



Australian Government

ICTTEN503 Design an electronic system for a telecommunications network

Release: 1

ICTTEN503 Design an electronic system for a telecommunications network

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 2.0.

Application

This unit describes the skills and knowledge required to design, and confirm specifications and compatibility for additional telecommunications network equipment.

It applies to individuals working as field officers, technicians or technical supervisors for carriers, contractors or other service providers who assess the need for additional equipment, including voice over internet protocol (VoIP), biometric identification, radio frequency identification (RFID) and security system equipment.

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

Unit Sector

Telecommunications – Telecommunications Networks Engineering

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Evaluate system needs	1.1 Determine need for additional electronic equipment from telecommunications project plan 1.2 Specify purpose of equipment and ascertain need for additional network equipment with customer
2. Analyse network and select design option	2.1 Analyse possible impacts on network and network service requirements 2.2 Generate options for system design that are realistic for the enterprise and network

ELEMENT	PERFORMANCE CRITERIA
	2.3 Evaluate and select preferred option, based on enterprise business strategy outcomes, service policy and compliance with relevant legislation 2.4 Discuss and confirm selected option with customer
3. Assess system compatibility	3.1 Assess compatibility of each equipment unit and intended use with other installed units, from system plans, equipment manuals, installation environment and industry knowledge 3.2 Modify design accordingly 3.3 Provide customer with design and obtain sign-off

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 2.3, 3.1	Identifies, analyses and evaluates information to determine legislative and technical requirements to assist with project planning
Writing	1.2, 3.2	Prepares written reports and workplace documentation that communicates complex information clearly and effectively
Oral Communication	1.2, 2.4	- Liaises with customers and technical staff to ensure requirements are properly understood - Employs listening and questioning techniques to confirm understanding
Navigate the world of work	2.3	Keeps up-to-date with relevant legislation and considers implications of these when planning work
Interact with others	3.3	Selects and uses appropriate conventions and protocols when communicating with customers, and in a range of work contexts
Get the work done	2.1-2.3, 3.1	- May invest time in developing and shaping several options before making a final choice, using a combination of lateral and analytical thinking to tailor and strengthen an idea to suit needs, resources and constraints - Uses formal and informal processes to monitor

		implementation of solutions, and reflects on outcomes • Understands key principles and concepts underpinning design and operation of digital systems and tools, and applies these as required • Applies formal processes when planning tasks, producing plans with logically sequenced steps, reflecting the needs of others • Implements actions according to a predetermined plan, making adjustments if necessary • Makes decisions quickly and intuitively in familiar situations requiring immediate attention, drawing on past experience to identify key variables and determine the best course of action • Uses analytical processes to decide on a course of action, establishing criteria for deciding between options, and seeking input and advice from others before taking action when necessary
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Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTTEN503 Design an electronic system for a telecommunications network	ICTTEN5038A Design an electronic system for a telecommunications network	Updated to meet Standards for Training Packages.	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTTEN503 Design an electronic system for a telecommunications network

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Performance Evidence

Evidence of ability to:

- evaluate system need for additional electronic equipment and design options
- analyse network and design systems
- assess system compatibility.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- review electrical and optical properties of telecommunications systems
- outline integration, compatibility and interoperability of equipment
- summarise legislation and licensing relevant to installation of telecommunications equipment including spectrum allocation
- define power requirements and electrical safety issues associated with electronic system design
- outline transmission type and signals that may be encountered.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances should be typical of those experienced in the telecommunications networks engineering field of work and include access to:

- telecommunications network where additional equipment design may be conducted
- relevant regulatory and equipment documentation that impacts electronic system design.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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