Australian Government

Department of Education, Employment and Workplace Relations

ICAICT201A Use computer operating systems and hardware

Release: 1

INDUSTRY
SKILLS
COUNCILS
Creating Australia's Future

ICAICT201A Use computer operating systems and hardware

Modification History

Release	Comments
Release 1	This Unit first released with *ICA11 Information and Communications Technology Training Package version 1.0*

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to select, configure and use computer operating systems and basic computer hardware.

Application of the Unit

This unit applies to workers who require the information and communications technology (ICT) skills to select and install operating system software on to a specific hardware configuration. This includes configuring the operating system to work with a variety of hardware peripherals and types of ICT equipment.

The ability to communicate effectively, simplify and solve technical incompatibility conflicts and problems are key components of this ICT support role.

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
Elements describe the essential outcomes of a unit of competency.	*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.*

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Elements and Performance Criteria

1. Identify operating system and hardware components	1.1 Determine ICT *organisational requirements* and specifications
	1.2 Identify and select *operating system*
	1.3 Identify appropriate *external hardware components*
	1.4 Identify *internal hardware components*
2. Install and configure operating system and application software with hardware components	2.1 Install and configure operating system to meet organisational requirements
	2.2 Identify the functions associated with the operating system and associated boot process
	2.3 Configure *power-management settings* to minimise power consumption as an environmentally sustainable measure
	2.4 Use both the graphical user interface and the command line interface to perform basic tasks
	2.5 Install or upgrade *application software* onto the operating system and hardware configuration
	2.6 Determine the relationship between an application program, the operating system and hardware
	2.7 Identify general differences between the different *computer platforms* and their respective operating systems
3. Optimise operating system and hardware components	3.1 Optimise operating system using included tools or *third-party utilities*
	3.2 Customise the graphical user interface
	3.3 Use techniques unique to the command line interface
	3.4 Set up and configure external hardware components and check functionality
	3.5 Install drivers as appropriate and check functionality

Required Skills and Knowledge

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

Required skills

- communication skills to:
  - communicate with peers and supervisors
  - seek assistance and expert advice
- literacy skills to:
  - interpret user manuals and help functions
  - read and write basic workplace documents
- problem-solving skills to address common operational problems when using computer operating systems and operating computer hardware
- technical skills to:
  - apply user changes for a multi-user operating system
  - configure, use and optimise operating system
  - create users for a multi-user system
  - install and support peripheral devices
  - operate a personal computer (PC)
  - set passwords for different users
  - use PC peripheral hardware.

Required knowledge

- basic knowledge of current industry-accepted operating system, hardware and software products
- compatibility of an operating system, in respect to other versions
- function of single-user and multi-user operating systems
- interoperability between operating systems
- OHS principles and responsibilities, including ergonomic principles to avoid injury associated with using computer systems.

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:
	• use an operating system in a variety of scenarios and across functions, including:
	   • scheduling, loading, initiating, and supervising the execution of programs
	   • allocating storage
	   • initiating and controlling input and output operations
	   • handling errors
	• identify and install suitable hardware components
	• install and upgrade application software.

Context of and specific resources for assessment	Assessment must ensure access to: • use of PC • use of hardware components • OHS standards and organisational policy and procedures • use of operating system currently used in industry • software configuration guides • documents detailing operating system control panel and configuration data • appropriate learning and assessment support when required. Where applicable, physical resources should include equipment modified for people with special needs.

Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
	• verbal or written questioning to assess candidate's knowledge of concepts and procedures related to configuring operating systems and application software to different hardware platforms
	• direct observation of candidate:
	   • setting up, configuring and optimising operating system,
	   • setting up input and output devices and checking functionality
	   • setting up and configuring hardware components.

Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.
	Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.
	Indigenous people and other people from a non-English speaking background may need additional support.
	In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.

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.

Organisational requirements may include:	• maintenance procedures • OHS procedures • security procedures.
External hardware components may include:	• Bluetooth device • fax • modem • keyboard • laptop • mobile phone • monitor • mouse • multimedia kit • PC • personal digital assistant (PDA), such as palmtop • printer • scanner • speaker • tape cartridge • universal serial bus (USB) device • wi-fi router.
Internal hardware components may include:	• cabling • central processing unit (CPU) • memory chip • motherboard • network interface card • sound card • video display card.
Power-management settings after a period of non-use may include:	• automatic power off • hibernation settings • monitor power-saver settings.
Application software may include:	• databases • email • internet browsers

	• spreadsheets • system browsers • word processing.
Computer platforms may include:	• Macintosh • PC • operating systems used on each.
Third-party utilities may include:	• backing up data • diagnostic tools • disk scanning • partitioning and defragmenting • recovery.

Unit Sector(s)

General ICT