



Australian Government

ICT40313 Certificate IV in Telecommunications Radio Communications

Release 1

ICT40313 Certificate IV in Telecommunications Radio Communications

Modification History

Release	Comments
Release 2	<p>This version first released with <i>ICT10 Integrated Telecommunications Training Package Version 3.0</i>.</p> <p>ICTWOR2141 Work effectively in a telecommunications technology team moved to elective bank. Elective unit requirement increased by one.</p>
Release 1	<p>This version first released with <i>ICT10 Integrated Telecommunications Training Package Version 1.0</i>.</p>

Description

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.
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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

The following unit within this qualification have prerequisites. This is detailed as follows:

Code and title	Prerequisite unit required
ICTCBL2137B Install, maintain and modify customer premises communications cabling: ACMA Open Rule	ICTCBL2136B Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule

Pathways Information

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 ICT40313 Certificate IV in Telecommunications Radio Communications, candidates may undertake 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

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, Plumbing and Services Training Package fulfils this requirement.

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none">• determining options to rectify faults and discussing them with customer so that necessary action is determined• documenting test methods and results• 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	<ul style="list-style-type: none">• 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 organisational goals
Problem solving	<ul style="list-style-type: none">• 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

Employability Skill	Industry/enterprise requirements for this qualification include:
Initiative and enterprise	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • identifying realistic short and long-term career objectives • planning and provision to meet key dates and milestones • 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	<ul style="list-style-type: none"> • identifying realistic short and long-term career objectives • identifying work to be completed • complying with all related WHS 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	<ul style="list-style-type: none"> • relating current or intended role to career objectives in a positive manner • giving and receiving feedback to assist in meeting team and organisational 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

Employability Skill	Industry/enterprise requirements for this qualification include:
	<p>for work team members</p> <ul style="list-style-type: none">• providing training to customers on system, product, product features and facilities
Technology	<ul style="list-style-type: none">• 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

Packaging Rules

Total number of units = 17

9 core units, plus

8 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

ICTCBL2066B Joint and terminate coaxial cable

ICTRFN3055A Install a radio communications antenna and feedline

ICTRFN3155A Construct and test a radio communications device

ICTSUS4185A Install and test power management software

ICTTEN2008A Use electrical skills in telecommunications work

ICTTEN2140B Use hand and power tools

ICTTEN3104A Maintain an electronic system

ICTTEN4081A Locate, diagnose and rectify faults

ICTWHS2170B Follow work health and safety and environmental policies and procedures

ELECTIVE UNITS

Cabling

ICTCBL2136B Install, maintain and modify customer premises communications cabling:

ACMA Restricted Rule

ICTCBL2137B Install, maintain and modify customer premises communications cabling:

ACMA Open Rule

ICTCBL4004B Schedule and supply cabling installation

ICTCBL4099A Remotely locate and identify cable network faults

Compliance

ICTCMP5176A Undertake radio communications site audit

Customer Service

BSBCUS402B Address customer needs

First aid

HLTAID003 Provide first aid

ICT use

IP networks

ICANWK410A Install network hardware to a network

Occupational health and safety

CPCCOHS1001A Work safely in the construction industry

CPPSEC3034A Operate information gathering equipment

ICTOHS2153B Work safely near power infrastructure

Project management

ICTPMG4048B 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

ICTTEN3054B Provide infrastructure for telecommunications network equipment

ICTTEN3056A Install telecommunications network equipment

ICTTEN3077B Commission an electronic unit

ICTTEN3089A Repair and replace telecommunications network hardware

ICTTEN3104A Maintain an electronic system

ICTTEN4001B Identify requirements for customer telecommunications equipment

ICTTEN4003B 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
ICTTEN4229B Design, install and configure a customer smart technology network

IP networks

ICTTEN4198A Install, configure and test an internet protocol network
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
BSBSMB405B 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

ICTWOR2141A Work effectively in a telecommunications technology team
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
- ICTTEN3077B 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
- HLTF311A Apply first aid
- BSBCUS402B 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

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