



Australian Government

ICTSAS446 Fault find and troubleshoot ICT equipment, hardware and software problems

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to troubleshoot Information and Communications Technology (ICT) equipment, hardware and software problems and apply systematic processes to fault finding across a wide range of ICT disciplines.

It applies to individuals who, whilst working under minimal supervision and with a level of expertise, apply a systematic approach to finding faults, troubleshooting problems and solving issues in a wide range of ICT disciplines in a small or large helpdesk environment.

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

Unit Sector

Systems administration and support

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. Prepare for fault finding and troubleshooting procedures	1.1 Develop problem resolution troubleshooting process 1.2 Obtain ICT system according to organisational procedures 1.3 Analyse and document ICT system characteristics according to organisational procedures 1.4 Identify and obtain required fault-finding tools according to organisational procedures 1.5 Identify fault finding legislation, health and safety requirements, codes, regulations and standards
2. Analyse the problem	2.1 Collect ICT system data according to organisational

ELEMENT	PERFORMANCE CRITERIA
to be solved	procedures 2.2 Determine specificity of problem according to organisational procedures 2.3 Analyse data to determine nature and scope of problem 2.4 Determine symptoms of ICT system problems 2.5 Document analysis of problem according to organisational procedures
3. Identify a solution and rectify the problem	3.1 Test variables until problem is isolated according to organisational procedures 3.2 Confirm isolated problem has been accurately determined 3.3 Create list of probable causes 3.4 Formulate solution and create provision for rollback 3.5 Implement ICT system solution according to organisational procedures
4. Test system and complete documentation	4.1 Test ICT system to ensure problem has been solved according to organisational procedures 4.2 Record results of tests and file according to organisational procedures 4.3 Implement basic preventative maintenance techniques 4.4 Document characteristics of problem and solution according to organisational procedures 4.5 Load document to required database

Foundation Skills

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

SKILL	DESCRIPTION
Reading	Identifies, analyses and evaluates technical textual information and technical system data to source solutions and determine required actions
Writing	Records information relating to issues and outcomes in a sequential manner using grammar and spelling
Initiative and enterprise	Identifies and complies with organisational and legislative requirements
Problem solving	Applies analytical processes to resolve technical and conceptual problems

Self-management	• Takes responsibility for planning, sequencing and prioritising tasks and own workload for efficiency and effective outcomes
Get the work done	• Uses the main features and functions of digital tools to complete work tasks

Unit Mapping Information

Supersedes and is equivalent to ICTSAS426 Locate and troubleshoot ICT equipment, system and software faults.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for ICTSAS446 Fault find and troubleshoot ICT equipment, hardware and software problems

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- apply fault finding methods to determine a problem with an ICT system, on at least two occasions, each occasion on a different ICT system
- troubleshoot and resolve problem identified on each ICT system.

In the course of the above, the candidate must:

- identify, analyse and document fault finding method and faults
- develop and document troubleshooting process
- obtain and use suitable tools and equipment
- systematically test variables until problem is isolated.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- ICT systems, including:
 - ICT equipment (including peripheral devices)
 - hardware
 - software
 - operating systems
- organisational procedures, including:
 - fault finding, troubleshooting, analysis and test recording documentation
 - fault finding tool gathering and use procedures
 - ICT system data collection procedures
 - variable and system testing procedures
 - solution implementation procedures

- fault finding test filing procedures
- client support and maintenance practices
- industry accepted hardware and software products
- system's functionality characteristics
- change management tools that may be used for fault finding and troubleshooting ICT equipment, hardware and software problems
- key features of quality assurance practices, including locating and troubleshooting ICT:
 - equipment faults
 - hardware faults
 - software faults
 - operating system faults
- change control procedures of the organisation
- range of trouble shooting methodologies and system testing tools
- symptoms of faulty ICT equipment and probable causes of problems
- basic preventative maintenance techniques
- legislative, regulatory, standards and codes of practice that impact on the ICT service sector.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- equipment, hardware, software and systems to be diagnosed
- diagnostic and fault-finding tools
- technical and system documentation
- organisational requirements for documenting solution.

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

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