Designer is involved in the end-to-end development process. This includes user research and consultation, strategy, design, branding, usability, function, and testing. User Experience Designers predominantly work with digital tools, such as apps and websites. Skill Level: 1	261113 UI / UX Designer Alternative Titles: • UI Designer • User Experience Designer • User Interface Designer • UX Designer Designs, develops, and optimises the user interface and user experience of apps, websites or products using digital tools, user research and consultation, interactive and visual design, usability function and testing. Skill Level: 1 Main Tasks: • Conducts user requirement analysis, creates user flows, journey maps, personas, scenarios, and task analysis to inform design decisions • Creates new designs, including wireframes, prototypes and visual designs for app and web user interfaces • Plans, estimates, and executes discovery and design processes using customer-centred design principles and usability testing methods • Tests and rapidly translates research findings into design solutions • Conducts discovery activities and workshops to gain quantitative and qualitative insights to improve apps and websites • Aligns business goals and customer needs into digital strategies and designs

261211 Multimedia Specialist

Existing	Proposed	
261211 Multimedia Specialist Alternative Titles: • Electronic Game Developer • Multimedia Developer • Multimedia Programmer Creates and manipulates computer animation, audio, video and graphic image files into multimedia programs to produce data and content for CD-ROMs, information kiosks, multimedia presentations, websites, mobile telephone resources, electronic gaming environments, e-commerce and e-security solutions, and entertainment and education products. Skill Level: 1	261213 Multimedia Specialist Alternative Title: • Multimedia Developer Develops and manipulates computer animation, audio, video and graphic images in multimedia programs to produce content across various platforms and applications. Multimedia Designers are excluded from this occupation. Skill Level: 1 Main Tasks: • Collaborates with work teams such as Content Creators, Graphic Artists and Visual Effects Artists to develop material to meet project or client needs • Uses specialised software to create and integrate multimedia content for various purposes such as advertising, websites, presentations, entertainment and education • Writes code or script to develop interactive features and ensure they function as intended • Edits multimedia content to integrate with audio and video recordings • Tests and troubleshoots multimedia content to ensure that it is compatible with different devices and operating systems • Manages and maintains multimedia content ensuring that it is up-to-date, high-quality, and consistent with the business branding guidelines • May create and design characters, backgrounds and other elements for animations Specialisations: • Animator • Motion Designer	261214 Digital Game Developer Alternative Title: • Video Game Developer Develops and transforms digital games from a concept to an interactive product using coding, software-programming, sound effects, rendering and testing. Digital Game Designers are excluded from this occupation. Skill Level: 1 Main Tasks: • Collaborates with game designers to conceptualise game ideas and translate creative concepts into functional digital game prototypes • Writes code using programming languages to implement game mechanics, user interfaces and interactive elements • Creates menus, buttons and interactive elements that enhance player navigation and engagement

261212 Web Developer

Existing	Proposed
261212 Web Developer Alternative Title: • Web Programmer Plans, produces, and maintains websites using web programming languages, software applications, technologies, and databases together with specifications of user needs, often in conjunction with other ICT Professionals such as Business Analysts, Web Designers and network and usability specialists. Skill Level: 1	261212 Web Developer Alternative Title: • Web Programmer Plans, produces, and maintains websites using web programming languages, software applications, technologies, and databases together with specifications of user needs, often in conjunction with other ICT Professionals such as ICT Business Analysts, Web Designers and network and usability specialists. Full Stack Developers are excluded from this occupation. Skill Level: 1 Main Tasks: • Designs, develops, and maintains websites using various programming languages • Collaborates with other ICT Professionals, to plan and produce websites that meet user needs and requirements • Builds responsive and accessible websites that comply with web accessibility guidelines • Uses content management systems (CMS) to manage website content and data • Ensures websites are optimised for performance, security, and compatibility with different devices and browsers • Develops and tests code to ensure that it meets industry standards, is properly structured, and is compatible with different platforms and operating systems • Creates and manages databases to support the functionality of web applications and websites • Designs and develops web applications, such as online forms and e-commerce platforms, that provide value to users • Creates and updates website content, such as text, images, and multimedia

261311 Analyst Programmer

Existing	Proposed
261311 Analyst Programmer Alternative Title: • Programmer Analyst Analyses user needs, produces requirements documentation and system plans, and encodes, tests, debugs, maintains and documents programs and applications. Skill Level: 1	Retire occupation and merge residual with proposed occupation; 261324 Software Engineer

261312 Developer Programmer

Existing	Proposed
261312 Developer Programmer Alternative Titles: • Applications Developer • ICT Developer • ICT Programmer Interprets specifications, technical designs and flow charts, builds, maintains and modifies the code for software applications, constructs technical specifications, including cyber security, from a business functional model, and tests and writes technical documentation. Skill Level: 1 Specialisations: • Cyber Security Developer • Database Developer • Database Programmer (Systems) • Network Programmer • Software Developer • Software Programmer	Retire occupation and merge residual with proposed occupation; 261318 Cloud Engineer

261313 Software Engineer

Existing	Proposed	
261313 Software Engineer Alternative Titles: • Software Architect • Software Designer Designs, develops, modifies, documents, tests, implements, installs and supports software applications and systems. Skill Level: 1 Specialisations: • Computer Applications Engineer • Database Designer • System Architect	261323 Data Engineer Designs, builds, operationalises and maintains the systems and processes for storing, transforming and analysing datasets. Skill Level: 1 Main Tasks: • Builds, tests and maintains data pipelines to support analytics and data processing systems • Develops and optimises processes and tools for data extraction, transformation and loading • Identifies, designs and implements process improvements including automating manual processing, optimising data delivery and re-designing infrastructure for optimum scalability • Implements secure data handling and storage procedures, protects data privacy and ensures compliance with regulations and best practices	261324 Software Engineer Alternative Titles: • Analyst Programmer • Developer Programmer • Software Developer Designs, develops, modifies, documents, tests and maintains software applications and systems using programming languages and development tools. Cyber Security Engineers and Digital Game Developers are excluded from this occupation. Skill Level: 1 Main Tasks: • Designs and implements software architectures to solve complex technical issues in alignment with specified requirements • Writes, tests and debugs code to ensure functionality, efficiency and adherence to quality accredited standards • Performs code reviews and optimises algorithms to ensure software quality, maintainability and adherence to best practices • Implements and manages software development processes and tools • Identifies, assesses and mitigates potential risks throughout software development • Collaborates with cross-functional teams to integrate software solutions within broader system infrastructures • Documents software designs, workflows, and user manuals to guide stakeholders and end-users

		Specialisations:
		- Application Developer - Application Engineer - Artificial Intelligence Engineer - Blockchain Developer - Cloud Developer - Computer Programmer - Database Developer - Full Stack Developer - IT Security Developer - Machine Learning Engineer - Software Architect

261314 Software Tester

Existing	Proposed
261314 Software Tester	261322 ICT Test Analyst
Specifies, develops and writes test plans and test scripts, produces test cases, carries out regression testing, and uses automated test software applications to test the behaviour, functionality and integrity of computer software, and documents the results of tests in defect reports and related documentation. It excludes testing of technical security controls. Skill Level: 1	Specifies, develops and executes test plans and test scripts, produces test cases and carries out testing using various techniques. Uses automated test software applications to test the behaviour, functionality and integrity of information and communications technology (ICT) software and systems. Documents the results of tests in defect reports and related documentation. Testing of technical security controls is excluded from this occupation. Skill Level: 1 Main Tasks: • Tests, identifies and diagnoses functionality errors and faults in software and/or systems • Defines user acceptance scenarios based on business requirements • Develops test plans outlining strategy, scope, resources and timelines for testing software and/or systems • Develops test cases describing the input, execution conditions and expected output of systems to examine functionality • Creates and maintains test documentation, such as procedural and operational manuals as well as test cases and test reports • Conducts unit, integration and functional testing to ensure software meets requirements • Tests software across different platforms, browsers, operating systems and devices • Provides feedback and recommendations based on analysis of test results and ensures it aligns with business requirements and specifications • May automate software and/or system test cases using testing tools and frameworks • May undertake system performance, load and stress testing Specialisations: • Automation Test Engineer • Software Tester • Systems Test Engineer (ICT)

261315 Cyber Security Engineer

Existing	Proposed
261315 Cyber Security Engineer Alternative Titles: • ICT Security Engineer • Information Security Engineer Designs, develops, modifies, documents, tests, implements, installs and supports cybersecurity software applications and systems; ensures they are fully integrated. Skill Level: 1	261315 Cyber Security Engineer Alternative Titles: • ICT Security Engineer • Information Security Engineer Designs, develops, modifies, documents, tests, implements, installs and supports cybersecurity software applications and systems; ensures they are fully integrated. Skill Level: 1 Main Tasks: • Develops, implements and integrates secure coding practices, and conducts security testing and vulnerability assessments for software and systems • Collaborates with developers to identify and remediate security issues • Develops and implements secure software development lifecycle (SDLC) processes and methodologies • Integrates security controls into development processes • Participates in code reviews and provides security guidance • Assesses security of third-party software components and libraries used in software and applications • Develops and implements secure APIs and libraries for use in software and applications • Performs code analysis scan on software binaries

261316 DevOps Engineer

Existing	Proposed	
261316 DevOps Engineer Facilitate and undertake communication, collaboration, integration and automation to improve efficiency and workflow across different specialist IT teams. Skill Level: 1 Specialisations: • Cloud Computing Engineer • Continuous Integration Engineer	261318 Cloud Engineer Builds, supports, manages and maintains cloud-based solutions and services, including cloud-based processes, applications, storage, and computer networks. Skill Level: 1 Main Tasks: • Deploys, configures and automates cloud services • Creates, tests and implements cloud-based functions and applications • Monitors and manages cloud resources and performance to ensure they are meeting production goals • Troubleshoots issues with cloud-based solutions and services and implements enhancements and fixes when necessary • Ensures that cloud infrastructure and services meet security and compliance requirements by implementing security controls, managing access and authentication, and monitoring for security threats • May plan and implement the migration of data and other information to the cloud	261321 DevOps Engineer Facilitates and undertakes communication, collaboration, integration and automation to improve efficiency and workflow across different specialist information technology teams. Cloud Engineers are excluded from this occupation. Skill Level: 1 Main Tasks: • Leads and coordinates software development and operations including continuous integration, continuous delivery, code deployment and system automation • Promotes collaboration between development teams and operations teams • Deploys applications or updates systems to ensure uniformity between networks, servers and automation elements within a given environment • Automates software and infrastructure deployment using automation tools to improve the software development life cycle • Implements and manages containerisation technologies • Conducts performance testing and tuning to optimise the performance and stability of operational infrastructure • Automates security testing and vulnerability scanning across the entire software development lifecycle

261317 Penetration Tester

Existing	Proposed
261317 Penetration Tester Alternative Titles: - Ethical Hacker - ICT Vulnerability Tester - White Hat Creates test cases using in-depth technical analysis of risks and typical vulnerabilities and produces test scripts, materials and packs to test new and existing software or services, plans, coordinates and conducts cyber threat emulation activities in support of certification, accreditation, and operational priorities to verify deficiencies in technical security controls. Skill Level: 1	261317 Penetration Tester Alternative Title: - Ethical Hacker Creates test cases using in-depth technical analysis of risks and typical vulnerabilities and produces test scripts, materials and packs to test new and existing software or services. Plans, coordinates and conducts cyber threat emulation activities in support of certification, accreditation, and operational priorities to verify deficiencies in technical security controls. Skill Level: 1 Main Tasks: - Develops and executes penetration testing methodologies and strategies to identify weaknesses in security controls - Creates test cases using in-depth technical analysis of risks and typical vulnerabilities - Produces test scripts, materials and packs to test new and existing software or services for vulnerabilities - Plans, coordinates and conducts cyber threat emulation activities to verify deficiencies in technical security controls, and provides recommendations for remediation - Identifies vulnerability exploitations and potential attack vectors into a system and analyses vulnerability scan results to assess security loopholes and threats - May conduct phishing attacks or other tests to evaluate the effectiveness of security awareness training

262111 Database Administrator

Existing	Proposed
262111 Database Administrator Alternative Titles: - Database Operator - Database Specialist - Database Support - DBA Plans, develops, configures, maintains and supports an organisation's database management system in accordance with user requirements ensuring optimal database integrity, security, backup, reliability and performance. Skill Level: 1 Specialisation: - Database Analyst	262111 Database Administrator Alternative Titles: - DBA - ICT Database Manager Plans, designs, configures, maintains and supports an organisation's database management system in accordance with user requirements ensuring optimal database integrity, security, backup, reliability and performance. Database Developers are excluded from this occupation. Skill Level: 1 Main Tasks: - Designs and implements database structures to optimise system performance and data storage efficiency - Monitors and optimises database performance using various techniques such as indexing and fine-tuning queries - Implements and maintains security protocols to protect databases from unauthorised access or breaches - Performs regular data backups and recovery tasks to ensure data integrity and availability - Coordinates database updates and migrations including database software installation, configuration and patch management - Develops disaster recovery plans to protect data from any potential loss or corruption Specialisation: - ICT Database Analyst

262113 Systems Administrator

Existing	Proposed

262113 Systems Administrator
 	
Alternative Title:
   • Systems Manager
 	
Plans, develops, installs, troubleshoots, maintains and supports an operating system and associated server hardware, software and databases ensuring optimum system integrity, security, backup and performance.
 	
Skill Level: 1
	262113 Systems Administrator
	
	Alternative Title:
	   • ICT Systems Manager
	
	Plans, develops, installs, troubleshoots, maintains and supports an operating system and associated server hardware, software and databases ensuring optimum system integrity, security, backup and performance.
	
	Skill Level: 1
	
	Main Tasks:
	   • Installs, configures and maintains server hardware, software, operating systems and databases infrastructure
	   • Diagnoses and resolves hardware, software, and network connectivity issues to ensure uninterrupted system operation
	   • Conducts regular system backups and recovery procedures, ensuring data safety and integrity
	   • Facilitates information technology infrastructure changes through change management processes, in accordance with organisational protocols
	   • Provides system related technical support and guidance to end users
	   • Manages user accounts, permissions, and security policies to ensure data security and compliance with regulations

262114 Cyber Governance Risk and Compliance Specialist

Existing	Proposed
262114 Cyber Governance Risk and Compliance Specialist Lead the governance, risk and compliance for cyber security. Skill Level: 1	262114 Cyber Governance Risk and Compliance Specialist Lead the governance, risk and compliance for cyber security. Skill Level: 1 Main Tasks: • Develops, implements and measures cybersecurity policies, procedures, and guidelines to comply with regulatory requirements and industry best practices • Manages a risk management program, including risk assessments, risk mitigation plans, and risk reporting • Conducts regular security audits to identify potential security gaps and areas for improvement • Provides guidance and training to employees on cybersecurity awareness, best practices, and incident response procedures • Develops and defines system classification requirements to ensure implementation of security controls and risk mitigation efforts are prioritised • Conducts compliance assessments to ensure that regulatory and legal requirements related to cybersecurity are being met

262115 Cyber Security Advice and Assessment Specialist

Existing	Proposed
262115 Cyber Security Advice and Assessment Specialist Alternative Titles: - Cyber Security Consultant - ICT Security Consultant - Cyber Security Advisor - ICT Security Advisor Conduct risk and security control assessments, interpret security policy and contribute to the development of standards and guidelines, review information system designs, provide guidance on security strategies to manage identified risks, provide specialist advice, explain systems security and the strengths and weaknesses. Skill Level: 1	262115 Cyber Security Advice and Assessment Specialist Alternative Titles: - Cyber Security Adviser - Cyber Security Consultant - ICT Security Adviser - ICT Security Consultant Conduct risk and security control assessments, interpret security policy and contribute to the development of standards and guidelines, review information system designs, provide guidance on security strategies to manage identified risks, provide specialist advice, explain systems security and the strengths and weaknesses. Skill Level: 1 Main Tasks: - Conducts risk and security control assessments and vulnerability testing to identify potential security risks and weaknesses in an organisation's cybersecurity policies - Provides specialist advice and guidance on security strategies to manage identified risks and vulnerabilities - Develops and implements security policies, procedures, and standards and guidelines to help organisations maintain a strong security position - Undertakes investigations and reports on security incidents and guides the refinement of practices and processes that increase the detection of security related incidents - Assists in root cause analysis of security incidents and breaches to determine the extent of the damage and recommend remedial actions - Develops metrics to highlight the impact of cybersecurity risks on business processes and information assets - Aligns and coordinates internal and external audit activities and security assessment engagements

262116 Cyber Security Analyst

Existing	Proposed
262116 Cyber Security Analyst Alternative Titles: • ICT Security Analyst • Information Security Analyst Analyses and assesses vulnerability in the infrastructure (software, hardware, networks), investigates available tools and countermeasures to remedy the detected vulnerabilities, and recommends solutions and best practices. Analyses and assesses damage to the data/infrastructure as a result of security incidents, examines available recovery tools and processes, and recommends solutions. Skill Level: 1 Specialisations: • Cyber Security Researcher or Vulnerability Researcher • Cyber Security Vulnerability Assessor • Cyber Threat Analyst • Malware Analyst	262116 Cyber Security Analyst Alternative Titles: • ICT Security Analyst • Information Security Analyst Analyses and assesses vulnerability in infrastructure (software, hardware, networks), investigates available tools and countermeasures to remedy detected vulnerabilities, and recommends solutions and best practices. Analyses and assesses damage to data/infrastructure as a result of security incidents, examines available recovery tools and processes, and recommends solutions. Skill Level: 1 Main Tasks: • Performs assessments on systems, networks, and applications to identify and prioritise potential security risks • Coordinates, analyses and investigates security risk incidents and breaches to determine the root cause and develops mitigation controls and strategies • Conducts research on cyber threats and weaknesses to develop and maintain knowledge of the cyber threat landscape • Develops and executes threat intelligence strategies for future threats and protects against potential attacks • Conducts risk assessments to identify security loopholes and weaknesses in information technology systems • Conducts malware analysis to identify and mitigate potential threats to systems and networks • Analyses alerts and data from security products security solutions, web proxies, network security devices and vulnerable scan and management systems Specialisations: • Cyber Security Researcher or Vulnerability Researcher • Cyber Security Vulnerability Assessor • Cyber Threat Analyst • Malware Analyst

262117 Cyber Security Architect

Existing	Proposed
262117 Cyber Security Architect Alternative Titles: • Enterprise Security Architect • ICT Security Architect Designs a security system or major components of a security system and may head a security design team building a new security system. Skill Level: 1	262117 Cyber Security Architect Alternative Titles: • Enterprise Security Architect • ICT Security Architect Designs a security system or major components of a security system and may head a security design team building a new security system. Skill Level: 1 Main Tasks: • Develops and implements cyber security strategy and architecture • Designs and maintains security controls and processes to protect systems, networks and data • Reviews system security measures and recommend and implements enhancements • Collaborates with other information and communications technology (ICT) and business departments to align security measures with security standards, policies and regulations • Stays updated on cyber security threats and recommends new security technology and strategy improvements • Implements new cyber security solutions and technologies • Provides guidance to ICT staff on security best practices • Develops and maintains cyber security reference architecture for consistent security controls • Implements incident response and disaster recovery plans

262118 Cyber Security Operations Coordinator

Existing	Proposed
262118 Cyber Security Operations Coordinator	262118 Cyber Security Operations Coordinator
Alternative Titles:	Alternative Titles:
• Cyber Security Operations Manager	• Cyber Security Operations Manager
• ICT Security Administrator	• ICT Security Administrator
Leads the coordination, and response to complex cyber security incidents and hunt investigations, manage tasks across various teams for incident response and hunt operations, advise leadership on current operational collaborations and contribute toward strategic planning, facilitate incident response engagements, assess technical information to develop key messaging.	Leads the coordination and response to complex cyber security incidents and hunt investigations, manages tasks across various teams for incident response and hunt operations, advises leadership on current operational collaborations and contributes toward strategic planning, facilitates incident response engagements, and assesses technical information to develop key messaging.
Skill Level: 1	Skill Level: 1
Specialisation:	Main Tasks:
• Cyber Security Incident Responder	• Leads the investigation and response to cyber security incidents and hunts including containment, mitigation and recovery activities
	• Analyses security risks and vulnerabilities and implements security plans
	• Performs threat management and modelling to identify threat vectors and develops cases for security modelling
	• Coordinates with other teams to maintain the security of systems and information
	• Assists in security awareness training for staff
	• Manages the collection, preservation and analysis of forensic evidence
	• Implements technical controls that align with security strategies and security architecture
	Specialisation:
	• Cyber Security Incident Responder

263111 Computer Network and Systems Engineer

Existing	Proposed
263111 Computer Network and Systems Engineer Plans, develops, deploys, tests and optimises network and system services, taking responsibility for configuration management and overall operational readiness of network systems, especially environments with multiple operating systems and configurations, and provides troubleshooting and fault-finding services for network problems. Skill Level: 1 Specialisations: • Computer Network Engineer • Computer Systems Integrator	263115 ICT Network and Systems Engineer Designs, implements, monitors and maintains computer networks, systems and infrastructure, and takes responsibility for configuration, installation and maintenance of computer hardware and software. Develops, documents and implements project plans and procedures, including for network security. Develops testing procedures and performs audits on computer hardware, software, networks, systems and infrastructure and provides technical support where required. Network Architects and Cloud Engineers are excluded from this occupation. Skill Level: 1 Main Tasks: • Builds, implements, monitors and maintains computer networks and systems • Researches, analyses, manages and monitors network infrastructure • Ensures the ongoing performance of networks and systems • Develops and modifies software and network programs through use of programming code • Configures, installs and maintains computer hardware and software • Develops and documents project plans and procedures regarding system configuration, incident resolutions and system and network maintenance • Plans, develops and implements network security measures, policies and procedures • Develops testing procedures and audits computer hardware, software, networks and systems • Provides technical support to resolve computer network and system issues Specialisations: • ICT Infrastructure Engineer • ICT Network Engineer • ICT Systems Integrator • Network Analyst

263112 Network Administrator

Existing	Proposed
263112 Network Administrator Alternative Titles: • Network Specialist • Network Support Installs and maintains hardware and software, documents diagnosis and resolution of faults, manages user passwords, security and inventory documentation, ensures the efficient performance of servers, printers and personal computers, and attends to other operational tasks. May also perform tasks such as help desk support and user training. Skill Level: 1 Specialisation: • LAN Administrator	263112 Network Administrator Alternative Titles: • Network Specialist • Network Support Installs and maintains hardware and software, implements, monitors and optimises network environments and infrastructure, documents diagnosis and resolution of network-related incidents, manages network security, and attends to other operational tasks. May also perform tasks such as help desk technical support and user training. Skill Level: 1 Main Tasks: • Monitors, maintains and optimises network environments and infrastructure • Coordinates, installs and maintains computer software and hardware • Implements, maintains, improves and audits security measures to ensure network security • Troubleshoots and provides technical support for network-related incidents • Reviews and updates policies, procedures and documentation relating to network design, infrastructure and security • Coordinates backup management of all local resources to prevent loss of information

263113 Network Analyst

Existing	Proposed
263113 Network Analyst Alternative Titles: • Network Designer • Network Strategist Researches and analyses network architecture, and recommends policies and strategies for designing, planning and coordinating an organisation's network such as the total system environment and architecture. May also perform operational tasks such as monitoring system performance, software and hardware upgrades, backups, support and network maintenance. Skill Level: 1 Specialisations: • Network Architect • Network Consultant	263114 Network Architect Alternative Title: • Network Designer Designs, plans, implements and optimises network infrastructure. Develops and maintains network-related documentation, collaborates with clients to create network designs, evaluates network hardware and software for selection and drives automation of network processes. May also engage in resolution of critical network incidents. Network Analysts are excluded from this occupation. Skill Level: 1 Main Tasks: • Designs, plans, implements and optimises network architecture and infrastructure to align with business requirements and to meet specified operational parameters for capacity and performance • Designs, reviews and implements network access and security technologies • Considers network related risks and specifies recovery routines and contingency procedures • Develops and maintains network documentation, including network diagrams and capabilities • Collaborates with clients to create network designs and test plans • Evaluates and selects network hardware and software • Drives automation of network-related processes • May resolve critical network incidents

263211 ICT Quality Assurance Engineer

Existing	Proposed
263211 ICT Quality Assurance Engineer Alternative Titles: • Quality Analyst (ICT) • Quality Manager (ICT) • Quality Specialist (ICT) Creates, maintains and manages technical quality assurance processes and procedures to assess efficiency, validity, value and functional performance of computer systems and environments, and audits systems to ensure compliance with, and adherence to, accredited internal and external industry quality standards and regulations. May supervise the work of ICT quality assurance teams. Skill Level: 1 Specialisations: • Computer Systems Auditor • Systems Auditor (ICT)	263211 ICT Quality Assurance Engineer Alternative Titles: • Quality Analyst (ICT) • Quality Manager (ICT) • Quality Specialist (ICT) Creates, maintains and manages technical quality assurance processes and procedures to assess efficiency, validity, value and functional performance of computer systems and environments. Audits systems to ensure compliance with accredited internal and external industry quality standards and regulations. Skill Level: 1 Main Tasks: • Develops and implements quality assurance plans, policies, standards and procedures for information and communications technology (ICT) systems, software and environments • Conducts ICT system audits and assessments to identify non-compliance with quality assurance standards, regulatory requirements and accreditation standards • Creates and oversees manual and automated tests of software and systems • Develops corrective actions and improvement plans to address quality issues or non-compliance • Coordinates and collaborates with cross-functional teams to ensure consistent application of quality assurance processes and procedures • May supervise the work of ICT quality assurance teams Specialisations: • IT Auditor • Management Systems Auditor (ICT) • Systems Auditor (ICT)

263212 ICT Support Engineer

Existing	Proposed
263212 ICT Support Engineer Alternative Titles: - Support Analyst - Support Architect Develops support procedures and strategies for systems, networks, operating systems and applications development, solves problems and provides technical expertise and direction in support of system infrastructure and process improvements, and diagnoses and resolves complex system problems. Skill Level: 1	263212 ICT Support Engineer Alternative Title: - Support Analyst Develops support procedures and strategies for systems, networks, operating systems and applications development. Solves problems and provides technical expertise and direction in support of system infrastructure and process improvements, and diagnoses and resolves complex system problems. Skill Level: 1 Main Tasks: - Diagnoses and resolves technical problems related to hardware, software, networks and systems - Prioritises and triages incoming incidents and service requests to ensure timely response and escalation - Diagnoses functionality errors and faults in systems and programming code to ensure systems perform to specification - Develops, conducts and provides technical guidance and training in application software and operational procedures - Performs system reviews and assessments and recommends hardware and software strategies and directions

263213 ICT Systems Test Engineer

Existing	Proposed

263213 ICT Systems Test Engineer
 	
Alternative Titles:
   • Systems Tester
   • Test Analyst (ICT)
 	
Specifies, develops and writes test plans and test scripts, produces test cases, carries out regression testing, and uses automated test software applications to test the behaviour, functionality and integrity of systems, and documents the results of tests in defect reports and related documentation.
 	
Skill Level: 1
	Retire occupation and merge residual with proposed occupation; 261322 ICT Test Analyst

313111 Hardware Technician

Existing	Proposed
313111 Hardware Technician Supports and maintains computer systems and peripherals by installing, configuring, testing, troubleshooting, and repairing hardware. Skill Level: 2	313111 ICT Hardware Technician Supports and maintains information and communications technology (ICT) systems and peripherals by installing, configuring, testing, troubleshooting, and repairing hardware. Skill Level: 2 Main Tasks: - Installs and configures ICT hardware including desktop, laptop and smart devices - Tests, troubleshoots and repairs desktop laptop and smart devices - Diagnoses, troubleshoots and repairs peripheral ICT equipment such as terminals, printers and network hardware - Installs and maintains networks, servers and network equipment

313112 ICT Customer Support Officer

Existing	Proposed
313112 ICT Customer Support Officer Alternative Titles: • ICT Help Desk Officer • ICT Help Desk Technician • Systems Support Officer Provides support, education and guidance in the deployment and maintenance of computer infrastructure and the diagnosis and resolution of technical problems and issues. May work in a call centre. Skill Level: 2 Specialisations: • Network Support Technician • Operator Command Support Systems (Army)	313112 ICT Customer Support Officer Alternative Titles: • ICT Help Desk Officer • ICT Service Desk Analyst Provides support, education and guidance in the deployment and maintenance of computer infrastructure and software, and the diagnosis and resolution of technical problems and issues. May work in a call centre. Skill Level: 2 Main Tasks: • Supports customers in resolving technical incidents with computer hardware and software • Installs and deploys software to meet customer needs • Diagnoses, troubleshoots and resolves connectivity issues • Provides basic user training on computer hardware and software Specialisation: • Network Support Technician

313113 Web Administrator

Existing	Proposed
313113 Web Administrator Alternative Title: • Webmaster Designs, builds and maintains websites, and provides web technology solutions and services. Skill Level: 2	313113 Web Administrator Alternative Title: • Webmaster Maintains and improves websites and provides web technology solutions and services. Skill Level: 2 Main Tasks: • Installs, configures and maintains web servers and related software • Implements website security measures such as firewalls, antivirus software and SSL certificates • Monitors website traffic and performance, and identifies and troubleshoots issues that affect performance • Ensures backup and disaster recovery plans are in place to protect websites and web applications from data loss and downtime • Installs and configures website software such as content management systems and web analytics tools