



Australian Government

ICTTEN4003B Estimate and quote for customer telecommunications equipment installation

Release 1

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Modification History

Release	Comments
Release 2	This version first released with <i>ICT10 Integrated Telecommunications Training Package Version 3.0</i>. References to other units updated. Outcomes deemed equivalent.
Release 1	This version first released with <i>ICT10 Integrated Telecommunications Training Package Version 1.0</i>.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to estimate and quote for customer telecommunications equipment installation.

It involves preparing detailed estimates and quotes and updating schematic drawings and specifications.

Application of the Unit

Technical staff who estimate and quote for customer equipment installation apply the skills and knowledge in this unit.

This unit applies to indoor and outdoor installation within a customer premises. It may be applied to domestic, commercial or industrial installations. Communications applications include digital and analog, telephony, data, video, digital broadcasting, computer networks, local area networks (LAN) and multimedia.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Confirm and update schematic drawings and specifications	1.1 Obtain existing specifications and drawings and prepare additional or new schematic drawings and specifications for installation if required 1.2 Confirm all fittings, cable types and equipment locations with customer
2. Price labour, materials and other relevant items and establish availability	2.1 Obtain quotations and delivery dates from suppliers to ensure fair comparisons between suppliers 2.2 Estimate labour costs based on company or industry-labour rates and conditions 2.3 Check pricing documentation to ensure supply proposal matches customer specification for material, quality and performance
3. Estimate labour, materials and other relevant item requirements	3.1 Prepare estimations allowing for contingencies during installation and relevant legislation, codes, regulations and standards 3.2 Calculate costs using standard unit measures where relevant 3.3 Ensure estimates will return a profit on installation where appropriate
4. Prepare and confirm quote with customer	4.1 Prepare an equipment installation quote that meets customer requirements 4.2 Negotiate changes and variations to meet customer and company needs
5. Establish customer's financial arrangements	5.1 Obtain customer's approval of purchase arrangements and method of payment 5.2 Complete finance company negotiations successfully where required and obtain customer's agreement

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to read and interpret drawings related to customer's telecommunications equipment
- communication skills to liaise and negotiate with customers and suppliers on technical and operational matters
- literacy skills to interpret technical documentation, such as equipment manuals and specifications
- numeracy skills to estimate and quote for telecommunications installation
- problem solving skills to solve equipment and logistics problems
- task management skills to work systematically with required attention to detail and adherence to all safety requirements
- technical skills to estimate requirements for customer telecommunications equipment installation.
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Required knowledge

- features of customer telecommunications equipment
- legislation, codes of practice and other formal agreements that impact on the work activity
- manufacturer's requirements for safe operation of equipment
- processes and techniques required to prepare plans, estimate and quote for installations
- specific occupational health and safety (OHS) requirements relating to the activity and site conditions
- typical issues and challenges that occur when dealing with customers.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: • prepare detailed estimates, updated schematic drawings and specifications, including material and labour costs for telecommunications equipment installations • negotiate with contractors on material availability and pricing for customer equipment installations • complete detailed quotes for installations that allow for changes and variations • prepare and confirm quote and financial arrangements with customer.
Context of, and specific resources for assessment	Assessment must ensure: • sites on which estimates and quotes may be conducted • relevant databases, licensing requirements and other site-related documentation.
Methods of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • review of a hands-on project completed by the candidate • review written estimates and quotes with completed documentation • oral or written questioning on the estimate and quote process.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • ICTCBL2017B Alter services to existing cable system. Aboriginal people and other people from a non-English

	speaking background may have second language issues. Access must be provided to appropriate learning and assessment support when required. Assessment processes and techniques must be culturally appropriate, and appropriate to the oral communication skill level, and language and literacy capacity of the candidate and the work being performed. In all cases where practical assessment is used it will be combined with targeted questioning to assess required knowledge. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. Where applicable, physical resources should include equipment modified for people with special needs.
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Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Customer specification may include:	• cable • connectors • cost per cable length installed per outlet • equipment types: • bandwidth managers • digital subscriber line (DSL): • asymmetrical DSL (ADSL) • digital broadcasting • computer telephony integration (CTI) technologies • modems • network equipment • private automatic branch exchange (PABX) • radio frequency (RF) equipment • single line telephones • telephone systems • video and data • existing builders or electrical contractors schedule • frames • requirements for: • equipment • labour • materials • other resources • timeframes • scope of works • support system.
Contingencies may include:	• need for integration with existing building works schedules where available • requirements for installation method or of any proprietary system being installed • relevant constraints.
Relevant legislation, codes, regulations and	• Australian Communications Industry Forum (ACIF) standards and codes

standards include:	• AS Communications Cabling Manual (CCM) Volume 1 • AS/NZS 3000:2007 • AS/NZS 3080:2003 • AS/NZS 3084:2003 • AS/NZS 3085.1:2004 • AS/NZS IEC 61935.1:2006 • AS/NZS IEC 61935.2:2006 • AS/NZS ISO/IEC 14763.3:2007 • AS/NZS ISO/IEC 15018:2005 • AS/NZS ISO/IEC 24702:2007 • Australian building codes and regulations • cabling security codes and regulations • compliance with appropriate Australian Communications and Media Authority (ACMA) technical standard requirements for underground, aerial, Category 5, 6, 6A, 7 or 7A and unshielded twisted pairs (UTP) • Environmental Protection Acts • fire regulations • Institute of Electrical and Electronics Engineers (IEEE) • mining legislation • noise abatement and heritage legislation • OHS • relevant international standards • technical standards AS/ACIF S008:2006 and AS/ACIF S009:2006 • Trade Practices Act.
Changes and variations may include:	• availability • delivery • disputes • insurance • maintenance • network/system security implications • preparation of manuals • restricted site access • testing requirements • time penalties.
Purchase arrangements may include:	• buy, rent or lease option • conditions of payment • conditions surrounding installation/modification • legal requirements • service and warranty arrangements.

Unit Sector(s)

Telecommunications - Telecommunications networks engineering