Australian Government

ICT60220 Advanced Diploma of Information Technology

Release 1

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 7.0.

Qualification Description

This qualification reflects the role of individuals in a variety of information and communications technology (ICT) roles who have significant experience in specialist technical skills, or managerial business and people management skills.

Individuals in these roles carry out complex tasks in a specialist field, working independently, leading a team or a strategic direction of a business. They apply their skills across a wide range of industries and business functions, or as a business owner (sole trader/contractor).

The skills required for these roles may include, but are not restricted to:

- advanced data management information: creating, designing and monitoring complex systems that store data, and optimising organisational knowledge management
- cyber security: protecting sensitive data and information through security architecture, and developing disaster recovery and contingency plans
- full stack web development: building advanced user interfaces, developing representational state transfer application program interfaces (REST APIs) and designing user experience solutions
- further programming: applying advanced ICT languages to maintain security and manage data
- IT strategy and organisational development: managing and communicating strategic ICT business solutions
- systems development and analysis: modelling and testing data objects, data processes and preferred ICT system solutions
- telecommunications network engineering: managing logistics, organisational specifications, regulations and legislative requirements across network projects.

Licensing, legislative, regulatory or certification considerations

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

Nil

Packaging Rules

Total number of units = 16

6 core units plus

10 elective units, of which:

- at least 7 units must be selected from the elective units listed below
- up to 3 units may be selected from the remaining listed elective units or from this or any currently endorsed Training Package or accredited course where the units are packaged in an Australian Qualification Framework (AQF) Level 5 or 6 qualification.

Elective units must be relevant to the work environment and the qualification, maintain the integrity of the AQF alignment and contribute to a valid, industry-supported vocational outcome.

Units selected from other Training Packages or accredited courses must not duplicate units selected from or available within the ICT Information and Communications Technology Training Package.

Where relevant, the choice of elective units set out in the packaging rules above can serve to provide the qualification with one or more of the following specialisations. The rules to achieve a specialisation are detailed at the qualification end.

- Advanced data management information
- Cyber security
- Full stack web development
- Further programming
- IT strategy and organisational development
- Systems development and analysis
- Telecommunications network engineering.

Core units

BSBCRT611 Apply critical thinking for complex problem solving

BSBTWK502 Manage team effectiveness

BSBXCS402 Promote workplace cyber security awareness and best practices

ICTICT608 Interact with clients on a business level

ICTICT618 Manage IP, ethics and privacy in ICT environments

ICTSAD609 Plan and monitor business analysis activities in an ICT environment

Elective units

Group A - Advanced data management information specialisation

ICTDBS604 Build data warehouses

ICTDBS605 Develop knowledge management strategies

ICTDBS606 Determine database functionality and scalability

ICTICT523 Gather data to identify business requirements

Group B - Cyber security specialisation

ICTCYS604 Implement best practices for identity management

ICTCYS606 Evaluate an organisation's compliance with relevant cyber security standards and law

ICTCYS608 Perform cyber security risk assessments

ICTCYS612 Design and implement virtualised cyber security infrastructure for organisations

Group C - Full stack web development specialisation

ICTICT530 Design user experience solutions

ICTPRG535 Build advanced user interfaces

ICTPRG553 Create and develop REST APIs

ICTSAD612 Implement and maintain uses of containerisation

Group D - Further programming specialisation

ICTPRG537 Implement security for applications

ICTPRG547 Apply advanced programming skills in another language

ICTPRG554 Manage data persistence using noSQL data stores

Group E - IT Strategy and organisational development specialisation

ICTICT611 Develop ICT strategic business plans

ICTSAD604 Manage and communicate ICT solutions

ICTSAD608 Perform ICT-focused enterprise analysis

ICTSAD611 Manage assessment and validation of ICT solutions

Group F - Systems development and analysis specialisation

ICTPRG605 Manage development of technical solutions from business specifications

ICTSAD610 Analyse stakeholder requirements

ICTSAD612 Implement and maintain uses of containerisation

ICTSAD613 Install and configure container orchestration services

Group G - Telecommunications network engineering specialisation

ICTNPL413 Evaluate networking regulations and legislation for the telecommunications industry

ICTNWK612 Plan and manage troubleshooting advanced integrated IP networks

ICTPMG613 Manage ICT project planning

ICTTEN615 Manage network traffic

ICTTEN622 Produce ICT network architecture designs

Group H - General electives

Advanced Cloud Computing

ICTCLD601 Develop cloud computing strategies for businesses

ICTCLD602 Manage information security compliance of cloud service deployment

Advanced Cyber Security

ICTCYS603 Undertake penetration testing for organisations

ICTCYS607 Acquire digital forensic data

ICTCYS609 Evaluate threats and vulnerabilities of IoT devices

Application and Software Development

ICTPRG549 Apply intermediate object-oriented language skills

ICTPRG603 Develop advanced mobile multi-touch applications

ICTPRG614 Create cloud computing services

Cyber Security Network Operations

ICTCYS601 Create cyber security standards for organisations

ICTCYS602 Implement cyber security operations

ICTCYS611 Configure security devices for organisations

Data Management

ICTDBS505 Monitor and improve knowledge management systems

Project Management

BSBPMG532 Manage project quality

BSBPMG536 Manage project risk

BSBPMG539 Manage project governance

ICTICT505 Determine acceptable developers for projects

ICTICT529 Organise and lead agile projects

ICTPMG612 Manage ICT project initiation

ICTPMG613 Manage ICT project planning

ICTPMG614 Manage ICT project delivery

ICTPMG615 Manage ICT project closure

ICTPMG616 Manage ICT project systems implementation

ICTPMG617 Plan and direct complex ICT projects

ICTSAS522 Manage the testing process

IT Work Ready Skills

ICTICT522 Evaluate vendor products and equipment

ICTICT612 Develop contracts and manage contract performance

ICTICT613 Manage the use of development methodologies

ICTICT616 Develop communities of practice

ICTICT617 Lead the evaluation and implementation of current industry specific technologies

ICTSAD602 Conduct knowledge audits

ICTSAD605 Elicit ICT requirements

ICTSUS603 Integrate sustainability in ICT planning and design projects

PSPPCM023 Manage strategic contracts

Network Security

CPPSEC3124 Prepare and present evidence in court

CPPSEC5003 Assess security risk management options

CPPSEC5004 Develop security risk management plans

CPPSEC5005 Implement security risk management plans

CPPSEC5006   Develop strategies to implement advanced technology security systems

ICTNWK537 Implement secure encryption technologies

ICTNWK538 Install and maintain valid authentication processes

ICTNWK539 Design and implement integrated server solutions

ICTNWK540 Design, build and test network servers

ICTNWK541 Configure, verify and troubleshoot WAN links and IP services

ICTNWK544 Design and implement a security perimeter for ICT networks

ICTNWK549 Design ICT security frameworks

ICTNWK552 Install and configure network access storage devices

ICTNWK553 Configure enterprise virtual computing environments

ICTNWK554 Manage enterprise virtual computing environments

ICTNWK556 Identify and resolve network problems

ICTNWK557 Configure and manage advanced virtual computing environments

ICTNWK558 Monitor and troubleshoot virtual computing environments

ICTNWK559 Install an enterprise virtual computing environment

ICTNWK603 Plan, configure and test advanced internetwork routing solutions

ICTNWK604 Plan and configure advanced internetwork switching solutions

ICTNWK605 Design and configure secure integrated wireless systems

ICTNWK606 Implement voice applications over secure wireless networks

ICTNWK610 Design and build integrated VoIP networks

ICTNWK611 Configure call processing network elements for secure VoIP networks

ICTNWK612 Plan and manage troubleshooting advanced integrated IP networks

ICTNWK613 Develop plans to manage structured troubleshooting process of enterprise networks

ICTNWK615 Design and configure desktop virtualisation

ICTNWK617 Configure and manage a storage area network

ICTNWK618 Design and implement a security system

ICTNWK619 Plan, configure and test advanced server-based security

ICTNWK620 Design and implement wireless network security

ICTNWK621 Configure network devices for a secure network infrastructure

ICTNWK622 Configure and manage intrusion prevention system on network sensors

ICTSAS517 Use network tools

Strategy and Business Management

BSBLDR601 Lead and manage organisational change

BSBSTR601 Manage innovation and continuous improvement

BSBPMG537 Manage project procurement

ICTICT614 Identify and implement business innovation

ICTICT615 Implement knowledge management strategies

ICTSAD507 Design and implement quality assurance processes for business solutions

ICTSAD508 Develop technical requirements for business solutions

ICTSAS602 Implement change management processes

Telecommunications Network Engineering - General

BSBLDR523 Lead and manage effective workplace relationships

BSBPMG530 Manage project scope

BSBPMG430 Undertake project work

ICTICT818 Develop knowledge management strategies

ICTICT819 Lead analysis of information and communications technology business strategy

ICTICT822 Manage automated ICT system applications

ICTPMG506 Prepare network project briefs

ICTPRG605 Manage development of technical solutions from business specifications

ICTSUS604 Prepare business cases for sustainability and competitive advantage in ICT projects

ICTSUS807 Conduct and manage a life cycle assessment for sustainability

ICTSUS811 Conduct and manage life cycle assessments for sustainability

ICTSUS812 Lead applied research in ICT sustainability

ICTTEN613 Assess integration of international network equipment into Australian networks

ICTTEN614 Conduct network system optimisation and administration

ICTTEN616 Rectify client services following network outages and faults

ICTTEN617 Manage common channel signalling networks

ICTTEN618 Analyse and organise repair of highly complex networks

ICTTEN619 Test new software and hardware releases

ICTTEN620 Produce and evaluate architecture designs for convergent cellular mobile networks

ICTTEN621 Design and configure IP-MPLS networks with virtual private network tunnelling

ICTTEN623 Design and manage internet protocol TV in a service provider network

ICTTEN817 Plan transmission networks

ICTTEN818 Align systems with product and technology strategy

ICTTEN819 Translate domain and solution architectures into platform requirements and designs

ICTTEN820 Manage end to end architectural solutions across multiple domains

ICTTEN821 Manage solution architecture and impacts

ICTTEN822 Manage application layer solutions

ICTTEN823 Manage voice, data and internet protocol network solutions

ICTTEN824 Manage network testing strategies

ICTTEN825 Investigate applications of cloud networks in network switching

ICTTEN826 Evaluate and apply digital signal processing to communication systems

ICTTEN827 Produce engineering solutions

ICTTEN828 Manage development and application of testing artefacts

Telecommunications Network Engineering – Networking

ICTNPL412 Apply business acumen to network planning

ICTNWK546 Manage network security

ICTNWK560 Determine best-fit topologies for wide area networks

ICTNWK561 Design enterprise wireless local area networks

Telecommunications Network Engineering – Optical Networks

ICTOPN605 Manage optical ethernet transmission

ICTOPN606 Manage dense wavelength division multiplexing transmission systems

ICTOPN607 Design dense wavelength division multiplexing systems

ICTOPN608 Analyse optical transmission systems

Telecommunications Network Engineering – Radio Communications

ICTRFN804 Produce radio link budgets

ICTRFN805 Analyse cellular mobile network systems

ICTRFN806 Analyse satellite communications systems

Specialisations

The achievement of a specialisation will be identified on testamurs as follows:

- ICT60220 Advanced Diploma of Information Technology (Advanced Data Management Information)
- ICT60220 Advanced Diploma of Information Technology (Cyber Security)
- ICT60220 Advanced Diploma of Information Technology (Full Stack Web Development)
- ICT60220 Advanced Diploma of Information Technology (Further Programming)
- ICT60220 Advanced Diploma of Information Technology (IT Strategy and Organisational Development)
- ICT60220 Advanced Diploma of Information Technology (Systems Development and Analysis)
- ICT60220 Advanced Diploma of Information Technology (Telecommunications Network Engineering).

Packaging rules to achieve a specialisation

Advanced Data Management Information

- Select all 4 elective units from Group A - Advanced data management information specialisation

Cyber Security

- Select all 4 elective units from Group B - Cyber security specialisation

Full Stack Web Development

- Select all 4 elective units from Group C - Full stack web development specialisation

Further Programming

- Select all 3 elective units from Group D - Further programming specialisation

IT Strategy and Organisational Development

- Select all 4 elective units from Group E - IT strategy and organisational development specialisation

Systems Development and Analysis

- Select all 4 elective units from Group F - Systems development and analysis specialisation

Telecommunications Network Engineering

- Select all 5 elective units from Group G - Telecommunications network engineering specialisation.

Qualification Mapping Information

No equivalent qualification. Supersedes and is not equivalent to:

- ICT60120 Advanced Diploma of Information Technology
- ICT60615 Advanced Diploma of Telecommunications Network Engineering
- ICT80315 Graduate Certificate in Telecommunications
- ICT80415 Graduate Diploma of Telecommunications Network Engineering
- ICT80515 Graduate Diploma of Telecommunications and Strategic Management
- ICT80615 Graduate Certificate in Telecommunications Network Engineering.

Links

Companion Volume Implementation Guide is found on VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2