# ICT30110 Certificate III in Broadband and Wireless Networks Technology

**Release: 1**

## ICT30110 Certificate III in Broadband and Wireless Networks Technology

## Modification History

Not Applicable

## Description

**Descriptor**

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

- install and maintain access network cabling and equipment for high speed broadband as part of the national network
- install and maintain optical and wireless equipment for high speed internet broadband network infrastructure
- install and maintain telecommunications, data cabling and cabling products on customer premises   according to requirements of the Australian Communications and Media Authority (ACMA) and relevant industry registration bodies, and in line with the specifications of the access network owner
- install voice and data telecommunications equipment
- install and maintain telecommunications access network cabling and infrastructure, systems and simple customer premises equipment.

This role includes assessing installation requirements, planning and performing installations, testing installed equipment and fault-finding. It involves a degree of autonomy and may include limited supervision of others.

This qualification also introduces the skills required for the broadband deployment using fibre optic devices.

**Job Roles**

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

- broadband installer
- optical broadband installer
- wireless broadband network installer
- broadband network infrastructure installer
- access network cabling installer
- installer of telecommunications aerial cable access network
- installer of telecommunications underground cable access network.
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**Prerequisite requirements**

There are no prerequisite requirements for individual units of competency.

# 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 ICT30110 Certificate III in Broadband and Wireless Networks Technology, candidates seeking to develop more specialised technical skills and knowledge, may select from a range of Certificate IV qualifications in the ICT10 Integrated Telecommunications Training Package.

# Licensing/Regulatory Information

**Licensing**, **legislative**, **regulatory or certification considerations**

All training programs must be undertaken with 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.

**Prerequisite units**

The following unit within this qualification has a prerequisite. This is detailed as follows:

| Code and Title | Prerequisite unit/s required |
|---|---|
| ICTCBL2137A Install, maintain and modify customer premises communications cabling: ACMA Open Rule | ICTCBL2136A Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule |

# 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 | • documenting test methods and results<br>• conveying information to clients, colleagues and other site personnel<br>• completing job reports and compliance forms<br>• interpreting plan as a set of functions to be implemented<br>• confirming approval for time and method of site access with customers<br>• documenting and communicating work-related information, including reporting of faults and problems<br>• providing feedback to customers on operating the equipment |
| Teamwork | • identifying members and roles of team<br>• identifying and contributing to team tasks and goals<br>• recognising and responding positively to conflict within team<br>• working with team members to work with clients and install equipment<br>• relating personal role to the industry<br>• participating in a team structure by identifying team members, tasks and goals and recognising and responding positively to conflict<br>• applying interpersonal skills with clients, employer, supervisors, work associates, team members and other contractors<br>• giving and receiving feedback to assist in meeting team and organisation goals |
| Problem solving | • ranking likely causes of fault in order of probability to ensure a methodical approach to fault identification<br>• identifying barriers to installation and developing strategies to overcome them within time and budget restrictions<br>• identifying faults or optimisation options<br>• rectifying faults and adjusting system to optimal operation<br>• determining cable routes taking into account building services, safety, industry codes and practices, and customer requirements |

**EMPLOYABILITY SKILLS QUALIFICATION SUMMARY**

|  |  |
|---|---|
|  | • following up promptly on difficulties and known problem areas |
| Initiative and enterprise | • prioritising urgent requests and acting according to organisational guidelines<br>• identifying barriers to installation and developing strategies to overcome them within time and budget restrictions<br>• adapting plan to suit specific features of site<br>• identifying issues and possible solutions within established guidelines |
| Planning and organising | • identifying realistic short and long-term career objectives<br>• planning and provision to meet key dates and milestones<br>• gathering data for the installation of systems and equipment<br>• planning the installation of fibre cable, taking into account technical, scheduling and financial considerations<br>• interpreting design and relating to site characteristics<br>• prioritising work according to organisation guidelines |
| Self-management | • identifying realistic short and long-term career objectives<br>• identifying work to be completed<br>• developing installation plans to ensure minimal disruption to the workplace<br>• checking that tools and equipment are in safe working order and adjusted to manufacturer specification<br>• applying all related OHS requirements and work practices, including job safety analysis (JSA), protective clothing and personal safety items<br>• relating own role to the industry and establishing own work schedule<br>• using strategies to present a professional image to customers<br>• interpreting and applying relevant regulations and standards |
| Learning | • relating current or intended role to career objectives in a positive manner<br>• giving and receiving feedback to assist in meeting team and organisation goals<br>• making clients aware of opportunities that exist for system upgrades, additional services and training<br>• seeking assistance from team members when necessary<br>• providing suitable training and assessment opportunities for work team members<br>• 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 |

| EMPLOYABILITY SKILLS QUALIFICATION SUMMARY | |
|---|---|
| | • testing and measuring of broadband network infrastructure |
| | • installing and operating telecommunications equipment and products |
| | • installing and operating equipment and products |
| | • installing and configuring access network devices |
| | • identifying, replacing or repairing faulty parts and equipment |

# Packaging Rules

| Packaging Rules |
|---|
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| **Total number of units** = **15** |
| **6 core units**, **plus** |
| **1 elective unit from Group A workplace units**, **plus** |
| **8 elective units from Group B general units** |
| |
| Elective units must be relevant to the work outcome, local industry requirements and the qualification level. A minimum of 5 of these electives must be taken from Certificate III level. |
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| A maximum of three units from Group B general elective units may be substituted with three units of competency from any endorsed Training Package or accredited course at Certificate III or Certificate IV level. One of those three units from Group B general elective units may be substituted from Group A workplace elective units where required by a specific job role. |
| |
| Units selected from other Training Packages or accredited courses must not duplicate units selected from or available within the ICT10 Integrated Telecommunications Training Package. |
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| **CORE UNITS** |
| BSBSUS301A Implement and monitor environmentally sustainable work practises |
| ICTBWN3205A Use optical and radio frequency measuring instruments |
| ICTCBL3015A Locate and identify cable system faults |
| ICTOHS2170A Follow occupational health and safety and environmental policy and |

**Packaging Rules**

procedures

ICTTEN2007A Use electrical skills in telecommunications work

ICTTEN2140A Use hand and power tools


**ELECTIVE UNITS**

**Group A** - **Workplace elective units**

ICAS3031B Provide advice to clients

BSBSMB305A Comply with regulatory, taxation and insurance requirements for the micro business

BSBSMB306A Plan a home based business

ICTEDU3053A Train customers

ICTWOR2141A Work effectively in a telecommunications technology team

ICTWOR3028A Organise resources

ICTWOR3035A Organise material supply

ICTWOR3041A Schedule resources

ICTWOR3093A Manage spare parts

ICTWOR3127A Supervise worksite activities


**Group B** - **General elective units**


**Broadband and wireless networks**

ICTBWN3082A Perform tests on optical communication system and components

ICTBWN3088A Install optical fibre splitters in fibre distribution hubs

ICTBWN3090A Install lead-in module and cable for fibre to the premises

ICTBWN3100A Work safely with live fibre to test and commission a fibre to the x installation


**Cabling**

ICTCBL2017A Alter services to existing cable system

ICTCBL2064A Haul underground cable

ICTCBL2065A Splice and terminate optical fibre cable for carriers and service providers

ICTCBL2066A Joint and terminate coaxial cable

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ICTCBL2068A Install a telecommunications service to a building

ICTCBL2131A Install an above ground equipment enclosure

ICTCBL2132A Erect aerial cable supports

ICTCBL2133A Construct underground telecommunications infrastructure

ICTCBL2134A Fix aerial cable

ICTCBL2135A Joint metallic conductor cable in access network

ICTCBL2136A Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule

ICTCBL2137A Install, maintain and modify customer premises communications cabling: ACMA Open Rule

ICTCBL2139A Apply safe technical work practices for cabling registration

ICTCBL2162A Install a cable lead-in

ICTCBL3009A Install, terminate and certify structured cabling installation

ICTCBL3010A Install and terminate optical fibre cable on customer premises

ICTCBL3011A Install and terminate coaxial cable

ICTCBL3014A Hand over systems and equipment

ICTCBL3018A Install underground enclosures and conduit

ICTCBL3019A Install underground cable

ICTCBL3020AConstruct aerial cable supports

ICTCBL3021A Install aerial cable

ICTCBL3067A Modify and cut over cable

ICTCBL3069A Install network cable equipment

ICTCBL3103A Maintain cable network


**Occupational health and safety**

ICTOHS2080A Provide telecommunications services safely on roofs

ICTOHS2153A Work safely near power infrastructure

CPCCOHS1001A Work safely in the construction industry


**Radio frequency networks**

ICTRFN3055A Install a radio communications antenna and feedline

ICTRFN3146A Install WiMAX customer premises equipment broadband wireless access equipment

**Packaging Rules**

ICTRFN4095A Conduct radio frequency measurements

ICTRFN4178A Maintain hybrid fibre coaxial broadband cable network

**Telecommunications engineering networks**

ICTTEN3056A Install telecommunications network equipment

ICTTEN3063A Locate, identify and rectify recurrent network faults

*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.

**Aerial cable installer**

Core units plus one Group A workplace elective unit plus:

- ICTCBL2017A Alter services to existing cable system
- ICTCBL2065A Splice and terminate optical fibre cable for carriers and service providers
- ICTCBL2162A Install a cable lead-in
- ICTCBL3021A Install aerial cable
- four additional elective units from Group B general elective units, with a maximum of one those additional units from the Group A workplace elective units as appropriate to the specific job role.

**Broadband network infrastructure installer**

Core units plus one Group A workplace elective unit plus:

- ICTCBL2065A Splice and terminate optical fibre cable for carriers and service providers
- ICTCBL3009A Install, terminate and certify structured cabling installation
- ICTCBL3011A Install and terminate coaxial cable
- ICTCBL3069A Install network cable equipment
- four additional elective units from Group B general elective units, with a maximum of one of those additional units from Group A workplace elective units as appropriate to the specific job role.

**Optical broadband network installer**

**Packaging Rules**

Core units plus one Group A workplace elective unit plus:

- ICTBWN3082A Perform tests on optical communication system and components
- ICTBWN3088A Install optical fibre splitters in fibre distribution hubs
- ICTBWN3090A Install lead-in module and cable for fibre to the premises
- ICTBWN3100A Work safely with live fibre to test and commission a fibre to the x installation
- four additional elective units from Group B general elective units, with a maximum of one of those additional units from Group A workplace elective units as appropriate to the specific job role.

**Underground cable installer**

Core units plus one Group A workplace elective unit plus:

- ICTCBL2064A Haul underground cable
- ICTCBL2065A Splice and terminate optical fibre cable for carriers and service providers
- ICTCBL2133A Construct underground telecommunications infrastructure
- ICTCBL2162A Install a cable lead-in
- ICTCBL3018A Install underground enclosures and conduit
- ICTCBL3019A Install underground cable
- two additional elective units from Group B general elective units, with a maximum of one of those additional units from the Group A workplace elective units as appropriate to the specific job role.

**Wireless broadband network installer**

Core units plus one Group A workplace elective unit plus:

- ICTRFN3055A Install a radio communications antenna and feedline
- ICTRFN3146A Install WiMAX customer premises equipment broadband wireless access equipment
- ICTRFN4095A Conduct radio frequency measurements
- ICTRFN4178A Maintain hybrid fibre coaxial broadband cable network
- four additional elective units from Group B general elective units, with a maximum of one of those additional units from Group A workplace elective units as appropriate to the specific job role.