



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **ICPSU381C Operate and maintain computer resources**

**Revision Number: 1**

## ICPSU381C Operate and maintain computer resources

### Modification History

Not applicable.

### Unit Descriptor

<b>Unit descriptor</b>	This unit describes the performance outcomes, skills and knowledge required to undertake basic computing skills including routine personal computer maintenance, upgrades, restorations, data storage, conversion and transmission.
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### Application of the Unit

<b>Application of the unit</b>	This unit covers undertaking basic computing skills including routine personal computer maintenance, upgrades, restorations, data storage, conversion and transmission.
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### Licensing/Regulatory Information

Not applicable.

### Pre-Requisites

<b>Prerequisite units</b>		

## Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
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## Elements and Performance Criteria Pre-Content

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

ELEMENT	PERFORMANCE CRITERIA
1. Perform routine system maintenance	1.1. Required equipment is checked to be in working order and available for use 1.2. Peripherals are fitted, maintained, cleaned and adjusted as required 1.3. Personal computer furniture and fittings are adjusted according to OHS practices and protection of equipment 1.4. Routine system maintenance and security processes are performed 1.5. Correct functioning of automated processes is monitored 1.6. Monitors are adjusted only when being calibrated and are otherwise left alone 1.7. All abnormalities and system malfunctions are reported 1.8. Off-line maintenance records are kept up to date
2. Perform backups and restorations on a personal computer	2.1. File system backups are performed regularly according to established workplace practices 2.2. Backup media are labelled, stored and rotated according to established workplace practices 2.3. Files are restored from backup as required 2.4. Data is recovered from damaged and corrupted files using small office tools 2.5. Adequate written records of backups are kept
3. Store and supply consumables	3.1. Consumables are stored and disposed of with regard to OHS, care of equipment and system security 3.2. Stock levels and user needs are monitored to ensure required consumables are available
4. Upgrade and configure a personal computer	4.1. Software and peripherals are installed, upgraded and configured according to enterprise policy 4.2. New software, upgrades and adjustments are tested to ensure adequate performance 4.3. Associated a personal computer furniture and fittings are adjusted to meet workplace standards for OHS and care of equipment 4.4. Written records of <i>installations</i> , upgrades and configurations are maintained
5. Access documentation,	5.1. Documentation, including hardware and software manuals and equipment inventory and service

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
records and updates	records, is stored and accessed appropriately 5.2. Supplementary product information, updates and technical reference material are accessed using the Internet, journals and other sources
6. Access and deliver data	6.1. Removable storage devices are connected, disconnected and configured as required 6.2. Data is accessed from different types of file <i>systems</i> 6.3. Data is stored and converted to suit a variety of operating systems, environments and applications 6.4. Data is transmitted effectively by the method most appropriate to the task

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

#### Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing clear information about protocols and procedures to other system users
- collecting, analysing and organising information by accessing user manuals and on-line resources and organising them for easy use
- teamwork when liaising with other system users to ensure maintenance program causes minimum disruption to production
- mathematical ideas and techniques by calculating file sizes and memory requirements
- problem-solving skills by troubleshooting application problems and system faults
- use of technology by using computer systems

#### Required knowledge

- OHS requirements for terminal operators
- positioning the keyboard, mouse and screen to avoid fatigue
- foot rest provision
- computing technology
- relationships between baud rate, bits per second and bandwidth
- MIPPS
- function of the video card
- check performed before commencement of a software installation or upgrade
- security and storage of data
- risks that might exist for the system, the enterprise and the user if the a user proceeds to installs their own software to use during their lunch break. Assuming the software is scanned for viruses
- strengths and weaknesses of backup and restoration procedures currently used
- reasons hand-written records are kept
- alerts to, and response to possible security breach or virus attack
- environmental factors that could cause loss of data from removable media
- file preparation, conversion and encoding including cross-platform considerations
- retaining converted file fonts
- differences in file naming conventions between IBM-PC, Macintosh and Unix
- three encoding methods for Internet email transmission of files and state which platform each is used for
- four common graphics file formats
- choosing formats

**REQUIRED SKILLS AND KNOWLEDGE**

- correct use of network and telecommunications technologies
- Macintosh communication with another computer without using AppleTalk
- types of cabling and network cards that are installed and what is their effect on data transmission speed
- transmitting data at 38400bps using a V34 modem
- initiating a search for product information on the Internet
- most efficient way to exchange files with clients or other companies
- specific hardware, peripherals and consumables for the pre-press area
- SCSI device and how the system refer to SCSI devices
- configuration of a typical high performance pre-press computer
- form of computer language that is used to drive an image setter
- types of removable media commonly used in the pre-press area
- pieces of hardware that require periodical cleaning
- pre-press software
- limiting factor with most DTP pre-press software
- UNIX use in the pre-press production process
- appropriate software required to:
  - scan for a virus
  - produce a logo
  - manipulate an image
  - set up a printer network
  - create a page of text
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents
- other sources of information that are available

## Evidence Guide

<b>EVIDENCE GUIDE</b>	
<p>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.</p>	
<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> <li>• correctly operating and maintaining computer resources. The underlying skill of system maintenance should be transferable across the design and pre-press sectors</li> <li>• demonstrate an ability to find and use information relevant to the task from a variety of information sources</li> <li>• produce log books and written records showing system maintenance and configuration history over a period of <b>THREE</b> months, including all reported abnormalities and how they were addressed, stock records</li> <li>• perform a routine system backup and restore a nominated file from an earlier backup</li> <li>• convert a document from one common file format to another and make available for access on a different platform (eg Macintosh application to MS-Windows application via suitably encoded Internet email attachment)</li> <li>• research and report the availability of upgrades and support for <b>TWO</b> pieces of hardware and <b>TWO</b> pieces of software currently in use</li> <li>• evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.</li> </ul>
<b>Context of and specific resources for assessment</b>	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> <li>• assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment</li> </ul>
<b>Method of assessment</b>	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> <li>• direct questioning combined with review of</li> </ul>



<b>EVIDENCE GUIDE</b>	
	portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
<b>Guidance information for assessment</b>	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

## Range Statement

<b>RANGE STATEMENT</b>	
<p>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.</p>	
<i>Types of installations</i> may include:	<ul style="list-style-type: none"> <li>peripherals and software with pre-configured installation routines.</li> </ul>
<i>Types of systems</i> may include:	<ul style="list-style-type: none"> <li>multi-user and or network computer systems used in the printing industry including publishing, consultancy, advertising or packaging.</li> </ul>
<i>Data transmission</i> may include:	<ul style="list-style-type: none"> <li>methods may include ISDN, removable devices, the Internet.</li> </ul>

## Unit Sector(s)

<b>Unit sector</b>	
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## Competency field

<b>Competency field</b>	Support
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## Co-requisite units

Co-requisite units		