Australian Government

ICT40310 Certificate IV in Telecommunications Radio Communications

Release 2

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

ICT40310 Certificate IV in Telecommunications Radio Communications

Modification History

Version	Comments
Release 2	This version released with *ICT10 Integrated Telecommunications Training Package v2.0*. Updated imported units *HLTFA301B* to *HLTFA311A*. Qualification outcomes remain unchanged.
Release 1	This qualification first released with *ICT10 Integrated Telecommunications Training Package v1.0*

Description

Descriptor

This qualification reflects the role of a technician with a range of telecommunications skills who can:

- install and maintain digital radio telecommunications equipment
- conduct field operations of radio networks
- install and maintain worldwide interoperability for microwave access (WiMAX) and wireless fidelity (WiFi) networks for high speed broadband network infrastructure
- monitor radio frequency (RF) operation and conduct field audits for compliance.

Job Roles

Job roles and titles vary across different sectors of the industry. Possible job titles relevant to this qualification include:

- radio communications technician
- radio frequency technician
- radio frequency field technician
- radio frequency compliance officer
- radio frequency auditor
- telecommunications radio technician
- WiMAX or WiFi system installer
- Wireless system installer
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Prerequisite requirements

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There are no prerequisite requirements for individual units of competency.

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Pathways Information

Qualification Pathways
Pathways into the qualification
Candidates may enter this qualification with limited or no vocational experience and without a relevant lower level qualification.

Pathways from the qualification
After achieving the ICT40310 Certificate IV in Telecommunications Radio Communications, candidates may undertake the ICT50210 Diploma of Telecommunications Network Engineering, a qualification for those seeking to develop more specialised technical skills and knowledge, or a range of other Diploma qualifications.

Licensing/Regulatory Information

Licensing, legislative, regulatory or certification considerations
All training programs must be conducted with the reference to the regulatory regime of the prevailing statutory authority (currently ACMA).

National Code of Practice for Induction for Construction Work
Some cabling and installation work may fall within the definition of construction work. If so, people entering the construction site are required to complete the general induction training program specified by the National Code of Practice for Induction Training for Construction Work (Australian Safety Compensation Council, May 2007).

Achievement of the unit CPCCOHS1001A Work safely in the construction industry from the CPC08 Construction and Plumbing Services Integrated Framework Training Package fulfils this requirement.

Entry Requirements

Entry requirements
There are no entry requirements for this qualification.

Employability Skills Summary

EMPLOYABILITY SKILLS QUALIFICATION SUMMARY	
Employability Skill	**Industry/enterprise requirements for this qualification include**:
Communication	• determining options to rectify faults and discussing them with customer so that necessary action is determined • documenting test methods and results

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EMPLOYABILITY SKILLS QUALIFICATION SUMMARY	
	• making a complete check of installation against installation plans • reading, interpreting and using equipment/system manuals and specifications and relevant enterprise policy and documentation • conveying information to clients, colleagues and other site personnel • providing feedback to customers on operating the equipment
Teamwork	• identifying members and roles of team • identifying and contributing to team tasks and goals • recognising and responding positively to conflict within team • working with team members to work with clients and install equipment • relating personal role to the industry • participating in a team structure by identifying team members, tasks and goals and recognising and responding positively to conflict • applying interpersonal skills with clients, employer, supervisors, work associates, team members and other contractors • giving and receiving feedback to assist in meeting team and organisation goals
Problem solving	• ranking causes of problems, working from system-wide impacts to specific impacts • diagnosing network security problems to secure the network • identifying barriers to installation and developing strategies to overcome them within time and budget restrictions • identifying faults or optimisation options • rectifying faults and adjusting system to optimal operation • determining radio interference problems and conducting compliance audits • following up promptly on difficulties and known problem areas
Initiative and enterprise	• prioritising urgent requests and acting according to organisational guidelines • identifying barriers to installation and developing strategies to overcome them within time and budget restrictions • adapting plan to suit specific features of site • identifying issues and possible solutions within established guidelines • interacting with enterprise personnel, customers and other contractors keeping a customer focus and considering customer needs
Planning and organising	• identifying realistic short and long-term career objectives • planning and provision to meet key dates and milestones

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EMPLOYABILITY SKILLS QUALIFICATION SUMMARY	
	• gathering data for the installation of systems and equipment • planning the installation of fibre cable, taking into account technical, scheduling and financial considerations • interpreting design and relating to site characteristics • prioritising work according to organisation guidelines • running a test of network security arrangements
Self-management	• identifying realistic short and long-term career objectives • identifying work to be completed • complying with all related OHS requirements and work practices • developing installation plans to ensure minimal disruption to the workplace • checking that tools and equipment are in safe working order and adjusted to manufacturer specification • relating own role to the industry and establishing own work schedule • using strategies to present a professional image to customers • interpreting and applying relevant regulations and standards
Learning	• relating current or intended role to career objectives in a positive manner • giving and receiving feedback to assist in meeting team and organisation goals • making clients aware of opportunities that exist for system upgrades, additional services and training • seeking assistance from team members when necessary • providing suitable training and assessment opportunities for work team members • providing training to customers on system, product, product features and facilities
Technology	• checking that tools and equipment are in safe working order and adjusted to manufacturer specifications • converging many integrated and emerging technologies • testing and measuring of broadband network infrastructure • installing and operating telecommunications equipment and products • installing and operating equipment and products • identifying, replacing or repairing faulty parts and equipment • undertaking relevant acceptance tests and analysing results against specified performance criteria

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Packaging Rules

Total number of units = 17
10 core units, plus
7 elective units

Elective units must be relevant to the work outcome, local industry requirements and the qualification level. All these electives must be taken from Certificate IV level.

A maximum of three elective units may be substituted with three units of competency from any endorsed Training Package or any accredited course at Certificate IV or Diploma level.

Units selected from other Training Packages or accredited courses must not duplicate units selected from or available within the ICT10 Integrated Telecommunications Training Package.

CORE UNITS
ICTCBL2066A Joint and terminate coaxial cable
ICTOHS2170A Follow OHS and environmental policy and procedures
ICTRFN3055A Install a radio communications antenna and feedline
ICTRFN3155A Construct and test a radio communications device
ICTSUS4185A Install and test power management software
ICTTEN2007A Use electrical skills in telecommunications work
ICTTEN2140A Use hand and power tools
ICTTEN3104A Maintain an electronic system
ICTTEN4081A Locate, diagnose and rectify faults
ICTWOR2141A Work effectively in a telecommunications technology team

ELECTIVE UNITS
Cabling
ICTCBL4004A Schedule and supply cabling installation
ICTCBL4099A Remotely locate and identify cable network faults

Compliance
ICTCMP5176A Undertake radio communications site audit

Customer Service

BSBCUS402A Address customer needs

First aid

HLTFA311A Apply first aid

ICT use

(IP networks)
ICAI4029C Install network hardware to a network

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Occupational health and safety

CPPSEC3034A Operate information gathering equipment
ICTOHS2153A Work safely near power infrastructure
CPCCOHS1001A Work safely in the construction industry

Project management
ICTPMG4048A Schedule installation of customer premises equipment
ICTPMG4152A Manage the delivery of network infrastructure

Radio frequency networks
ICTRFN3146A Install WiMAX customer premises equipment broadband wireless access equipment
ICTRFN3175A Operate and maintain radio communications technical instruments and field equipment
ICTRFN4095A Conduct radio frequency measurements
ICTRFN4158A Select an antenna system for radio communications
ICTRFN4159A Test and repair cellular network equipment
ICTRFN4174A Undertake radio communications signals monitoring
ICTRFN4177A Install radio communications base station equipment
ICTRFN4178A Maintain hybrid fibre coaxial broadband cable network
ICTRFN5148A Test and measure cellular phone and network equipment performance

Telecommunications engineering networks
ICTTEN3054A Provide infrastructure for telecommunications network equipment
ICTTEN3056A Install telecommunications network equipment
ICTTEN3077A Commission an electronic unit
ICTTEN3089A Repair and replace telecommunications network hardware
ICTTEN4001A Identify requirements for customer telecommunications equipment
ICTTEN4003A Estimate and quote for customer telecommunications equipment installation
ICTTEN4040A Assign a transmission path
ICTTEN4051A Install configuration programs on PC based customer equipment
ICTTEN4072A Effect changes to existing customer premises equipment systems and equipment
ICTTEN4073A Cut over customer premises equipment major upgrades
ICTTEN4076A Complete equipment and software upgrades
ICTTEN4078A Commission an electronic system
ICTTEN4086A Undertake routine maintenance of the telecommunications network
ICTTEN4087A Undertake remote diagnosis and repair of network faults
ICTTEN4102A Repair telecommunication system faults
(**Emerging technologies)**
ICTTEN4050A Install and configure a wireless mesh network
ICTTEN4126A Install and configure internet protocol TV in a home network
ICTTEN4202A Install and test a radio frequency identification system
ICTTEN4215A Install and configure internet protocol TV in a service provider network
ICTTEN4229A Design, install and configure a customer smart grid network
(IP networks)
ICTTEN4198A Install, configure and test an internet protocol network

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ICTTEN4199A Install, configure and test a router
ICTTEN4210A Implement and troubleshoot enterprise routers and switches

Small and micro business
BSBSMB401A Establish legal and risk management requirements of small business
BSBSMB405A Monitor and manage small business operations
BSBSMB407A Manage a small team

Sustainability
ICTSUS4183A Install and test renewable energy system for ICT networks
ICTSUS4184A Install and test power saving hardware
ICTSUS4186A Install thin client applications for power over ethernet

Workplace effectiveness
ICTWOR4032A Undertake a civil site survey
ICTWOR4079A Schedule equipment maintenance

Selecting electives for different outcomes
The context of this qualification varies and this must guide the selection of elective units. The following examples are designed to assist in the selection of appropriate electives for particular outcomes at this level but they are in no way prescriptive.

Radio Installation
Core units plus:

- ICTTEN3056A Install telecommunications network equipment
- ICTTEN3077A Commission an electronic unit
- ICTTEN3089A Repair and replace telecommunications network hardware
- ICTTEN4078A Commission an electronic system
- ICTTEN4102A Repair telecommunication system faults
- two additional units from elective units as appropriate to the specific job role.

Radio field operations
Core units plus:

- CPPSEC3034A Operate information gathering equipment
- HLTFA301B Apply First Aid
- BSBCUS402A Address customer needs
- four additional units from elective units as appropriate to the specific job role.

Field monitoring and compliance
Core units plus:

- ICTCMP5176A Undertake radio communications site audit
- ICTRFN3175A Operate and maintain radio communications technical instruments and field equipment
- ICTRFN4174A Undertake radio communications signals monitoring
- **four additional units from elective units** as appropriate to the specific job role.

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Wireless network equipment installer

Core units:

- ICTRFN3146A Install WiMAX customer premises equipment broadband wireless access equipment
- ICTRFN4158A Select an antenna system for radio communications
- ICTRFN4159A Test and repair cellular network equipment
- ICTRFN4177A Install radio communications base station equipment
- three additional units from elective units as appropriate to the specific job role.

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