



Stage 6 Syllabus

INFORMATION TECHNOLOGY

Curriculum Framework

Part B

Units of Competency and HSC Requirements

for implementation from 2010

Information Technology (120 indicative hours)

Information Technology (240 indicative hours)

2009

© 2009 Copyright Board of Studies NSW for and on behalf of the Crown in right of the State of New South Wales.

This document contains Material prepared by the Board of Studies NSW for and on behalf of the State of New South Wales. The Material is protected by Crown copyright.

All rights reserved. No part of the Material may be reproduced in Australia or in any other country by any process, electronic or otherwise, in any material form or transmitted to any other person or stored electronically in any form without the prior written permission of the Board of Studies NSW, except as permitted by the *Copyright Act 1968*. School students in NSW and teachers in schools in NSW may copy reasonable portions of the Material for the purposes of bona fide research or study.

When you access the Material you agree:

- to use the Material for information purposes only
- to reproduce a single copy for personal bona fide study use only and not to reproduce any major extract or the entire Material without the prior permission of the Board of Studies NSW
- to acknowledge that the Material is provided by the Board of Studies NSW
- not to make any charge for providing the Material or any part of the Material to another person or in any way make commercial use of the Material without the prior written consent of the Board of Studies NSW and payment of the appropriate copyright fee
- to include this copyright notice in any copy made
- not to modify the Material or any part of the Material without the express prior written permission of the Board of Studies NSW.

The Material may contain third party copyright materials such as photos, diagrams, quotations, cartoons and artworks. These materials are protected by Australian and international copyright laws and may not be reproduced or transmitted in any format without the copyright owner's specific permission. Unauthorised reproduction, transmission or commercial use of such copyright materials may result in prosecution.

The Board of Studies has made all reasonable attempts to locate owners of third party copyright material and invites anyone from whom permission has not been sought to contact the Copyright Officer, ph (02) 9367 8289, fax (02) 9279 1482.

Published by Board of Studies NSW

GPO Box 5300
Sydney 2001
Australia

Tel: (02) 9367 8111

Fax: (02) 9367 8484

Internet: www.boardofstudies.nsw.edu.au

ISBN 978 174147 9980

2009647

Acknowledgement

Units of competency from the Information and Communications Technology Training Package (ICA05) in Part B of this syllabus are © Commonwealth of Australia 2008. Reproduced with permission.

The following copyright warning applies to the material from the Training Package:

This work is copyright. It may be reproduced in whole or part for study or training purposes, subject to the inclusion of an acknowledgement of the source and it is not used for commercial use or sale. Reproduction for purposes other than those indicated above requires the prior written permission from the Commonwealth. Requests and enquiries concerning reproduction and copyright should be addressed to:

Branch Manager
Technology and Information Services Branch
Industry Skills Development Group
Department of Education, Science and training
GPO Box 9880 Canberra City, ACT 2601.

The Information Technology Curriculum Framework

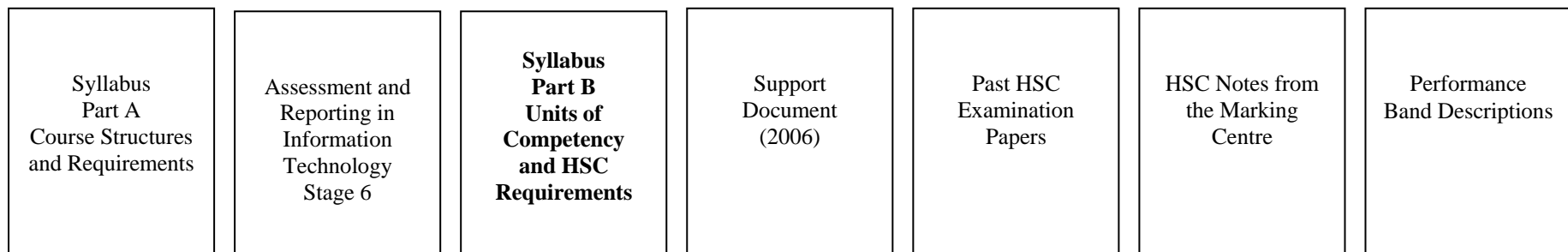
The Information Technology Curriculum Framework has been developed to provide students with the opportunity to gain credit towards the NSW Higher School Certificate and credit towards national vocational qualifications in the Information and Communications Technology industry under the Australian Qualifications Framework. The Framework is based on the national *Information and Communications Technology Training Package (ICA05)*.

This Industry Curriculum Framework incorporates all Higher School Certificate Information Technology VET courses including:

- courses delivered by schools
- courses delivered by TAFE colleges
- courses delivered by other Registered Training Organisations on behalf of schools or TAFE colleges.

This document, Part B of the *Information Technology Curriculum Framework Stage 6 Syllabus*, contains the text of the compulsory units of competency drawn from the Information and Communications Technology Training Package (ICA05). Each examinable unit of competency is accompanied by HSC requirements and advice. The HSC requirements and advice column indicates the depth of study required for purposes of the HSC. The terms, concepts and content contained in this column must be included in programming and delivery for the HSC.

Information Technology Curriculum Framework Documentation



Information Technology Curriculum Framework – Units of Competency Contained in Part B

This document contains the following compulsory units of competency together with HSC requirements and advice for each examinable unit. The HSC requirements and advice column indicates the depth of study required for purposes of the HSC. The terms, concepts and content contained in this column must be included in programming and delivery for the HSC.

Unit code	Unit title	HSC indicative hours of credit	Page numbers
<i>Compulsory units of competency – examinable</i>			
ICAD3218B	Create user documentation	20	9-17
ICAI3020B	Install and optimise operating system software	20	18-26
ICAS3031B	Provide advice to clients	30	27-37
ICAS3234B	Care for computer hardware	20	38-46
ICAT3025B	Run standard diagnostic tests	10	47-52
ICAU2231B	Use computer operating system	15	53-60
ICAU3004B	Apply occupational health and safety procedures	20	61-73
ICAW2001B	Work effectively in an IT environment	20	74-82
<i>Compulsory units of competency – other</i>			
ICAU1128B	Operate a personal computer	5	83-87
<i>Elective units of competency</i>			
All other units of competency from the Information Technology Curriculum Framework are available from the <i>Information and Communications Technology Training Package (ICA05)</i> at www.ntis.gov.au .			

Examinable outcomes and content

The HSC examination in Information Technology is based on a set of examinable units of competency from the Information Technology (240 indicative hours) course and the associated employability skills for Certificate II in Information Technology (refer to Section 15 of Part A of the Syllabus).

The HSC examination is based on the following components of each examinable unit of competency:

- elements of competency
- performance criteria
- range statement*
- required skills and knowledge
- evidence guide, including:
 - critical aspects for assessment and evidence required to demonstrate competency in this unit
 - context of and specific resources for assessment
 - methods of assessment
- minimum prescribed learning contained in HSC requirements and advice, described as:
 - key terms and concepts, and
 - learning experiences that must be addressed for the HSC.

* The range statement frequently uses the term 'may include'. This has been clarified in the *HSC Requirements and Advice* column to specify the learning experiences that must be included for the examinable units of competency. Only the learning that is compulsory according to the Training Package and/or *HSC Requirements and Advice* can be examined.

The following **Key to Units** explains the purpose of each part of the layout of the units.

Training Package	Information and Communications Technology (ICA05)		Indicates the Training Package to which the unit belongs.	HSC Requirements and Advice
Title	Create user documentation			
Unit code	Unit sector	The sector of the industry to which the unit of competency mainly applies.	HSC Indicative Hours	
ICAD3218B	Documentation		20	
Unit descriptor	This unit defines the competency required to create user documentation that is clear to the target audience and is easy to navigate. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.			Hours recognised for HSC unit credit.
Prerequisite units	There are no prerequisites for this unit.			
Employability skills	This unit contains employability skills.			

Required skills and knowledge This section describes the skills and knowledge required for this unit.		HSC Requirements and Advice
Required skills	Required knowledge	Key Terms and Concepts
<ul style="list-style-type: none"> Selecting and using appropriate software and tools Identifying target audiences Analysing audience needs Identifying relevant content Determining appropriate content, format and media Writing content. 	<ul style="list-style-type: none"> Content features, such as clarity and readability Instructional design principles 	<ul style="list-style-type: none"> documentation requirements principles of instructional, document and web design target audience tracking processes types of user documentation

This section describes the skills and knowledge required for the unit. Knowledge identifies what a person needs to know to perform the work in an informed and effective manner. Skills describe the application of knowledge to situations where understanding is converted into a workplace outcome.

Employability Skills are essential features of each of the qualifications available in the Framework and therefore consideration must be given to the ways in which they can be addressed when designing learning activities and assessment instruments

Key terms and concepts to be addressed when undertaking this unit of competency for the purpose of the HSC.

The evidence guide is critical in assessment as it provides information to the RTO and assessor about how the unit of competency may be demonstrated.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Context of and specific resources for assessment	Method of assessment	Guidance information for assessment
<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> assessment must confirm the ability to create user documentation that meets business requirements, caters for a diverse readership, is clear to the target audience and easy to navigate. <p>Describes how consistency in performance can be assessed over time, in various contexts and with a range of evidence, and expectations at the relevant AQF qualification level.</p>	<p>The breadth, depth and complexity of knowledge and skills in this competency would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.</p> <p>Assessment must ensure:</p> <ul style="list-style-type: none"> performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known <p>Provides a summary of conditions under which competency must be assessed including the context and application for assessment.</p>	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and</p> <p>Provides a summary of conditions under which competency must be assessed including variables such as methods of assessment and assessment environments.</p> <p>must closely reflect the workplace to enable full demonstration of competency.</p> <ul style="list-style-type: none"> Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario. 	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> demonstrate some relevant theoretical knowledge apply a range of well-developed skills apply known solutions to a variety of predictable problems perform processes that require a range of well-developed skills where some discretion and judgement is required interpret available information, using discretion and judgement take responsibility for own outputs in work and learning take limited responsibility for the output of others <p>Indicates potential relationships with assessment of other units of competency and the types of skills and knowledge a student should be able to demonstrate.</p>
<p>Indicates the industry curriculum framework to which the unit of competency belongs.</p>	<p>Date of release for the HSC.</p>		

Elements	Performance criteria	Range Statement	HSC requirements and advice
<p>1 Determine documentation standards and requirements.</p>	<p>1.1 Determine <i>documentation</i> requirements.</p>	<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. <i>Bold italicised</i> 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> <p><i>Documentation</i> may include but are not limited to:</p> <ul style="list-style-type: none"> • user manuals and procedure manuals • training materials in either hard copy • electronic copy • on-line help • internet/intranet • design specifications. 	<p>Learning experiences for the HSC must address:</p> <p><i>NB Students are required to produce both paper-based and online user documentation.</i></p> <p>An understanding of the difference between:</p> <ul style="list-style-type: none"> • user documentation • technical documentation. <p>An awareness of the broad purpose of user</p> <p>Indicates the depth of study required for purposes of the HSC for the corresponding performance criteria and essential knowledge and skills outlined in the evidence guide.</p> <ul style="list-style-type: none"> • internal (for in-house use, used by the same company/organisation that develops it) • external (for outside use, for users outside the company/organisation that develops it). <p>Identifying the needs of the target audience and analysing their needs in order to:</p> <ul style="list-style-type: none"> • determine documentation requirements • produce effective user documentation. <p>Characteristics of effective user documentation including:</p> <ul style="list-style-type: none"> • takes into consideration the differences between target audience (users) <ul style="list-style-type: none"> - personalities - experience - cultural background - attitudes and values - language - environment

Elements of competency are the basic building blocks of the unit. They describe, in terms of outcome, the significant functions and tasks that a person in a particular area of work is able to perform.

The performance criteria indicate the level of performance that is required for each element. These are used as the tools for assessment.

The range statement describes contextual variables that may be used or encountered when applying the competency in work situations.

Training Package	Information and Communications Technology (ICA05)		HSC Requirements and Advice
Title	Create user documentation		
Unit code	Unit sector	HSC Indicative Hours	
ICAD3218B	Documentation	20	
Unit descriptor	This unit defines the competency required to create user documentation that is clear to the target audience and is easy to navigate. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.		
Prerequisite units	There are no prerequisites for this unit.		
Employability skills	This unit contains employability skills.		

Required skills and knowledge		HSC Requirements and Advice
This section describes the skills and knowledge required for this unit.		
Required skills	Required knowledge	Key Terms and Concepts
<ul style="list-style-type: none"> • Selecting and using appropriate software and tools • Identifying target audiences • Analysing audience needs • Identifying relevant content • Determining appropriate content, formats and styles • Writing content. 	<ul style="list-style-type: none"> • Content features, such as clarity and readability • Instructional design principles • Functions and features of templates and style guides • Document design, web design and usability. 	<ul style="list-style-type: none"> • documentation requirements • principles of instructional, document and web design • target audience • tracking processes • types of user documentation

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.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Context of and specific resources for assessment	Method of assessment	Guidance information for assessment
<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> assessment must confirm the ability to create user documentation that meets business requirements, caters for a diverse readership, is clear to the target audience and easy to navigate. <p>To demonstrate competency in this unit the person will require access to:</p> <ul style="list-style-type: none"> documentation standards software tools for effecting documentation access to information about system, platform, network or application being documented. 	<p>The breadth, depth and complexity of knowledge and skills in this competency would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.</p> <p>Assessment must ensure:</p> <ul style="list-style-type: none"> performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints would be characteristic. applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved. 	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1.</p> <ul style="list-style-type: none"> Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario. 	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> demonstrate some relevant theoretical knowledge apply a range of well-developed skills apply known solutions to a variety of predictable problems perform processes that require a range of well-developed skills where some discretion and judgement is required interpret available information, using discretion and judgement take responsibility for own outputs in work and learning take limited responsibility for the output of others maintain knowledge of industry products and services.

Elements	Performance criteria	Range Statement	HSC requirements and advice
1 Determine documentation standards and requirements.	1.1 Determine <i>documentation</i> requirements.	<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. <i>Bold italicised</i> 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> <p><i>Documentation</i> may include but are not limited to:</p> <ul style="list-style-type: none"> • user manuals and procedure manuals • training materials in either hard copy or electronic copy • on-line help • internet/intranet • design specifications. 	<p>Learning experiences for the HSC must address:</p> <p><i>NB Students are required to produce both paper-based and online user documentation.</i></p> <p>An understanding of the difference between:</p> <ul style="list-style-type: none"> • user documentation • technical documentation. <p>An awareness of the broad purpose of user documentation including:</p> <ul style="list-style-type: none"> • providing instruction for use • as a training resource • recording of policies and procedures • as a reference/source of information. <p>Types of user documentation including:</p> <ul style="list-style-type: none"> • paper-based • online • internal (for in-house use, used by the same company/organisation that develops it) • external (for outside use, for users outside the company/organisation that develops it). <p>Identifying the needs of the target audience and analysing their needs in order to:</p> <ul style="list-style-type: none"> • determine documentation requirements • produce effective user documentation. <p>Characteristics of effective user documentation including:</p> <ul style="list-style-type: none"> • takes into consideration the differences between target audience (users) <ul style="list-style-type: none"> - personalities - experience - cultural background - attitudes and values - language - environment • sees everything from the user’s point of view • available in a form and place that users can refer to when needed

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • has information that is <ul style="list-style-type: none"> - easy to find - easy to comprehend - up-to-date, reflecting latest changes and revisions to the system - reliable and convincing • shows the user how to <ul style="list-style-type: none"> - call information to the screen - manipulate the information - store the information as required • target audience (set of users) makes use of it. <p>A knowledge of the documentation process including:</p> <ul style="list-style-type: none"> • plan • draft • review/edit • test • produce • distribute • maintain/revise. <p>An awareness of the possible consequences of ineffective documentation including:</p> <ul style="list-style-type: none"> • reduce efficiency • waste resources • increase costs of training • users reject a system that they don't understand or find difficult to use • legal action. <p>An awareness of the possible reasons for failure of user documentation including:</p> <ul style="list-style-type: none"> • user attitude <ul style="list-style-type: none"> - too hard to find information - too difficult to understand - information is old - too lazy to look - turned off because manual is too thick - not easy to access • management attitude <ul style="list-style-type: none"> - time - budget constraints

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> - failing to communicate with technical staff - documentation is not highly valued • writer's attitude <ul style="list-style-type: none"> - not taking enough time to understand the system before writing - more concerned about the look of the document (design factors) than content.
	<p>1.2 Investigate documentation and industry standards for requirements and determine appropriate application to user documentation.</p>	<p>Documentation may include but are not limited to:</p> <ul style="list-style-type: none"> • user manuals and procedure manuals • training materials in either hard copy or electronic copy • on-line help • internet/intranet • design specifications. <p>Standards</p> <ul style="list-style-type: none"> • may include but are not limited to policy relating to cataloguing, sign-off, storage, distribution, revision • may include ISO/IEC/AS standards, organisational standards, project standards. For further information refer to the Standards Australia website at: www.standards.com.au <p>User documentation</p> <ul style="list-style-type: none"> • user documentation can include project specifications, reports, help references, user manuals, training materials and self-paced tutorials, on-line help, user guides, brochures. 	<p>Learning experiences for the HSC must address:</p> <p>Media for user documentation:</p> <ul style="list-style-type: none"> • paper-based • online. <p>Points to consider when selecting media for user documentation:</p> <ul style="list-style-type: none"> • user's needs • appropriateness to task • usability • budget • time constraints. <p>General features, benefits and limitations of a range of user documentation including:</p> <ul style="list-style-type: none"> • paper-based <ul style="list-style-type: none"> - user reference guide (manual) - trainer's manual - brochure - student workbook - quick reference card - wall chart - keyboard overlay/template - terminal sticker • online <ul style="list-style-type: none"> - help - tutorial - manual - wizard - screen prompt/message - navigation aid - trouble-shooting information - CD-ROM and DVD

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • paper-based and/or online <ul style="list-style-type: none"> - frequently asked questions - glossaries. <p>An awareness of:</p> <ul style="list-style-type: none"> • the benefits of standards • the result if standards are not used. <p>A basic knowledge of standards in relation to creation of user documentation including:</p> <ul style="list-style-type: none"> • industry <ul style="list-style-type: none"> - Australian Standards (AS) <ul style="list-style-type: none"> ▪ ‘Software user documentation process’ (AS/NZS 4258:1994) • company/organisation • project-specific.
	<p>1.3 Design <i>documentation</i> templates using appropriate <i>software</i> and obtain approval from <i>appropriate person</i>.</p>	<p><i>Documentation</i> may include but are not limited to:</p> <ul style="list-style-type: none"> • user manuals and procedure manuals • training materials in either hard copy or electronic copy • on-line help • internet/intranet • design specifications. <p><i>Software</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • commercial software applications; organisation-specific software, word processing packages, graphics packages, presentation applications, multimedia authoring tools and help file creation software. <p><i>Appropriate person</i> may include:</p> <ul style="list-style-type: none"> • supervisor • teacher • authorised business representative • client. 	<p>Learning experiences for the HSC must address:</p> <p>A basic knowledge of the principles of:</p> <ul style="list-style-type: none"> • instructional design • document design • web design. <p>A range of examples of paper-based and electronic user documentation currently available.</p> <p>An understanding of the difference in design elements and requirements between paper-based and electronic user documentation.</p> <p>An understanding of the function and features of templates including:</p> <ul style="list-style-type: none"> • helps to establish and maintain standards • outlines the structure and format of the document • ensures standard text, diagrams and styles • allows more than one person to work on the document and maintain same structure. <p>Types of style guides including:</p> <ul style="list-style-type: none"> • corporate • project-specific.

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<p>An awareness of the information provided in a style guide including chosen style for:</p> <ul style="list-style-type: none"> • terminology • spelling • company/organisation and product names • problem words • abbreviations • acronyms • quotation marks • italics • numbers and symbols • punctuation • bullets and numbering • lists • headings • captions, figures and tables. <p>The importance of knowing when to vary from the style guide.</p> <p>General features, benefits, limitations and working knowledge of a range of software tools/packages available to produce paper-based and electronic user documentation including:</p> <ul style="list-style-type: none"> • word processing • desktop publishing • drawing • image capture • html editor • help files • web authoring. <p>For a specific purpose, development of the specifications and template for the documentation to be produced.</p> <p>Appropriate person(s) including:</p> <ul style="list-style-type: none"> • supervisor/team leader • management • trainer • vendor representative • client.

Elements	Performance criteria	Range Statement	HSC requirements and advice
2 Produce user documentation.	2.1 Conduct a review of the subject system, program, network or application in order to understand its functionality.		Learning experiences for the HSC must address: Investigation and research into the system/platform/network/application being documented.
	2.2 Gather existing technical, design or user specifications and supporting <i>documentation</i> .	<i>Documentation</i> may include but are not limited to: <ul style="list-style-type: none"> • user manuals and procedure manuals • training materials in either hard copy or electronic copy • on-line help • internet/intranet • design specifications. 	
	2.3 Create <i>user documentation</i> based on template to record the operation of the subject system, program, network or application.	<i>User documentation</i> <ul style="list-style-type: none"> • user documentation can include project specifications, reports, help references, user manuals, training materials and self-paced tutorials, on-line help, user guides, brochures. 	Learning experiences for the HSC must address: Points to consider when writing the content for the user documentation including: <ul style="list-style-type: none"> • relaxed, conversational and personal style • active voice • correct spelling, grammar and punctuation • concise information • simple words, sentences and paragraphs • defined technical terms and jargon • positive language • supplementing with diagrams and pictures.
3 Review and obtain sign-off.	3.1 Submit <i>user documentation</i> to target audience for review.	<i>User documentation</i> <ul style="list-style-type: none"> • user documentation can include project specifications, reports, help references, user manuals, training materials and self-paced tutorials, on-line help, user guides, brochures. 	Learning experiences for the HSC must address: Proof-reading and review of documentation by: <ul style="list-style-type: none"> • appropriate company/organisation person(s) <ul style="list-style-type: none"> - team leader/supervisor - editor - technical expert - trainer - experienced colleague • representative(s) of the target audience. Points to be reviewed: <ul style="list-style-type: none"> • standards • style • consistency

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • content <ul style="list-style-type: none"> - clarity/readability - plain English - explanation of technical terms/jargon - accuracy - spelling, grammar and punctuation • usability • completeness.
	3.2 Gather and analyse feedback.		<p>Learning experiences for the HSC must address:</p> <p>How to interpret feedback in order to improve user documentation.</p>
	3.3 Make changes to user documentation.		<p>Learning experiences for the HSC must address:</p> <p>A knowledge of company/organisation practices for:</p> <ul style="list-style-type: none"> • naming standards • version control • tracking processes.
	3.4 Submit <i>user documentation</i> to appropriate person for approval.	<p><i>User documentation</i></p> <ul style="list-style-type: none"> • user documentation can include project specifications, reports, help references, user manuals, training materials and self-paced tutorials, on-line help, user guides, brochures. 	<p>Learning experiences for the HSC must address:</p> <p>A knowledge of company/organisation practices for:</p> <ul style="list-style-type: none"> • sign-off • storage • distribution • maintenance/review.

Training Package	Information and Communications Technology (ICA05)		HSC Requirements and Advice
Title	Install and optimise operating system software		
Unit code	Unit sector	HSC Indicative Hours 20	
ICAI3020B	Implement		
Unit descriptor	<p>This unit defines the competency required to install operating system software and to make adjustments as a means of optimising the system to accommodate business and client needs.</p> <p>The following units are linked and form an appropriate cluster:</p> <ul style="list-style-type: none"> • ICAS3024B Provide basic system administration • ICAT3025B Run standard diagnostic tests. 		
Prerequisite units	There are no prerequisites for this unit.		
Employability skills	This unit contains employability skills.		

Required skills and knowledge		HSC Requirements and Advice
This section describes the skills and knowledge required for this unit.		
Required skills	Required knowledge	Key Terms and Concepts
<ul style="list-style-type: none"> • Problem solving skills for a defined range of predictable problems • Plain English literacy and communication skills in relation to analysis, evaluation and presentation of information • Report writing skills for business, requiring depth in some areas, analysis and evaluation of information in a defined range of areas • Strong interpersonal skills for team work and responsible workplace interactions • Software installation and configuration • Questioning and active listening for conveying and clarifying information • Literacy skills in regard to interpretation of technical computer installation manuals • Use of diagnostic tools. 	<ul style="list-style-type: none"> • Organisational and technical systems • Detailed knowledge of the system's current functionality • Functions and features of operating systems used by the organisation • Set-up and configuration procedures • Current industry-accepted hardware and software products, with broad knowledge of general features and capabilities and detailed knowledge in some areas • Software packages supported by the organisation • Prerequisites for system software installation • Vendor specifications and requirements for installation • Broad knowledge of incorporating systems software • Broad general knowledge of systems diagnostic software. 	<ul style="list-style-type: none"> • application software • client evaluation/feedback • evaluation and selection of operating systems • installation options • operating system software • technical specifications • workplace documentation.

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 this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Context of and specific resources for assessment	Method of assessment	Guidance information for assessment
<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> assessment must confirm the ability to install and improve system performance with minimum disruption to clients. <p>To demonstrate competency in this unit the person will require access to:</p> <ul style="list-style-type: none"> personal computer/workstation operating system software and technical documentation. 	<p>The breadth, depth and complexity of knowledge and skills in this competency would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.</p> <p>Assessment must ensure:</p> <ul style="list-style-type: none"> performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints would be characteristic applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved. 	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1.</p> <ul style="list-style-type: none"> Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario. 	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICAS3024B Provide basic system administration ICAT3025B Run standard diagnostic tests <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> demonstrate some relevant theoretical knowledge apply a range of well-developed skills apply known solutions to a variety of predictable problems perform processes that require a range of well-developed skills where some discretion and judgement is required interpret available information, using discretion and judgement take responsibility for own outputs in work and learning take limited responsibility for the output of others maintain knowledge of industry products and services.

Elements	Performance criteria	Range Statement	HSC requirements and advice
1 Determine function of operating systems.	1.1 Identify and demonstrate understanding of the purposes of the <i>operating system</i> .	<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. <i>Bold italicised</i> 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> <p><i>Operating System</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • Linux 7.0 or above • Windows 2000 or above • Apple OS X or above. 	<p>Learning experiences for the HSC must address:</p> <p>A definition of:</p> <ul style="list-style-type: none"> • operating system. <p>An understanding of the purpose of an operating system including:</p> <ul style="list-style-type: none"> • first program loaded into the computer by a boot program and remains in memory at all times • manage all other programs including the allocation and usage of hardware resources such as: <ul style="list-style-type: none"> - memory - central processing unit (CPU) time - access and security - hard disk space - peripheral devices • foundation software on which other application/application programs depend. <p>An awareness of the benefits and limitations of the following operating systems:</p> <ul style="list-style-type: none"> • single-user/task • multi-user/task • network. <p>A basic understanding of the features of operating systems including:</p> <ul style="list-style-type: none"> • open source (such as Linux) • commercial (such as Microsoft, Apple).
	1.2 Distinguish between batch system, real-time system, multi-tasking system.		<p>Learning experiences for the HSC must address:</p> <p>Basic features, function, benefits and limitations of:</p> <ul style="list-style-type: none"> • batch system • real-time system • multi-tasking system.
	1.3 Identify and demonstrate understanding of the basic functions of <i>operating system</i> , including file system, memory management, process scheduling.	<p><i>Operating System</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • Linux 7.0 or above • Windows 2000 or above • Apple OS X or above. 	<p>Learning experiences for the HSC must address:</p> <p>Knowledge of features and functions of the operating system used by the company/organisation.</p>

Elements	Performance criteria	Range Statement	HSC requirements and advice
	1.4 Identify and demonstrate management of virtual memory.		<p>Learning experiences for the HSC must address:</p> <p>An understanding of virtual memory and the circumstances in which it is used.</p>
2 Obtain operating system.	2.1 Contact <i>operating system</i> vendors to obtain technical specifications and system requirements.	<p><i>Operating System</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • Linux 7.0 or above • Windows 2000 or above • Apple OS X or above. 	<p>Learning experiences for the HSC must address:</p> <p>Sources of information regarding vendor products and services including:</p> <ul style="list-style-type: none"> • consultants • suppliers • personal contacts • industry/trade publications and magazines • trade shows • the internet. <p>A definition of:</p> <ul style="list-style-type: none"> • technical specification • system requirements. <p>An understanding of the difference between minimum and recommended system requirements for installation of vendor products.</p> <p>Knowledge of:</p> <ul style="list-style-type: none"> • interoperability between operating systems (with respect to the ability of operating systems from different vendors to share data using agreed file formats and protocols) • application software appropriate to the operating system. <p>Evaluation of available operating systems and selection of a system to meet the needs of the client (company/organisation and their users) in line with their information and communications technology (ICT) strategic plan.</p> <p>An understanding of possible selection criteria including:</p> <ul style="list-style-type: none"> • functionality • benefit(s) • security

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • growth • delivery time • software and hardware • support • risk(s).
	2.2 Document adjustment recommendations and provide to <i>appropriate person</i> .	<i>Appropriate person</i> may include: <ul style="list-style-type: none"> • supervisor • teacher • authorised business representative • client. 	Learning experiences for the HSC must address: Identification of adjustments required for the operating system. Methods for documenting and reporting adjustment recommendations. Appropriate person(s) including: <ul style="list-style-type: none"> • supervisor/team leader • management • system administrator • ICT technical support staff • trainer • client.
	2.3 Determine and apply knowledge of licensing, hardware and security requirements.		Learning experiences for the HSC must address: Knowledge of: <ul style="list-style-type: none"> • end user licence agreements (EULA) and responsibilities • the differences between single-user, network and site licences • intellectual property • copyright issues • user authorisation and system security • hardware and software registers.
3 Install, configure and optimise operating system.	3.1 Install, configure and test the <i>operating system software</i> in accordance with installation procedures and <i>organisational requirements</i> .	<i>Operating System</i> may include but is not limited to: <ul style="list-style-type: none"> • Linux 7.0 or above • Windows 2000 or above • Apple OS X or above. <i>Software</i> may include but is not limited to: <ul style="list-style-type: none"> • operating systems, including standalone personal computer systems and network operating 	Learning experiences for the HSC must address: An awareness of the difference between operating system software and application software. An understanding of the following concepts: <ul style="list-style-type: none"> • configure • optimise • support

Elements	Performance criteria	Range Statement	HSC requirements and advice
		<p>systems; commercial software applications; organisation-specific software; word processing, spreadsheet, database, graphic, mail, communication packages and presentation functionalities.</p> <p><i>Organisational requirements</i> may include but are not limited to:</p> <ul style="list-style-type: none"> • availability of system to be optimised • level of complexity of technical manuals • in-house or vendor; contracting arrangements relating to IT purchasing • client support documentation • IT policy and procedures relating to service levels and installation. <p><i>Client</i> may include:</p> <ul style="list-style-type: none"> • a person within a department • a department within the organisation • a third party. 	<ul style="list-style-type: none"> • install • uninstall • upgrade • compatibility. <p>Company/organisation policy and procedures to:</p> <ul style="list-style-type: none"> • install, configure and optimise operating system software • use diagnostic tools to test operating system software. <p>Knowledge of difference in policy and procedures for:</p> <ul style="list-style-type: none"> • stand-alone personal computers • networked computers. <p>Knowledge of prerequisites for system software installation.</p> <p>An understanding of:</p> <ul style="list-style-type: none"> • installation options <ul style="list-style-type: none"> - full - typical - portable - custom • installation files and directories • typical or default settings. <p>Interpretation of technical computer installation manuals.</p> <p>Determining the software or software upgrade requirements of the company/organisation.</p> <p>Installation and configuration of application software (to specification using available menu options) including:</p> <ul style="list-style-type: none"> • word processing • databases • spreadsheets • graphics • presentation • system browser • email • internet browser.

Elements	Performance criteria	Range Statement	HSC requirements and advice
	3.2 Optimise the system to meet <i>organisational requirements</i> .	<p><i>Organisational requirements</i> may include but are not limited to:</p> <ul style="list-style-type: none"> • availability of system to be optimised • level of complexity of technical manuals • in-house or vendor; contracting arrangements relating to IT purchasing • client support documentation • IT policy and procedures relating to service levels and installation. 	
	3.3 Document the system according to <i>organisational requirements</i> .		<p>Learning experiences for the HSC must address:</p> <p>Typical workplace methods for documenting the system.</p>
	3.4 Install the <i>operating system</i> with minimal disruption to <i>client</i> or users.		<p><i>Operating System</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • Linux 7.0 or above • Windows 2000 or above • Apple OS X or above. <p><i>Client</i> may include:</p> <ul style="list-style-type: none"> • a person within a department • a department within the organisation • a third party.
4 Provide instruction to meet new software requirements.	4.1 Provide one-to-one instruction about changes to the <i>client</i> or users as required.	<p><i>Client</i> may include:</p> <ul style="list-style-type: none"> • a person within a department • a department within the organisation • a third party. 	<p>Learning experiences for the HSC must address:</p> <p>General features and capabilities of a range of current industry-accepted hardware and software products.</p> <p>Set-up and configuration of operating system software to suit client/user requirements.</p> <p>Managing new technology including:</p> <ul style="list-style-type: none"> • overcoming resistance to technology • ensuring user competency • monitoring efficient use and rectifying any problems through appropriate means • monitoring performance of technology.

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<p>Questioning techniques (open, closed and reflective) and active listening for conveying and clarifying information.</p> <p>Customising desktop and viewing options for the client/user.</p>
	<p>4.2 Obtain <i>client</i> evaluation about new system to ensure requirements are met, using appropriate <i>feedback mechanism</i>.</p>	<p><i>Client</i> may include:</p> <ul style="list-style-type: none"> • a person within a department • a department within the organisation • a third party. <p><i>Feedback mechanism</i> may include:</p> <ul style="list-style-type: none"> • surveys • questionnaires • interviews • meetings. 	<p>Learning experiences for the HSC must address:</p> <p>Recognition of the value of client evaluation/feedback to the company/organisation.</p> <p>A range of methods to obtain client feedback including:</p> <ul style="list-style-type: none"> • questionnaire <ul style="list-style-type: none"> - paper - electronic • interview • focus group. <p>Points to consider when designing feedback mechanism including:</p> <ul style="list-style-type: none"> • use of language <ul style="list-style-type: none"> - targeted to client - plain English - minimise technical/industry jargon • questioning technique <ul style="list-style-type: none"> - open, closed and/or reflective - avoid bias/leading questions • opportunity for ‘free-response’. <p>A range of methods to enable feedback from the client:</p> <ul style="list-style-type: none"> • written <ul style="list-style-type: none"> - mail - electronic mail - internet/intranet - facsimile • verbal <ul style="list-style-type: none"> - telephone - one-on-one - meeting.

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<p>Types of feedback including:</p> <ul style="list-style-type: none"> • positive • negative • constructive. <p>How to interpret feedback in order to improve work practices.</p> <p>Reporting feedback to appropriate person(s) including:</p> <ul style="list-style-type: none"> • supervisor/team leader • management • vendor • supplier • trainer • colleagues • client.

Training Package	Information and Communications Technology (ICA05)		HSC Requirements and Advice
Title	Provide advice to clients		
Unit code	Unit sector	HSC Indicative Hours 30	
ICAS3031B	Support		
Unit descriptor	This unit defines the competency required to provide advice and support to clients including the communication of comprehensive technical information. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.		
Prerequisite units	There are no prerequisites for this unit.		
Employability skills	This unit contains employability skills.		

Required skills and knowledge		HSC Requirements and Advice
This section describes the skills and knowledge required for this unit.		
Required skills	Required knowledge	Key Terms and Concepts
<ul style="list-style-type: none"> • Writing macros and templates • One-to-one instruction • Client needs assessment methods • Interpretation of technical manuals • Verbal and non-verbal communication skills for conveying and clarifying complex information • Customer service skills in a range of contexts at various levels. 	<ul style="list-style-type: none"> • Operating systems supported by the organisation • Advanced features and functions of software • Information sources • Contract and service agreements with vendors • Operating systems functions and basic features • Hardware and software supported by the organisation • Features of different types of hardware • Security and network guidelines and procedures • Available in-house and vendor support. 	<ul style="list-style-type: none"> • client feedback • internal and external clients • manuals and help documentation • personal attributes • problem-solving • tracking process.

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.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Context of and specific resources for assessment	Method of assessment	Guidance information for assessment
<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> assessment must confirm the ability to convey comprehensive technical information to clients in a clear, concise and coherent manner. Assessment must confirm the ability to access technical manuals and help documentation and to convey this information to the client in a concise and jargon-free manner. Information conveyed enhances client efficiency. <p>To demonstrate competency in this unit the learner will require access to:</p> <ul style="list-style-type: none"> peers and supervisors for obtaining information software, hardware and networks helpdesk repository. 	<p>The breadth, depth and complexity of knowledge and skills in this competency would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.</p> <p>Assessment must ensure:</p> <ul style="list-style-type: none"> performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints would be characteristic applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved. 	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1.</p> <ul style="list-style-type: none"> Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario. 	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> demonstrate some relevant theoretical knowledge apply a range of well-developed skills apply known solutions to a variety of predictable problems perform processes that require a range of well-developed skills where some discretion and judgement is required interpret available information, using discretion and judgement take responsibility for own outputs in work and learning take limited responsibility for the output of others maintain knowledge of industry products and services.

Elements	Performance criteria	Range Statement	HSC requirements and advice
1 Analyse client support issues.	1.1 Check for new problems logged by <i>client</i> .	<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. <i>Bold italicised</i> 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> <p><i>Client</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • internal departments • external organisations • individual people • employees. 	<p>Learning experiences for the HSC must address:</p> <p><i>NB Students will be required to provide advice and support to several different clients, with varying support issues, requiring investigation and advice for a range of software, hardware and networks.</i></p> <p>An understanding of:</p> <ul style="list-style-type: none"> • the relationship between client service and business success • the concept of ‘client-focused’ company/organisation. <p>Benefits of good customer service including:</p> <ul style="list-style-type: none"> • promoting goodwill • client loyalty/repeat business • new business • increased productivity • credibility • promoting company/organisation service ethic. <p>Personal attributes that will assist employees to be responsive to client needs including:</p> <ul style="list-style-type: none"> • sincerity • confidence • enthusiasm • efficiency • empathy • interest in other people. <p>Types of clients including:</p> <ul style="list-style-type: none"> • internal <ul style="list-style-type: none"> - workmates/colleagues/employees - departments • external. <p>An understanding of the differing needs of internal and external clients.</p> <p>Paper-based and electronic means for:</p> <ul style="list-style-type: none"> • clients to record/log their requests/enquiries/problems

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> information and communications technology (ICT) staff to record client requests/enquiries/problems. <p>Details to be documented by ICT staff including:</p> <ul style="list-style-type: none"> client contact details a description of the problem progress of each task actions taken (both successful and unsuccessful) to <ul style="list-style-type: none"> answer enquiry fulfil request solve the problem identify status (such as urgent, pending, completed).
	1.2 Check previous logs for similar problems or requests from <i>client</i> .	<p><i>Client</i> may include but is not limited to:</p> <ul style="list-style-type: none"> internal departments external organisations individual people employees. 	<p>Learning experiences for the HSC must address:</p> <p>A knowledge of company/organisation/industry practices for:</p> <ul style="list-style-type: none"> naming standards version control tracking process audit trails. <p>An understanding of:</p> <ul style="list-style-type: none"> the purpose of background knowledge of client requirements the need for a record keeping system of requests/problems.
	1.3 Investigate and document the support issues affecting the <i>client</i> .		<p>Learning experiences for the HSC must address:</p> <p>Skills required including:</p> <ul style="list-style-type: none"> research and analysis problem-solving report writing. <p>Acknowledgement that in order to design a solution to a client's problem you have to understand their need.</p> <p>Client needs analysis/assessment to enable:</p>

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • a clear understanding of the client request/ problem • an evaluation of client requirements • the prioritisation of requirements as essential or optional. <p>Methods to investigate the support issue including:</p> <ul style="list-style-type: none"> • interview the client using open, closed and reflective questions combined with active listening • on-site observation/examination • questionnaire • focus group • contacting vendor/maintenance organisation • existing documentation. <p>An awareness of constraints that apply to provision of advice/support including:</p> <ul style="list-style-type: none"> • cost • time available • business policies and practices • staff skills and training requirements • room or building geometry. <p>Sources of information and possible solutions including:</p> <ul style="list-style-type: none"> • colleagues • company/organisation policies and manuals • consultants • suppliers • personal/professional contacts • ICT industry publications • trade shows • the internet • technical manuals • help documentation. <p>Company/organisation/industry standards for workplace documentation including:</p> <ul style="list-style-type: none"> • format • style • language <ul style="list-style-type: none"> - clear - concise

Elements	Performance criteria	Range Statement	HSC requirements and advice
	<p>1.4 Notify <i>client</i> of the results of <i>investigation</i> and provide <i>advice and support</i> on findings.</p>	<p><i>Client</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • internal departments • external organisations • individual people • employees. <p><i>Investigation</i> may include:</p> <ul style="list-style-type: none"> • on-site examination • questions and answers • active listening to clients and colleagues • contacting vendor or maintenance organisations • reviewing technical advice about the organisation. <p><i>Advice and support</i> may include:</p> <ul style="list-style-type: none"> • provision of client documentation • manuals • one-to-one training • identification of training need for referral to supervisor • documentation from vendor • advice on software supported by the organisation, including but not limited to use of macros, statistical functions of spreadsheets, creation of templates, generation of a complex report on a database, password and log-on procedure • advice on hardware supported by the organisation, including but not limited to printers, laptops, notebooks, CD-ROM, screens, disk drives, reconfiguration of settings, operation of scanners. 	<ul style="list-style-type: none"> - directive - purposeful - correct - culturally sensitive - jargon-free • details required. <p>Learning experiences for the HSC must address:</p> <p>Establishing good customer service including:</p> <ul style="list-style-type: none"> • knowledge of company/organisation product/service policies • use language that is targeted to the specific customer • present a friendly and courteous manner • use positive gestures and body language • ensure prompt response to enquiry/request • adopt a solutions-oriented approach • follow-up to maximise customer satisfaction. <p>Interaction with the client to:</p> <ul style="list-style-type: none"> • provide an overview of task, finding(s) and recommendation(s) • enable discussion of feasible alternative(s) • decide on best solution to enhance client efficiency • arrange implementation of course of action. <p>Verbal and non-verbal communication skills to convey comprehensive technical information to client in a clear, coherent, concise and jargon-free manner.</p> <p>A range of possible advice and support including:</p> <ul style="list-style-type: none"> • provision of user documentation/manuals to assist client • one-to-one instruction/training • referral of training need to client's supervisor/team leader • documentation from vendor • advice on hardware and software supported by the company/ organisation.

Elements	Performance criteria	Range Statement	HSC requirements and advice
	1.5 Obtain <i>client</i> feedback and make changes.	<p><i>Client</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • internal departments • external organisations • individual people • employees. 	<p>Learning experiences for the HSC must address:</p> <p>An awareness of the importance of ICT staff and the client agreeing on what is to be done in regard to the request/problem.</p>
2 Provide advice on software, hardware or network.	2.1 Confirm software, hardware or network requirements with <i>client</i> .	<p><i>Client</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • internal departments • external organisations • individual people • employees. 	<p>Learning experiences for the HSC must address:</p> <p>A knowledge of the following supported by the client's company/organisation:</p> <ul style="list-style-type: none"> • basic features and functions of the operating system • features of the different types of hardware • advanced features and functions of the software • contract and service agreements with vendors • security and network guidelines and procedures.
	2.2 Investigate and document a <i>solution</i> .	<p><i>Solution</i> may include but is not limited to</p> <ul style="list-style-type: none"> • new hardware • hardware upgrades • new software • software upgrades • user training • implementing a new system. 	<p>Learning experiences for the HSC must address:</p> <p>Benefits and limitations of a range of solutions including:</p> <ul style="list-style-type: none"> • hardware <ul style="list-style-type: none"> - upgrades - new • software <ul style="list-style-type: none"> - upgrades - new • user training • implementing a new system. <p>Application of known solutions to a range of predictable problems.</p> <p>A knowledge of the process for developing macros and templates:</p> <ul style="list-style-type: none"> • analyse client requirements • design solutions • discuss solutions with the client and choose a solution • create and test solution • demonstrate solution to client • refine the solution • document the solution.

Elements	Performance criteria	Range Statement	HSC requirements and advice
			Writing a range of macros and templates.
	2.3 Document additional requirements discovered in the investigation and refer them to the <i>client</i> .	<p><i>Client</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • internal departments • external organisations • individual people • employees. 	
	2.4 Obtain approval from the <i>client</i> to implement the <i>solution</i> .	<p><i>Client</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • internal departments • external organisations • individual people • employees. <p><i>Solution</i> may include but is not limited to</p> <ul style="list-style-type: none"> • new hardware • hardware upgrades • new software • software upgrades • user training • implementing a new system. 	<p>Learning experiences for the HSC must address:</p> <p>An awareness of the purpose for obtaining approval including:</p> <ul style="list-style-type: none"> • client verification of their requirements • to ensure <ul style="list-style-type: none"> - solution is within company/organisation policy - costing of the solution is understood and allocated - timeframes for implementation of solution are acceptable. <p>A knowledge of company/organisation approval policies and procedures including:</p> <ul style="list-style-type: none"> • services that can be provided on verbal approval from client • services that require written/signed approval <ul style="list-style-type: none"> - workplace documentation to be completed - authorised person(s) for signature.
	2.5 Investigate and document the amount of technical support the <i>client</i> may require.	<p><i>Client</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • internal departments • external organisations • individual people • employees. 	<p>Learning experiences for the HSC must address:</p> <p>Factors influencing the amount of technical support required including:</p> <ul style="list-style-type: none"> • skill level of client • complexity of solution being implemented. <p>A knowledge of the company/organisation's:</p> <ul style="list-style-type: none"> • contract and service agreement with vendors • available support <ul style="list-style-type: none"> - in-house - vendor - third party.

Elements	Performance criteria	Range Statement	HSC requirements and advice
	2.6 Discuss and agree the level of technical support identified with the <i>client</i> .	<p><i>Client</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • internal departments • external organisations • individual people • employees. 	
	2.7 Arrange a time with the <i>client</i> when support will take place.		<p>Learning experiences for the HSC must address:</p> <p>An awareness of the importance of:</p> <ul style="list-style-type: none"> • implementing solutions within acceptable timeframes • minimising impact on client's daily responsibilities.
	2.8 Provide technical support as part of group or one-to-one instruction to the <i>client</i> .		<p>Learning experiences for the HSC must address:</p> <p>Benefits and limitations of:</p> <ul style="list-style-type: none"> • one-on-one instruction • team/group training.
	2.9 Provide manuals and help <i>documentation</i> to the <i>client</i> .	<p><i>Documentation</i> may include:</p> <ul style="list-style-type: none"> • a collection of records that describe the structure, purpose, operation, maintenance and data requirements for a computer program, operating system or hardware device. <p><i>Client</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • internal departments • external organisations • individual people • employees. 	
3 Obtain client feedback.	3.1 Create an appropriate evaluation or feedback form or other mechanism to gather feedback about the <i>solution</i> and support provided.	<p><i>Solution</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • new hardware • hardware upgrades • new software • software upgrades • user training • implementing a new system. 	<p>Learning experiences for the HSC must address:</p> <p>Recognition of the value of client feedback to the company/organisation including:</p> <ul style="list-style-type: none"> • improving business relationships • identifying and overcoming existing problems • eliminating entrenched work practices • improving productivity • enhancing output quality • future development of the company/organisation. <p>A range of methods to obtain client feedback including:</p> <ul style="list-style-type: none"> • questionnaire <ul style="list-style-type: none"> - paper

Elements	Performance criteria	Range Statement	HSC requirements and advice	
			<ul style="list-style-type: none"> - electronic • interview • focus group. <p>Points to consider when designing feedback mechanism including:</p> <ul style="list-style-type: none"> • use of language <ul style="list-style-type: none"> - targeted to client - plain English - minimising technical/industry jargon • questioning technique <ul style="list-style-type: none"> - open, closed and/or reflective - avoiding bias/leading questions • opportunity for 'free-response'. 	
	3.2 Provide <i>client</i> with instructions on how to complete the form or use other means of providing feedback.	<p><i>Client</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • internal departments • external organisations • individual people • employees. 	<p>Learning experiences for the HSC must address:</p> <p>A range of methods to distribute/enable feedback/evaluation mechanism to the client:</p> <ul style="list-style-type: none"> • written <ul style="list-style-type: none"> - mail - electronic mail - internet/intranet - facsimile • verbal <ul style="list-style-type: none"> - telephone - one-on-one - meeting. 	
	3.3 Distribute the evaluation or feedback to the <i>client</i> .		<p>Learning experiences for the HSC must address:</p> <p>Types of feedback including:</p> <ul style="list-style-type: none"> • positive • negative • constructive. <p>How to interpret feedback in order to improve work practices.</p> <p>Reporting feedback to appropriate person(s) including:</p> <ul style="list-style-type: none"> • supervisor/team leader • management 	<p>Learning experiences for the HSC must address:</p> <p>Types of feedback including:</p> <ul style="list-style-type: none"> • positive • negative • constructive. <p>How to interpret feedback in order to improve work practices.</p> <p>Reporting feedback to appropriate person(s) including:</p> <ul style="list-style-type: none"> • supervisor/team leader • management
	3.4 Review the feedback from the <i>client</i> to identify areas for improvement.			

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • vendor • supplier • trainer • colleagues.

Training Package	Information and Communications Technology (ICA05)		HSC Requirements and Advice
Title	Care for computer hardware		
Unit code	Unit sector	HSC Indicative Hours	
ICAS3234B	Support	20	
Unit descriptor	This unit defines the competency required to manage the selection, maintenance and location of hardware. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.		
Prerequisite units	There are no prerequisites for this unit.		
Employability skills	This unit contains employability skills.		

Required skills and knowledge		HSC Requirements and Advice
This section describes the skills and knowledge required for this unit.		
Required skills	Required knowledge	Key Terms and Concepts
<ul style="list-style-type: none"> • Diagnosis of hardware problems • Ability to work safely, in respect of the specific hardware • Selection of appropriate hardware for a given situation • Problem solving skills • Communication and comprehension of basic workplace documents • Clear and precise communication • Ability to set up and maintain hardware • Interpretation of user manuals and help functions. 	<ul style="list-style-type: none"> • General OH&S principles and responsibilities • OH&S principles specific to equipment powered by mains electricity • Viruses, worms and other security issues • System hardware and associated peripherals functions • Potential environmental effects of common types of hardware • Importance of maintenance • Handling of high-impedance devices • Span of quality levels in common hardware • Software related to hardware operations. 	<ul style="list-style-type: none"> • cleaning materials and techniques • diagnostic tools and software • hardware components and their function • hardware problems • maintenance and storage of hardware, peripherals and media • occupational health and safety (OHS) principles and responsibilities • warranty, replacement and upgrade.

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 this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Context of and specific resources for assessment	Method of assessment	Guidance information for assessment
<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> assessment must ensure the ability to establish safe work practices, establish siting requirements for system hardware and associated peripheral devices, establish maintenance practices and determine appropriate hardware quality standards. <p>To demonstrate competency in this unit the learner will require access to:</p> <ul style="list-style-type: none"> hardware software and diagnostic tools records and reports. 	<p>Hardware encompasses all the physical connections that allow electronic communication to take place. Hardware is intertwined with software and this unit addresses software/hardware connections.</p> <p>The breadth, depth and complexity of knowledge and skills in this competency would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.</p> <p>Assessment must ensure:</p> <ul style="list-style-type: none"> performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints would be characteristic. applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved. 	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1.</p> <ul style="list-style-type: none"> Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario. 	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> understand hardware related issues for safe and secure operation of electronic components demonstrate basic theoretical knowledge of hardware and software interoperability safely remove and replace hardware components conduct maintenance on hardware parts. <p>Additionally, an individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> demonstrate some relevant theoretical knowledge apply a range of well-developed skills apply known solutions to a variety of predictable problems perform processes that require a range of well-developed skills where some discretion and judgement is required interpret available information, using discretion and judgement take responsibility for own outputs in work and learning communicate with team members to clarify job requirements take limited responsibility for the output of others maintain knowledge of industry products and services.

Elements	Performance criteria	Range Statement	HSC requirements and advice
1 Establish safe work practices.	1.1 Determine, record and apply relevant legal requirements and <i>OH&S standards</i> to the installation and maintenance of computer <i>hardware</i> .	<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> <p><i>OH&S standards</i> may include:</p> <ul style="list-style-type: none"> • correct posture • lighting • type of desk • type of monitor • style of chair • typing position • repetitive strain injury prevention • ventilation • light position • correct lifting method • electrical safety • monitor time • exposure. 	<p>Learning experiences for the HSC must address:</p> <p>Working knowledge of a range of computer hardware and their function including:</p> <ul style="list-style-type: none"> • work station • computer • network • server • peripherals <ul style="list-style-type: none"> - input device - output device - storage device. <p>Knowledge of:</p> <ul style="list-style-type: none"> • general occupational health and safety (OHS) principles and responsibilities • OHS principles specific to <ul style="list-style-type: none"> - equipment powered by mains - high impedance devices <ul style="list-style-type: none"> ▪ cathode-ray tube (CRT) monitor ▪ system unit power supply ▪ backup power supply - hazardous materials • OHS standards for <ul style="list-style-type: none"> - posture - lighting - an ergonomic workstation - prevention of occupational overuse syndrome (OOS) - ventilation - manual handling - electrical safety - monitor time and exposure • legal requirements including <ul style="list-style-type: none"> - licensing - placement of cabling and installation of fixed cabling - electrical installation - electronic performance - testing and tagging of electrical equipment on a regular basis.
	1.2 Determine, record and apply requirements specified by <i>hardware</i> manufacturers.	<p><i>Hardware</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • workstations • personal computers • modems or other connectivity devices • networks • DSL modems • remote sites • servers. 	
	1.3 Determine, record and apply <i>safe work practices</i> , taking into account legal and manufacturer requirements.	<p><i>Safe work practices</i> may include but are not limited to:</p> <ul style="list-style-type: none"> • handling of mains electricity • handling of high-impedance devices • handling of hazardous material. 	

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<p>Interpretation of manufacturer’s user manuals and help functions.</p> <p>Details recorded in a hardware register including:</p> <ul style="list-style-type: none"> • complementary metal oxide semi-conductor (CMOS) settings • type and amount of computer memory • central processing unit (CPU) type and speed • peripherals installed and their settings • operating system and version • software installed and version. <p>An awareness of safe work practices including:</p> <ul style="list-style-type: none"> • OHS induction training (general, work activity and location specific) • selection of appropriate tools for the task • correct use, maintenance and storage of tools • correct handling, application, transport and storage of materials • safe posture (sitting, standing, bending and lifting) • correct manual handling (lifting and transferring) • correct use of fire fighting equipment: <ul style="list-style-type: none"> - fire blanket - fire extinguishers • hazard identification and risk control • access to first aid kits • procedures to follow in the event of an emergency • effective communication and teamwork • adherence to work instructions, organisation/ company policy and standard operating procedures <ul style="list-style-type: none"> - housekeeping/clean-up procedures with due consideration to OHS and the environment.
<p>2 Establish location requirements for hardware and peripherals.</p>	<p>2.1 Determine and apply suitable <i>environmental conditions</i> for hardware and peripherals.</p>	<p><i>Environmental conditions</i> may consist of, but is not limited to:</p> <ul style="list-style-type: none"> • dust • heat • extreme cold • temperature stability • air circulation 	<p>Learning experiences for the HSC must address:</p> <p>Consideration of environmental factors including:</p> <ul style="list-style-type: none"> • dust • temperature • air circulation • moisture.

Elements	Performance criteria	Range Statement	HSC requirements and advice
		<ul style="list-style-type: none"> • moisture. 	<p>Knowledge of:</p> <ul style="list-style-type: none"> • potential environmental effects of common types of hardware • appropriate environmental conditions for hardware. <p>Knowledge of siting requirements and set-up procedures for a range of system hardware and peripheral devices.</p>
	<p>2.2 Determine and apply <i>system protection devices</i>.</p>	<p><i>System protection devices</i> may include but are not limited to:</p> <ul style="list-style-type: none"> • surge protection • uninterruptible power supplies. 	<p>Learning experiences for the HSC must address:</p> <p>An awareness of the consequences of:</p> <ul style="list-style-type: none"> • power surges and ‘brownouts’ • interrupted power • viruses and destructive software • unauthorised access to computer system. <p>System protection devices including:</p> <ul style="list-style-type: none"> • surge protection • uninterruptible power supply (UPS) devices • anti-virus protection • user authorisation procedures.
	<p>2.3 Determine and apply requirements when moving <i>hardware</i>.</p>	<p><i>Hardware</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • workstations • personal computers • modems or other connectivity devices • networks • DSL modems • remote sites • servers. <p><i>Peripherals</i> may include but are not limited to:</p> <ul style="list-style-type: none"> • printers, scanners, tape cartridges • speakers, multimedia equipment • personal computer fax/modems • input equipment may include mouse, touch pad, keyboard, pens • mobile phones, palmtops and personal digital assistants (PDAs), laptops and desktop computers 	<p>Learning experiences for the HSC must address:</p> <p>Procedures for securing hardware and peripherals prior to move/relocation.</p> <p>An awareness of legal requirements for weight limits.</p> <p>A knowledge of correct manual handling techniques when:</p> <ul style="list-style-type: none"> • moving • lifting/carrying • loading/unloading • working at heights • bending and twisting • using mechanical aids.

Elements	Performance criteria	Range Statement	HSC requirements and advice
	2.4 Determine and apply suitable storage principles for <i>hardware</i> and associated <i>peripherals</i> and media.	<ul style="list-style-type: none"> • Bluetooth devices, universal serial bus (USB), Firewire (IEEE 1394). 	<p>Learning experiences for the HSC must address:</p> <p>An awareness of possible consequences of inappropriate storage of hardware, peripherals and media.</p> <p>Points to consider when storing hardware, peripherals and media including:</p> <ul style="list-style-type: none"> • climatic effects • OHS considerations • stability • security • ease of access.
3 Establish maintenance practices.	3.1 Determine maintenance requirements specified by the <i>equipment</i> manufacturer.	<p><i>Equipment</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • workstations • personal computers • modems or other connectivity devices • printers • hard drives • DSL modems • monitors • switches • hubs • personal digital assistant (PDA) • other peripheral devices. 	<p>Learning experiences for the HSC must address:</p> <p>The importance of regular maintenance.</p> <p>An awareness of suggested maintenance schedules in user documentation or warranty conditions supplied by the manufacturer.</p> <p>Maintenance requirements including:</p> <ul style="list-style-type: none"> • tasks <ul style="list-style-type: none"> - cleaning (inside and outside) - testing functionality - diagnostic testing - replace/repair components - reloading/upgrading software - periodic physical checks for damaged cables - replacement of consumables • frequency • appropriate tools and techniques.
	3.2 Produce <i>maintenance</i> schedules, including removal of dust and grease build-up.	<p><i>Maintenance</i> may include:</p> <ul style="list-style-type: none"> • on-site response • remote diagnostics • return to depot. 	<p>Learning experiences for the HSC must address:</p> <p>Establishment of maintenance schedules and practices for equipment.</p> <p>Techniques for cleaning:</p> <ul style="list-style-type: none"> • the monitor • a keyboard • a mouse

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • the system unit • printers <ul style="list-style-type: none"> - laser - inkjet • drives. <p>Materials required for cleaning including:</p> <ul style="list-style-type: none"> • lint-free cloth • glass-cleaning spray • small brush • can of compressed air • vacuum cleaner • antistatic wristband • damp cloth and mild detergent • specialised cleaning kit.
	<p>3.3 Perform diagnostic functions, including replacing suspect <i>components</i> with other serviceable <i>components</i> and reloading of associated <i>software</i>.</p>	<p><i>Components</i> may include:</p> <ul style="list-style-type: none"> • motherboards • CMOS battery • central processing unit (CPU) • CD and DVD drives • interface cards • drives • fax/modem cards • RAM upgrades • CPU upgrades. <p><i>Software</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • commercial • in-house • packaged • customised software. 	<p>Learning experiences for the HSC must address:</p> <p>Function of a range of components including:</p> <ul style="list-style-type: none"> • motherboard • complementary metal oxide semiconductor (CMOS) battery • CPU • interface cards • drives • fax/modem cards • random access memory (RAM) upgrades. <p>Signs of incorrect function of components.</p> <p>Working knowledge of diagnostic testing to determine cause of hardware problems.</p> <p>Problem-solving process to identify root cause of the problem:</p> <ul style="list-style-type: none"> • identify possible cause of the problem • remove hardware/software that may mask/confuse the issue • test theory by <ul style="list-style-type: none"> - replacing offending item - using diagnostic tool. <p>Safe maintenance and removal and replacement of hardware components.</p>

Elements	Performance criteria	Range Statement	HSC requirements and advice
	3.4 Determine whether unserviceable <i>components</i> are replaceable through warranty, replacement or upgrade.		<p>Learning experiences for the HSC must address:</p> <p>An awareness of:</p> <ul style="list-style-type: none"> • warranty conditions • available component upgrades • source of replacement/upgrade. <p>Company/organisation hardware replacement policy including:</p> <ul style="list-style-type: none"> • identifying supplier/s • obtaining quote/s • gaining purchase authority.
	3.5 Perform diagnostic functions using the <i>operating system</i> and third-party diagnostic tools.	<p><i>Operating system</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • Linux 6.0 or above • Windows 98 or above • Apple OS 8 or above. 	<p>Learning experiences for the HSC must address:</p> <p>General features, selection and use of diagnostic tools and software appropriate to the task including:</p> <ul style="list-style-type: none"> • tools/software supplied with the operating system • third party diagnostic software/tool • diagnostic card. <p>An awareness of details recorded in a maintenance report/card including:</p> <ul style="list-style-type: none"> • job reference number • brief description of the problem • name of technician completing maintenance • date maintenance performed • time taken to complete the task • description of action to rectify the problem • description of follow-up action required • other comments.
4 Determine appropriate hardware quality standards.	4.1 Consider and apply <i>business requirements</i> in respect of hardware matters.	<p><i>Business requirements</i> may include:</p> <ul style="list-style-type: none"> • cost and quality • robustness • industry standard components • capability for further system upgrades. 	<p>Learning experiences for the HSC must address:</p> <p>Selection of appropriate hardware and software taking into consideration business requirements including:</p> <ul style="list-style-type: none"> • nature of business • user requirement(s) • size of the company/organisation • cost • quality • robustness

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • industry standard components • capability for further system upgrade. <p>Basic knowledge of hardware and software interoperability.</p>
	<p>4.2 Determine and apply quality standards to the selection of appropriate <i>hardware</i> and associated <i>peripherals</i>.</p>	<p>Hardware may include but is not limited to:</p> <ul style="list-style-type: none"> • workstations • personal computers • modems or other connectivity devices • networks • DSL modems • remote sites • servers. <p>Peripherals may include but are not limited to:</p> <ul style="list-style-type: none"> • printers, scanners, tape cartridges • speakers, multimedia equipment • personal computer fax/modems • input equipment may include mouse, touch pad, keyboard, pens, • mobile phones, palmtops and personal digital assistants (PDAs), laptops and desktop computers • Bluetooth devices, universal serial bus (USB), Firewire (IEEE 1394). 	<p>Learning experiences for the HSC must address:</p> <p>Knowledge of span of quality levels in common hardware.</p>

Training Package	Information and Communications Technology (ICA05)		HSC Requirements and Advice
Title	Run standard diagnostic tests		
Unit code	Unit sector	HSC Indicative Hours	
ICAT3025B	Test	10	
Unit descriptor	<p>This unit defines the competency required to conduct diagnostic tests on a range of platforms.</p> <p>There may be benefit in concurrent learning with the following unit:</p> <ul style="list-style-type: none"> • ICAS3234B Care for computer hardware <p>The following units are linked and form an appropriate cluster:</p> <ul style="list-style-type: none"> • ICAI3020B Install and optimise operating system software • ICAS3024B Provide basic system administration • ICAU3019B Migrate to new technology <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>		
Prerequisite units	There are no prerequisites for this unit		
Employability skills	This unit contains employability skills.		

Required skills and knowledge		HSC Requirements and Advice
This section describes the skills and knowledge required for this unit.		
Required skills	Required knowledge	Key Terms and Concepts
<ul style="list-style-type: none"> • Problem solving skills for a defined range of predictable problems • Literacy skills in regard to interpretation of computer manuals • Plain English literacy and communication skills in relation to analysis, evaluation and presentation of information • Use of diagnostic tools. 	<ul style="list-style-type: none"> • Configuration procedures • Back-up procedures • Organisational security procedures • Diagnostic software/hardware • Hardware maintenance • Security procedures. 	<ul style="list-style-type: none"> • computer problems • configuration procedures • diagnostic policy and procedures • preventative maintenance • problem-solving process • reporting and recording.

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.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Context of and specific resources for assessment	Method of assessment	Guidance information for assessment
<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> assessment must confirm the ability to conduct diagnostic tests on a range of platforms according to preventative maintenance and diagnostic policy, and to correctly identify the root causes of the problems. <p>To demonstrate competency in this unit the person will require access to:</p> <ul style="list-style-type: none"> security guidelines back-up procedures diagnostic software. 	<p>Demonstrating competence in basic diagnostic testing will include knowledge by recall in a narrow range of areas; demonstrating basic practical skills, such as the use of relevant tools; perform a sequence of routine tasks given clear direction; and receive and pass on messages/information.</p> <p>Demonstration of these competence would involve:</p> <ul style="list-style-type: none"> demonstration of basic testing and adherence to operational procedures applying knowledge solutions to a limited range of unpredictable problems performing a range of diagnostic tasks where suspected breakdowns or irregularities of performance have appeared assessing and recording information from varied sources. <p>The breadth, depth and complexity of knowledge and skills in this competency would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.</p> <p>Assessment must ensure:</p> <ul style="list-style-type: none"> performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the section of equipment, services or contingency measures and within known time constraints would be characteristic applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved. 	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1.</p> <ul style="list-style-type: none"> Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario. 	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICAI3020B Install and optimise operating system software ICAS3024B Provide basic system administration ICAU3019B Migrate to new technology. <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> demonstrate some relevant theoretical knowledge apply a range of well-developed skill apply known solutions to a variety of predictable problems perform processes that require a range of well-developed skills where some discretion and judgement is required interpret available information, using discretion and judgement take responsibility for own outputs in work and learning take limited responsibility for the output of others maintain knowledge of industry products and services.

Elements	Performance criteria	Range Statement	HSC requirements and advice
1 Operate systems diagnostics.	1.1 Run the system diagnostic program according to specification.	The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. <i>Bold italicised</i> 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>Learning experiences for the HSC must address:</p> <p>A basic understanding of company/organisation:</p> <ul style="list-style-type: none"> • system security guidelines • preventative maintenance and diagnostic policy • hardware maintenance procedures • diagnostic procedures. <p>An awareness of major areas in which computer problems arise including:</p> <ul style="list-style-type: none"> • electrical or electronic failure • hardware failure • software failure • operator/user-generated error. <p>Sources of technical data and information that may be required when fault-finding including:</p> <ul style="list-style-type: none"> • manufacturer manuals • data reference books • textbooks • industry publications/magazines • websites • discussion groups. <p>Identifying the root cause of problems including:</p> <ul style="list-style-type: none"> • remove hardware/software that may mask/confuse the issue • use diagnostic tools • test theory <p>A definition of:</p> <ul style="list-style-type: none"> • system diagnostic program. <p>Hardware and software diagnostic tools including:</p> <ul style="list-style-type: none"> • those supplied with the computer operating system • those supplied by the manufacturer of the hardware and software installed • those purchased or found as shareware/freeware on the internet.

Elements	Performance criteria	Range Statement	HSC requirements and advice
	1.2 Modify the system configuration as indicated by the diagnostic program.		<p>General features, selection and use of diagnostic tools and software appropriate to the task including:</p> <ul style="list-style-type: none"> • third party diagnostic software or tool • diagnostic card. <p>Standard diagnostic testing of:</p> <ul style="list-style-type: none"> • disk integrity • memory faults • system performance. <p>Learning experiences for the HSC must address:</p> <p>A knowledge of appropriate backups required prior to modifying the system.</p> <p>Interpretation of results of diagnostic program and application of appropriate configuration procedures.</p>
	1.3 Carry out <i>preventative maintenance</i> in line with <i>organisational guidelines</i> .	<p><i>Preventative maintenance</i> includes but is not limited to:</p> <ul style="list-style-type: none"> • scheduled fault-finding • optimising of hard drives • scanning for viruses. <p><i>Organisational guidelines</i> may include but are not limited to:</p> <ul style="list-style-type: none"> • personal use of emails and internet access • content of emails • downloading information and accessing particular websites • opening mail with attachments • virus risk • dispute resolution • document procedures and templates • communication methods • financial control mechanisms. 	<p>Learning experiences for the HSC must address:</p> <p>Preventative maintenance including:</p> <ul style="list-style-type: none"> • scheduled fault-finding • hard disk maintenance • scanning for viruses. <p>Hard disk maintenance including:</p> <ul style="list-style-type: none"> • cleaning-up unwanted files • checking the disk for errors • optimising the storage of data • using the defragment utility.
2 Scan system for viruses.	2.1 Scan the system to check and maintain virus protection.		<p>Learning experiences for the HSC must address:</p> <p>A basic understanding of:</p> <ul style="list-style-type: none"> • a computer virus • how a virus can affect a computer system • virus signature.

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<p>A knowledge of:</p> <ul style="list-style-type: none"> • virus types <ul style="list-style-type: none"> - system sector - file - email - macro • destructive software <ul style="list-style-type: none"> - logic bombs - trojans - worms - hoaxes. <p>Virus protection software:</p> <ul style="list-style-type: none"> • operating system • commercially available • network server. <p>Detection of viruses using anti-virus software through:</p> <ul style="list-style-type: none"> • a full scan of the computer (local or network) • a scan in real-time as each file is accessed. <p>The importance of regularly updating virus protection including:</p> <ul style="list-style-type: none"> • virus pattern files • virus scanning software. <p>Performing a complete scan of the hard disk.</p>
	<p>2.2 Report identified viruses to an <i>appropriate person</i>.</p>	<p><i>Appropriate person</i> may include:</p> <ul style="list-style-type: none"> • supervisor • teacher • authorised business representative • client. 	<p>Learning experiences for the HSC must address:</p> <p>Reporting:</p> <ul style="list-style-type: none"> • verbal/written • formal/informal. <p>Appropriate person/s including:</p> <ul style="list-style-type: none"> • supervisor/team leader • information technology (IT) technical support staff • help desk operator • system administrator • network administrator • trainer • supplier.

Elements	Performance criteria	Range Statement	HSC requirements and advice
	2.3 Remove virus infections found by the scan using <i>software</i> tools and/or procedures or by restoring back-ups.	<i>Software</i> may include but are not limited to: <ul style="list-style-type: none"> • diagnostic tools and their operation • virus protection software and operation • operating systems and modules for configuration • types of virus and impact. 	<p>Learning experiences for the HSC must address:</p> <p>A knowledge of company/organisation procedures when a virus is detected:</p> <ul style="list-style-type: none"> • deactivate the virus • clean (remove) the virus • recover any lost/damaged data • prevent a recurrence • rebuild the system (if necessary). <p>Source of virus removal tools including:</p> <ul style="list-style-type: none"> • vendors • internet sites. <p>Accessing anti-virus software vendor website and download and use most current version of their software.</p> <p>A basic knowledge of company/organisation backup policy and procedures.</p>
	2.4 Document relevant symptom and removal information.		<p>Learning experiences for the HSC must address:</p> <p>Completion of workplace documentation, for example a central register of detected viruses, including details about the virus, its source and action taken.</p>

Training Package	Information and Communications Technology (ICA05)		HSC Requirements and Advice
Title	Use computer operating system		
Unit code	Unit sector	HSC Indicative Hours 15	
ICAU2231B	Use		
Unit descriptor	<p>This unit defines the competency required to configure, use and optimise a computer operating system.</p> <p>There may be benefit in concurrent learning of the following unit:</p> <ul style="list-style-type: none"> • ICAU2005B Operate computer hardware <p>The following unit is linked and forms an appropriate cluster:</p> <ul style="list-style-type: none"> • ICAU2005B Operate computer hardware. <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>		
Prerequisite units	ICAU1128B Operate a personal computer		
Employability skills	This unit contains employability skills.		

Required skills and knowledge		HSC Requirements and Advice
This section describes the skills and knowledge required for this unit.		
Required skills	Required knowledge	Key Terms and Concepts
<ul style="list-style-type: none"> • Configure, use and optimise operating system • Install and support peripheral devices • Create users for a multi-user system • Apply user changes for a multi-user operating system • Set passwords for different users • Clear and precise communication with team members and supervisors. 	<ul style="list-style-type: none"> • Function of single-user and multi-user operating systems • Compatibility of an operating system, in respect to other versions • Interoperability between operating systems • Software applicable to the operating system. 	<ul style="list-style-type: none"> • basic structure of a personal computer • computer operating system • configure operating system • guides and documentation • install, upgrade and uninstall application software • safe work practices.

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.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Context of and specific resources for assessment	Method of assessment	Guidance information for assessment
<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> assessment must confirm the ability to use an operating system in a variety of scenarios and across all functions including (1) scheduling, loading, initiating, and supervising the execution of programs; (2) allocating storage; (3) initiating and controlling input/output operations; and (4) handling errors. <p>To demonstrate competency in this unit the person will require access to:</p> <ul style="list-style-type: none"> workstation operating system software configuration guides documents detailing operating system control panel and configuration data. 	<p>An introduction to the command line at this level would be appropriate to prepare the person for concepts related to directory structure, folder hierarchy and path relationships.</p> <p>The operating system (OS) program is the first program loaded into the computer by a boot program and it remains in memory at all times thereafter. It is strategically placed in that it manages all the other programs in a computer including the allocation and usage of hardware resources such as memory, central processing unit (CPU) time, access and security, hard disk space, and peripheral devices (like speakers or a mouse).</p> <p>The OS is the foundation software on which other programs, such as Word or Excel, depend. These other programs are called applications or application programs. The application programs make use of the operating system by making requests for services through a defined application program interface (API). In addition, users can interact directly with the operating system through a user interface such as a command language or a graphical user interface (GUI).</p> <p>Operating systems come in a variety of forms. Most use a graphical user interface (GUI) and some use command line; others have a combination of both.</p> <p>It is appropriate for the person to grasp the fundamentals of both the GUI and the command line interface to prepare them for advanced concepts should they choose to enter learning towards a more advanced unit of competency.</p>	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1.</p> <ul style="list-style-type: none"> Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario. 	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICAU2005B Operate computer hardware <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> demonstrate basic operational knowledge in a moderate range of areas apply a defined range of skills apply known solutions to a limited range of predictable problems perform a range of tasks where choice between a limited range of options is required assess and record information from varied sources communicate with team members to clarify job requirements take limited responsibility for own outputs in work and learning <p>Additionally, an individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> understand a range of concepts and procedures related to operating systems demonstrate theoretical knowledge of operating system set-up and configuration apply changes to an operating system maintain knowledge of industry products and services.

	Context of and specific resources for assessment cont/d		
	<p>The breadth, depth and complexity of knowledge and skills in this competency would prepare a person to perform in a range of varied activities or knowledge applications where there is a clearly defined range of contexts in which the choice of actions required is usually clear. There would generally be limited complexity in the range of operations to be applied.</p> <p>Assessment must ensure:</p> <ul style="list-style-type: none"> • performance of a prescribed range of functions involving known routines and procedures and some accountability for the quality of outcomes would be characteristic • applications may include some complex or non-routine activities involving individual responsibility or autonomy and/or collaboration with others as part of a group or team. 		

Elements	Performance criteria	Range Statement	HSC requirements and advice
1 Configure operating system.	1.1 Configure <i>operating system</i> to suit the working environment, including but not limited to setting variables.	<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> <p><i>Operating system</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • Linux 7.0 or above • Windows 2000 or above • Apple OS X or above. 	<p>Learning experiences for the HSC must address:</p> <p>Identification of:</p> <ul style="list-style-type: none"> • the basic structure of a personal computer (PC) <ul style="list-style-type: none"> - central processing unit (CPU) - random access memory (RAM) - motherboard - power supply - peripherals <ul style="list-style-type: none"> ▪ input device ▪ output device - storage device/s • the main features of the motherboard <ul style="list-style-type: none"> - CPU socket - chip set - RAM slots - read only memory (ROM) - system bus - expansion slots - cache memory • the main external connectors. <p>An understanding of the following concepts:</p> <ul style="list-style-type: none"> • configure • optimise • support • install • uninstall • upgrade • compatibility. <p>A definition of:</p> <ul style="list-style-type: none"> • operating system. <p>An understanding of the purpose of an operating system including:</p> <ul style="list-style-type: none"> • it is the first program loaded into the computer by a boot program and remains in memory at all times • it manages all other programs including the allocation and usage of hardware resources such as:

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> - memory - CPU time - access and security - hard disk space - peripheral device(s) • it is the foundation software on which applications/application programs depend. <p>A working knowledge of the benefits and limitations of the following operating systems:</p> <ul style="list-style-type: none"> • single-user/task • multi-user/task • network. <p>An understanding of the different forms in which a user can interact with the operating system including:</p> <ul style="list-style-type: none"> • command interface/line • graphical user interface (GUI) • combination of both. <p>Using available document(s) to assist to configure, use and optimise the operating system including:</p> <ul style="list-style-type: none"> • software configuration guide • documents detailing operating system control panel and configuration data. <p>An awareness of the differences in:</p> <ul style="list-style-type: none"> • procedures for 'logging in/out' of operating systems • access to the operating system for different users <ul style="list-style-type: none"> - standard user - manager - information technology (IT) support staff - system administrator - network administrator - local administrator. <p>A knowledge of how to:</p> <ul style="list-style-type: none"> • create users for a multi-user system • apply user changes • set passwords for different users.

Elements	Performance criteria	Range Statement	HSC requirements and advice
2 Use operating system.	2.1 Install, upgrade and uninstall <i>application software</i> to suit the working environment.	<p><i>Application software</i> may include:</p> <ul style="list-style-type: none"> • databases • word processing • email • internet browsers • system browsers • spreadsheets. 	<p>Learning experiences for the HSC must address:</p> <p>An awareness of:</p> <ul style="list-style-type: none"> • the difference between operating system software and application software • the operating system supported by the company/organisation. <p>A knowledge of:</p> <ul style="list-style-type: none"> • interoperability between operating systems (with respect to the ability of operating systems from different vendors to share data using agreed file formats and protocols) • application software appropriate to the operating system. <p>A range of application software including:</p> <ul style="list-style-type: none"> • word processing • database • spreadsheet • system browser • email • internet browser.
	2.2 Use both the graphical user interface and the command line interface to perform basic tasks.		<p>Learning experiences for the HSC must address:</p> <p>A basic understanding of the difference in operation of a GUI and a command line interface.</p> <p>Basic tasks including:</p> <ul style="list-style-type: none"> • logging in • logging out • getting online help • changing passwords • retrieving and editing previous commands.
3 Optimise operating system.	3.1 Use operating system and <i>third-party utilities</i> .	<p><i>Third-party utilities</i> may include but are not limited to:</p> <ul style="list-style-type: none"> • disk scanning • partitioning and defragmenting • backing up data, • recovery • diagnostic tools. 	<p>Learning experiences for the HSC must address:</p> <p>A basic knowledge of the features of operating system utilities and third-party utilities including:</p> <ul style="list-style-type: none"> • what information is produced when they are run • how the information should be interpreted • appropriate actions resulting from the information.

Elements	Performance criteria	Range Statement	HSC requirements and advice
	3.2 Customise the graphical user interface. 3.3 Use techniques unique to the command line interface.		<p>Learning experiences for the HSC must address: Using software tools to customise the GUI.</p> <p>Learning experiences for the HSC must address: A basic knowledge of command structure and syntax including the use of switches and parameters.</p> <p>A basic understanding of:</p> <ul style="list-style-type: none"> • directory structure • folder hierarchy • path relationships.
4 Support input and output devices.	4.1 Set up <i>input and output devices</i> and check functionality.	<p><i>Input and output devices</i> may include but are not limited to:</p> <ul style="list-style-type: none"> • keyboard • mouse • printer • scanner • monitor • modem. 	<p>Learning experiences for the HSC must address: An understanding of the difference between an input and output device.</p> <p>A range of peripherals including:</p> <ul style="list-style-type: none"> • keyboard • mouse • scanner • monitor • printer • modem • removable storage device. <p>An awareness of safe work practices:</p> <ul style="list-style-type: none"> • for attaching and/or removing devices and cables • when working with electricity. <p>Adding peripherals:</p> <ul style="list-style-type: none"> • following manufacturer's instructions • connecting to <ul style="list-style-type: none"> - an external port <ul style="list-style-type: none"> ▪ serial ▪ parallel ▪ universal serial bus (USB) - an expansion card <ul style="list-style-type: none"> ▪ expansion slot in motherboard.

Elements	Performance criteria	Range Statement	HSC requirements and advice
			A knowledge of how to: <ul style="list-style-type: none"> • locate and install software • run the software to check functionality • troubleshoot as required.
	4.2 Install drivers as appropriate and check functionality.		Learning experiences for the HSC must address: A definition of driver. The difference between a generic driver and a customised vendor driver, and the implications of using one or the other. An awareness that drivers need to be updated periodically to ensure optimal performance.

Training Package	Information and Communications Technology (ICA05)		HSC Requirements and Advice
Title	Apply occupational health and safety procedures		
Unit code	Unit sector	HSC Indicative Hours	
ICAU3004B	Use	20	
Unit descriptor	This unit defines the competency required to support the organisation's occupational health and safety (OH&S) principles and practices. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.		
Prerequisite units	There are no prerequisites for this unit.		
Employability skills	This unit contains employability skills.		

Required skills and knowledge		HSC Requirements and Advice
This section describes the skills and knowledge required for this unit.		
Required skills	Required knowledge	Key Terms and Concepts
<ul style="list-style-type: none"> • Reading and writing at a level where basic workplace documents are understood and presented • Questioning and active listening employed to confirm information • Plain English literacy and communication skills in relation to dealing with clients and team members • Problem solving skills for a defined range of predictable problems. 	<ul style="list-style-type: none"> • General OH&S principles, responsibilities and legislation • General ergonomic principles to avoid back, wrist and eye strain • Procedures and exercises for avoiding strain and injury • Current business practices in relation to preparing reports • Broad knowledge of OH&S requirements in relation to work safety, environmental factors and ergonomic considerations. 	<ul style="list-style-type: none"> • emergency situations • employer and employee responsibilities • ergonomic requirements • legislation, regulations and codes of practice • risk management • workplace documentation and reports.

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.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Context of and specific resources for assessment	Method of assessment	Guidance information for assessment
<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> assessment must ensure that a person has the ability to comply with OH&S requirements relating to the use of computing equipment through the practical demonstration of the identification of unsafe practices. All findings should be reported to a supervisor. A basic understanding of the principles and practices around computer-related ergonomics should be demonstrated. <p>To demonstrate competency in this unit the person will require access to:</p> <ul style="list-style-type: none"> simulated workplace environment workplace OH&S policies. 	<p>In many workplaces the objectives of OH&S are to increase productivity, safety, and comfort through the use of design, awareness and training. Ergonomic solutions relating to products and people/product interaction can reduce the potential for harm to a user when performing certain computer related tasks.</p> <p>An individual completing this competency would be able to demonstrate knowledge of OH&S requirements and the application of basic ergonomic principles to computing.</p> <p>The breadth, depth and complexity of knowledge and skills in this competency would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.</p> <p>Assessment must ensure:</p> <ul style="list-style-type: none"> performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints would be characteristic applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved. 	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1.</p> <ul style="list-style-type: none"> Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario. 	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> demonstrate some relevant theoretical knowledge apply a range of well-developed skills apply known solutions to a variety of predictable problems perform processes that require a range of well developed skills where some discretion and judgement is required interpret available information, using discretion and judgement take responsibility for own outputs in work and learning take limited responsibility for the output of others maintain knowledge of industry products and services.

Elements	Performance criteria	Range Statement	HSC requirements and advice
<p>1 Determine OH&S issues relating to immediate work environment.</p>	<p>1.1 Identify person responsible for <i>OH&S standards</i> in the subject workplace.</p>	<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. <i>Bold italicised</i> 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> <p><i>OH&S standards</i> may include:</p> <ul style="list-style-type: none"> • correct posture • lighting • type of desk • type of monitor • style of chair • typing position • repetitive strain injury prevention • ventilation • light position • correct lifting method • length of time in front of computer • may also include licensing-related and physical safety considerations such as general electrical safety and cabling, power supply and leads as they apply to computer and peripheral installations. 	<p>Learning experiences for the HSC must address:</p> <p>An awareness of the cost of workplace injury:</p> <ul style="list-style-type: none"> • human • social • economic • organisational. <p>An understanding of how the objectives of occupational health and safety (OHS) – to increase productivity, safety and comfort – can be met through the use of:</p> <ul style="list-style-type: none"> • design • awareness • training. <p>An awareness of sources of information regarding OHS in the workplace including:</p> <ul style="list-style-type: none"> • organisation/company policies and procedures <ul style="list-style-type: none"> - safety/emergency/incident plan - Australian Standards - training manuals - operator’s manuals • WorkCover NSW and National Occupational Health and Safety Commission (NOHSC) publications/safety alerts • legislation/regulations/codes of practice • manufacturer’s specifications. <p>A basic awareness of the differences between:</p> <ul style="list-style-type: none"> • an act • a regulation • codes of practice • standards. <p>A basic understanding of OHS legislation and codes of practice including:</p> <ul style="list-style-type: none"> • <i>Occupational Health and Safety Act 2000</i> (NSW) • <i>Occupational Health and Safety Regulations 2001</i> (NSW) • <i>Workers Compensation Act 1987</i> (NSW) and amendments

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • <i>Workplace Injury Management and Workers Compensation Act 1998</i> (NSW) • Codes of practice (WorkCover NSW) <ul style="list-style-type: none"> - OHS Consultation - Risk Assessment. <p>An awareness of employer responsibilities under the OHS Act including the following:</p> <ul style="list-style-type: none"> • maintaining places of work under their control in a safe condition, and ensuring safe entrances and exits • making arrangements to ensure the safe handling, storage and transport of plant and substances • providing and maintaining systems of work and work environments that are safe and without risks to health • providing information, instruction, training and supervision necessary to ensure the health and safety of employees • providing adequate facilities for the welfare of employees • must not require employees to pay for anything done or provided to meet the requirements of the Act or Regulation • must consult with employees about OHS matters to enable them to contribute to decisions affecting their health, safety and welfare • must ensure the health and safety of visitors or people working who are not employees. <p>An awareness of employee responsibilities under the OHS Act including the following:</p> <ul style="list-style-type: none"> • employees must take reasonable care of the health and safety of themselves and others • employees must cooperate with employers in their efforts to comply with occupational health and safety requirements • employees must not interfere with or misuse things provided for the health, safety or welfare of persons at work • employees must not obstruct attempts to give aid or attempts to prevent serious risk to the health and safety of a person at work

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • employees must not refuse a reasonable request to assist in giving aid or preventing a risk to health and safety • employees must not disrupt workplace by creating false health or safety fears. <p>An acknowledgement that OHS is everyone's responsibility in the workplace.</p> <p>The concept of 'participation' and 'consultation' as it relates to workplace safety and employee rights and responsibilities.</p> <p>An understanding of the election/formation, roles and responsibilities of the OHS representatives or committee in the workplace.</p> <p>A basic understanding of the roles and functions of key bodies involved in OHS including:</p> <ul style="list-style-type: none"> • WorkCover NSW • NOHSC • local councils • unions • professional associations.
	<p>1.2 Identify <i>OHS standards</i> that apply to the workplace.</p>	<p><i>OHS standards</i> may include:</p> <ul style="list-style-type: none"> • correct posture • lighting • type of desk • type of monitor • style of chair • typing position • repetitive strain injury prevention • ventilation • light position • correct lifting method • length of time in front of computer • may also include licensing-related and physical safety considerations such as general electrical safety and cabling, power supply and leads as they apply to computer and peripheral installations. 	<p>Learning experiences for the HSC must address:</p> <p>An awareness of the difference between OHS standards and OHS policies, procedures and practices.</p> <p>OHS standards common to an IT environment in relation to:</p> <ul style="list-style-type: none"> • work stations and associated equipment • work environment • manual handling • employee behaviour. <p>An acknowledgement of the importance of training in safe work practices and emergency procedures to meet OHS requirements.</p> <p>An awareness of safe work practices including:</p> <ul style="list-style-type: none"> • OHS induction training (general, work activity and location specific) • selection of appropriate tools for the task

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • correct use, maintenance and storage of tools, equipment and machinery • correct handling, application, transport and storage of materials. • safe posture (sitting, standing, bending and lifting) • correct manual handling (lifting and transferring) • correct use of fire fighting equipment: <ul style="list-style-type: none"> - fire blanket - fire extinguishers • hazard identification and risk control • basic first aid training and access to first aid kits • procedures to follow in the event of an emergency • effective communication and teamwork • adherence to work instructions, organisation/ company policy and standard operating procedures • housekeeping/clean-up procedures with due consideration to OHS and the environment. <p>Selection and use of standard safety signs and symbols common to an information technology work environment including:</p> <ul style="list-style-type: none"> • legislative requirements • meaning of shape and colour • appropriate placement and positioning. <p>An awareness of legal requirements for weight limits.</p> <p>A knowledge of correct manual handling techniques when:</p> <ul style="list-style-type: none"> • moving • lifting/carrying • using hand tools • loading/unloading • working at heights • bending and twisting • using mechanical aids • undertaking repetitious tasks.

Elements	Performance criteria	Range Statement	HSC requirements and advice
	<p>1.3 Review and assess workplace according to <i>OH&S standards</i> and record findings.</p>	<p><i>OH&S standards</i> may include:</p> <ul style="list-style-type: none"> • correct posture • lighting • type of desk • type of monitor • style of chair • typing position • repetitive strain injury prevention • ventilation • light position • correct lifting method • length of time in front of computer • may also include licensing-related and physical safety considerations such as general electrical safety and cabling, power supply and leads as they apply to computer and peripheral installations. 	<p>Learning experiences for the HSC must address:</p> <p>A definition of:</p> <ul style="list-style-type: none"> • hazard. <p>Identification of potential hazards to:</p> <ul style="list-style-type: none"> • self • visitors • colleagues • the general public. <p>A range of hazards including:</p> <ul style="list-style-type: none"> • tools and equipment <ul style="list-style-type: none"> - operation - maintenance • manual handling • materials in use • work processes/practices • work environment <ul style="list-style-type: none"> - poor/inadequate lighting - inadequate amenities - lack of storage and/or shelving - poor housekeeping - wet or slippery floors - exposed cables, extension leads and wires - damaged carpets - falling objects - noise - vibration - poor ventilation • working <ul style="list-style-type: none"> - alone - with electricity - in confined spaces • human factors <ul style="list-style-type: none"> - stress - violence/bullying - playing practical jokes - fatigue - failure to follow procedures - lack of training or experience - carelessness - poor personal health/hygiene - using wrong techniques/procedures

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> - ignoring safety rules/signs - taking short cuts - knowingly using unsafe equipment/tools. <p>A basic understanding of risk management:</p> <ul style="list-style-type: none"> • identify hazards • assess associated risks • use appropriate control measures to eliminate or minimise risks • monitor and review the control measures. <p>A basic awareness of the hierarchy of risk control measures:</p> <ul style="list-style-type: none"> • Level 1 – eliminate the risk (such as discontinue the activity or not use the equipment) • Level 2 – minimise the risk by <ul style="list-style-type: none"> - substituting the system of work/equipment (with something safer) - modifying the system of work/equipment (to make it safer) - isolating the hazard (such as introducing a restrictive work area) - introducing engineering control (such as monitor screens) • Level 3 – other controls <ul style="list-style-type: none"> - adopt administrative controls and safe work practices - use personal protective equipment (PPE). <p>Knowledge of designated personnel in relation to hazard identification and control within an organisation/company.</p> <p>Emergency situations including:</p> <ul style="list-style-type: none"> • bomb threats • accidents/serious injury • robbery • fire • armed hold-up • natural disasters. <p>A basic awareness of the primary role of personnel in an emergency including:</p>

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • first aid officer • safety officer/safety representative • OHS committee member • colleagues • manager • supervisor/team leader • emergency services • WorkCover NSW • union representative. <p>Knowledge of emergency contact numbers:</p> <ul style="list-style-type: none"> • '000' – landline number • '112' – mobile phones. <p>How and when to seek assistance.</p> <p>Procedures to follow in the event of an emergency including:</p> <ul style="list-style-type: none"> • notification <ul style="list-style-type: none"> - appropriate authorities (emergency services and WorkCover NSW) - colleagues - supervisor • workplace/company policies and procedures <ul style="list-style-type: none"> - evacuate - secure building. • reporting. <p>An awareness of information required by emergency services attending the site including:</p> <ul style="list-style-type: none"> • location • nearest cross-street • nature of the incident • number of casualties • nature of injuries • contact name and number. <p>A range of sample workplace documents for safety inspection checklists/reports.</p> <p>A basic OHS audit of an information technology (IT) workplace environment.</p> <p>An awareness of current business practice in relation to preparing reports.</p>

Elements	Performance criteria	Range Statement	HSC requirements and advice
	1.4 Report issues or problems with the workplace to the <i>appropriate person</i> .	<p><i>Appropriate person</i> may include:</p> <ul style="list-style-type: none"> • supervisor • teacher • authorised business representative • client. 	<p>Learning experiences for the HSC must address:</p> <p>The importance of acting within levels of authority in terms of:</p> <ul style="list-style-type: none"> • taking initiative • problem-solving • decision making. <p>How and when to report.</p> <p>A basic awareness of monitoring and reporting for OHS including:</p> <ul style="list-style-type: none"> • formal/informal • verbal • written <ul style="list-style-type: none"> - safety inspection reports - checklists - accident reports - WorkCover NSW notification - registers/logs/files. <p>Appropriate person(s) including:</p> <ul style="list-style-type: none"> • supervisor/team leader • manager • trainer • OHS representative/committee • union representative.
2 Document and disseminate OH&S requirements.	2.1 Determine and document the <i>OH&S standards</i> impact upon the subject workplace.	<p><i>OH&S standards</i> may include:</p> <ul style="list-style-type: none"> • correct posture • lighting • type of desk • type of monitor • style of chair • typing position • repetitive strain injury prevention • ventilation • light position • correct lifting method • length of time in front of computer • may also include licensing-related and physical safety considerations such as general electrical 	<p>Learning experiences for the HSC must address:</p> <p>An understanding of current business practices in relation to preparing required documentation.</p> <p>Preparation of draft documentation for a workplace conducting IT-related activities.</p>

Elements	Performance criteria	Range Statement	HSC requirements and advice
		safety and cabling, power supply and leads as they apply to computer and peripheral installations.	
	2.2 Submit <i>documentation</i> to <i>appropriate person</i> for verification.	<p><i>Documentation</i> may follow:</p> <ul style="list-style-type: none"> • ISO/IEC/AS standards • audit trails • naming standards • version control • project management templates • report writing principles. <p><i>Appropriate person</i> may include:</p> <ul style="list-style-type: none"> • supervisor • teacher • authorised business representative • client. 	
	2.3 Update or reissue OH&S documents relating to IT as required.		<p>Learning experiences for the HSC must address:</p> <p>An understanding of the importance of audit trails and version control for workplace policy/procedure documentation/manuals.</p>
3 Provide basic ergonomic advice.	3.1 Assess basic <i>ergonomic</i> requirements of people in the workplace.	<p><i>Ergonomic</i> may include:</p> <ul style="list-style-type: none"> • OH&S procedures • workstation: monitor, keyboard, mouse, desk, chair • foot rests, arm rests, document holders, exercises, posture, times for breaks, noise, lighting (glare, poor lighting). 	<p>Learning experiences for the HSC must address:</p> <p>Identification of environmental and ergonomic requirements of a workstation including:</p> <ul style="list-style-type: none"> • environmental factors <ul style="list-style-type: none"> - lighting - noise - ventilation • ergonomic <ul style="list-style-type: none"> - furniture <ul style="list-style-type: none"> ▪ desk ▪ chair ▪ footrest ▪ arm rest - equipment <ul style="list-style-type: none"> ▪ monitor ▪ keyboard ▪ mouse ▪ document holder

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> - behavioural <ul style="list-style-type: none"> ▪ posture ▪ exercise ▪ time for break. <p>Identification of safety requirements when working with electricity including:</p> <ul style="list-style-type: none"> • general electrical safety • proper position/placement of cables/leads • storage of excess cables/leads • cables/leads in good working condition • safety/lockout tagging as appropriate. <p>A basic OHS audit of an individual's workstation to assess:</p> <ul style="list-style-type: none"> • environmental and ergonomic requirements • safety in relation to working with electricity. <p>Knowledge and application of basic ergonomic solutions relating to products and people/production interaction to reduce potential harm to a user when performing computer-related tasks.</p>
	<p>3.2 Document the <i>ergonomic</i> advice for <i>client</i> based on vendor requirements, workplace policies and <i>OH&S standards</i>.</p>	<p><i>Ergonomic</i> may include:</p> <ul style="list-style-type: none"> • OH&S procedures • workstation: monitor, keyboard, mouse, desk, chair • foot rests, arm rests, document holders, exercises, posture, times for breaks, noise, lighting (glare, poor lighting). <p><i>Client</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • internal departments • external organisations • individual people • internal employees. <p><i>OH&S standards</i> may include:</p> <ul style="list-style-type: none"> • correct posture • lighting • type of desk • type of monitor • style of chair 	

Elements	Performance criteria	Range Statement	HSC requirements and advice
		<ul style="list-style-type: none"> • typing position • repetitive strain injury prevention • ventilation • light position • correct lifting method • length of time in front of computer • may also include licensing-related and physical safety considerations such as general electrical safety and cabling, power supply and leads as they apply to computer and peripheral installations. 	
	3.3 Submit advice to the <i>appropriate person</i> for verification.	<i>Appropriate person</i> may include: <ul style="list-style-type: none"> • supervisor • teacher • authorised business representative • client. 	

Training Package	Information and Communications Technology (ICA05)		HSC Requirements and Advice
Title	Work effectively in an IT environment		
Unit code	Unit sector	HSC Indicative Hours 20	
ICAW2001B	Team Work		
Unit descriptor	<p>This unit defines the competency required to work effectively within the IT environment of an organisation by researching and assembling information about the organisation's IT systems, equipment, software, policies and governance arrangements.</p> <p>The following unit is linked and forms an appropriate cluster:</p> <ul style="list-style-type: none"> • ICAW2002B Communicate in the workplace. <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>		
Prerequisite units	There are no prerequisites for this unit.		
Employability skills	This unit contains employability skills.		

Required skills and knowledge		HSC Requirements and Advice
This section describes the skills and knowledge required for this unit.		
Required skills	Required knowledge	Key Terms and Concepts
<ul style="list-style-type: none"> • Reading and writing at a level where workplace documents can be written and understood • Verbal communication which is clear and precise (e.g. when explaining the role of key players in the IT organisation) • Problem solving is limited to basic known problems within normal routines (e.g. when complying with policies and procedures as directed by supervisor) • Basic analysis skills in relation to normal routine work processes (e.g. when complying with policies and procedures as directed by supervisor) • Using the features of applications (e.g. when complying with policies and procedures as directed by supervisor) • Basic skills in interpreting technical information (e.g. when complying with policies and procedures as directed by supervisor). 	<ul style="list-style-type: none"> • Basic principles of EEO and anti-discrimination to ensure consistency with the organisational values and community best practice • Broad knowledge of organisational code of conduct and values that are consistent with the organisational mission • Basic understanding of organisational systems and the management structure • Understanding of the role and positioning of IT within the overall business objectives of the organisation • Current industry-accepted hardware and software products, with broad knowledge of features and capabilities • Broad knowledge of vendor product directions. 	<ul style="list-style-type: none"> • awards, agreements and contracts • career opportunities and pathways • current industry practices • emerging technologies • interrelationship between ICT industry and other industries • knowledge of an organisation in relation to its ICT capacity, assets, services and staff • personal attributes • workplace policies and procedures.

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 this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Context of and specific resources for assessment	Method of assessment	Guidance information for assessment
<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> assessment must confirm the ability to effectively integrate into and operate in the IT environment of an organisation. An individual would be expected to demonstrate an understanding of the organisation's IT policies, systems, management structure and operating arrangements. <p>To demonstrate competency in this unit the learner will require access to:</p> <ul style="list-style-type: none"> a workstation 	<p>Information systems areas within organisations play an increasingly important role in helping the business achieve its core objectives. When joining and working within an organisation in an IT capacity, it is important to understand the role of IT and the type and extent of IT assets managed by the IT area and staff.</p> <p>The breadth, depth and complexity of knowledge and skills in this competency would prepare a person to perform in a range of varied activities or knowledge applications where there is a clearly defined range of contexts in which the choice of actions required is usually clear. There would generally be limited complexity in the range of operations to be applied.</p> <p>Assessment must ensure:</p> <ul style="list-style-type: none"> performance of a prescribed range of functions involving known routines and procedures and some accountability for the quality of outcomes would be characteristic applications may include some complex or non-routine activities involving individual responsibility or autonomy and/or collaboration with others as part of a group or team. 	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1.</p> <ul style="list-style-type: none"> Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario. 	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICAW2002B Communicate in the workplace <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> demonstrate basic operational knowledge in a moderate range of areas apply a defined range of skills apply known solutions to a limited range of predictable problems perform a range of tasks where choice between a limited range of options is required assess and record information from varied sources take limited responsibility for own outputs in work and learning maintain knowledge of industry products and services.

Elements	Performance criteria	Range Statement	HSC requirements and advice
<p>1 Identify IT in an organisation and related relevant policies and procedures.</p>	<p>1.1 Identify IT roles in an organisation and briefly describe what services they perform.</p>	<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. <i>Bold italicised</i> 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>	<p>Learning experiences for the HSC must address:</p> <p>NB This unit of competency requires students to research the underpinning knowledge in relation to the information and communications technology (ICT) environment of at least one organisation. Students are required to work effectively within the particular ICT environment.</p> <p><i>Ideally, this investigation could be undertaken during work placement with students reporting their findings and experience to the class on their return. This will ensure students are made aware of a range of ICT environments and the differences in workplace practices between organisations.</i></p> <p>Skills for:</p> <ul style="list-style-type: none"> • basic research <ul style="list-style-type: none"> - identification of relevant information - questioning techniques to obtain information - sorting, summarising and presenting information • reading and writing at a level where workplace documents can be written and understood • clear and precise verbal communication. <p>An awareness of sources for current industry information including:</p> <ul style="list-style-type: none"> • industry associations and organisations • unions/staff associations • industry journals • the internet • libraries • reference manuals • policy and procedure manuals • personal observations and experience • industry contacts, mentors and advisors • colleagues, supervisors/team leaders and managers • professional development opportunities • industry functions.

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<p>An awareness of the following in relation to the ICT industry:</p> <ul style="list-style-type: none"> • statistics <ul style="list-style-type: none"> - employment - income • current trends • interrelationship with other industries. <p>Knowledge of service areas (non-trade area where ICT personnel work and provide a service/response, for example call centre, helpdesk, desktop publishing, e-business and website development/maintenance) within an ICT context including:</p> <ul style="list-style-type: none"> • the role and service(s) offered by each area • interrelationship between service areas. <p>An awareness of vocational specialisations in an ICT environment including:</p> <ul style="list-style-type: none"> • support • website development • networking • programming • testing • systems analysis and design • multimedia • project management • systems administration • database design and development • network security.
	<p>1.2 Identify and describe <i>key players</i> from the IT service areas previously identified.</p>	<p><i>Key players</i> may include but are not limited to:</p> <ul style="list-style-type: none"> • IT organisations • vendors of IT products and services • IT professional bodies • industry publications and government departments involved in IT industry promotion • employer organisations • relevant unions. 	<p>Learning experiences for the HSC must address:</p> <p>An awareness of the two broad categories for the ICT workforce:</p> <ul style="list-style-type: none"> • ICT specialist • ICT user. <p>An awareness of career opportunities and pathways within the ICT industry, as well as other industries where ICT services are required/provided.</p>

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<p>A basic understanding of the primary role(s) and duties/services performed of a range of ICT personnel including:</p> <ul style="list-style-type: none"> • help desk operator • network administrator • hardware technician • web designer • software developer • programmer • desktop publisher • ICT manager • ICT trainer. <p>A definition of:</p> <ul style="list-style-type: none"> • outsourcing. <p>An awareness of the possible need for ‘outsourcing’ to fulfil the ICT requirements of the organisation.</p> <p>A basic knowledge of industry employment conditions including:</p> <ul style="list-style-type: none"> • industrial award • enterprise agreement • workplace agreement • contract. <p>Personal attributes and work ethics of ICT workers including:</p> <ul style="list-style-type: none"> • attendance and punctuality • ethical behaviour • honesty • work performance • taking directives • attention to detail • personal presentation and grooming • attitude • confidentiality • consistency of service • safe work practices. <p>An awareness of current industrial relations issues affecting the industry.</p> <p>Forms of bullying and harassment in the workplace including:</p>

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • sexual • verbal • physical • psychological. <p>A basic understanding of the principles of equal employment opportunity (EEO) legislation:</p> <ul style="list-style-type: none"> • <i>Equal Employment Opportunity (Commonwealth Authorities) Act 1987 (Cth)</i> • <i>Equal Opportunity for Women in the Workplace Act 1999 (Cth)</i>. <p>A basic understanding of the principles of anti-discrimination legislation:</p> <ul style="list-style-type: none"> • <i>Anti-Discrimination Act 1977 (NSW)</i> • <i>Sex Discrimination Act 1984 (Cth)</i> • <i>Racial Discrimination Act 1975 (Cth)</i> • <i>Disability Discrimination Act 1992 (Cth)</i> • <i>Age Discrimination Act 2004 (Cth)</i>. <p>Reciprocal rights and responsibilities of employers and employees in relation to EEO and anti-discrimination.</p> <p>An awareness of:</p> <ul style="list-style-type: none"> • workplace policies and procedures designed to prevent discrimination and harassment in the workplace • legal ramifications of inappropriate workplace conduct • recourse in the event of inappropriate conduct <ul style="list-style-type: none"> - reporting complaints - grievance procedures - disciplinary action. <p>Points to consider when completing work tasks including:</p> <ul style="list-style-type: none"> • adherence to safety procedures • following directions from supervisor • maintaining personal presentation standards • adherence to workplace policies • maintaining personal work space • contributing to productive work environment by accepting responsibility for own work and assisting co-workers as required

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • checking required materials and equipment are available and meet requirements of the task • seeking advice/obtain information as required from <ul style="list-style-type: none"> - co-workers and supervisor/team leader - trade personnel - contractors - suppliers - industry/regulatory bodies. <p>A basic understanding of the primary role/function of key ICT industry bodies including:</p> <ul style="list-style-type: none"> • industry stakeholders/associations <ul style="list-style-type: none"> - NSW Communications ITAB - Innovation and Business Skills Australia (IBSA) - Australian Computer Society (ACS) - Australian Information Industry Association (AIIA) - CompTIA - Australian Telecommunications User Group (ATUG) • current vendors • government bodies <ul style="list-style-type: none"> - Department of Commerce, Information Technology and the Arts (DCITA) • unions/staff associations <ul style="list-style-type: none"> - Australian Services Union (ASU) - Australian Workers Union (AWU) • other lobbyists/interest groups <ul style="list-style-type: none"> - software association - internet association - service providers association • users group.
	1.3 Identify IT policies and procedures and research whether they are used in practice.		<p>Learning experiences for the HSC must address:</p> <p>A broad knowledge of an organisation in relation to its ICT capacity and the type and extent of ICT assets managed by the ICT area/staff including:</p> <ul style="list-style-type: none"> • systems • equipment • software

Elements	Performance criteria	Range Statement	HSC requirements and advice
			<ul style="list-style-type: none"> • employees • policies • procedures • governance arrangements <ul style="list-style-type: none"> - mission statement, values and business - objectives - code of conduct - management structure and lines of reporting. <p>Policies and procedures for management of ICT in an organisation including:</p> <ul style="list-style-type: none"> • acceptable use • internet and access to websites • sending emails • confidentiality • privacy • security • copyright • protection against computer viruses • equipment and consumables <ul style="list-style-type: none"> - asset management - usage • software licensing. <p>An awareness of current industry practice(s) used to:</p> <ul style="list-style-type: none"> • implement policies and procedures • monitor compliance of policies and procedures.
<p>2 Identify IT equipment, software and operating systems used by the organisation.</p>	<p>2.1 Identify IT <i>equipment, operating systems</i> and <i>software</i> used in the organisation and understand the importance and role within the organisation.</p>	<p><i>Equipment</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • workstations • personal computers • modems and other connectivity devices • printers • DSL modems • hard drives • monitors • switches • hubs • personal digital assistant (PDA) • other peripheral devices. <p><i>Operating system</i> may include but is not limited to:</p>	<p>Learning experiences for the HSC must address:</p> <p>A broad knowledge of a range of current industry-accepted:</p> <ul style="list-style-type: none"> • hardware <ul style="list-style-type: none"> - workstation - computer <ul style="list-style-type: none"> ▪ personal and/or networked - connectivity devices <ul style="list-style-type: none"> ▪ modem ▪ digital subscriber line (DSL) modem ▪ switch ▪ hub ▪ wireless access points - peripheral devices

Elements	Performance criteria	Range Statement	HSC requirements and advice
		<ul style="list-style-type: none"> • Linux 7.0 or above • Windows 2000 or above • Apple.OS X or above <p><i>Software</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • commercial software applications • organisation-specific software. 	<ul style="list-style-type: none"> ▪ printer ▪ scanner ▪ mouse ▪ keyboard <ul style="list-style-type: none"> • storage device(s) – internal/external • operating system • software. <p>General features, benefits, limitations and application/use of a range of hardware and software products.</p> <p>Definition of:</p> <ul style="list-style-type: none"> • vendor. <p>Awareness of a range of commonly used vendor products.</p> <p>An awareness of emerging technologies relevant to the ICT industry and their effect on:</p> <ul style="list-style-type: none"> • current work practices • productivity • employment • education and training • market conditions • cost effectiveness. <p>Recognition of learning as an ongoing process and the need to remain current in terms of knowledge, skills and qualifications.</p>
	<p>2.2 Establish that all of the <i>equipment</i> locations and service requirements are maintained according to organisational requirements and prevailing policies and procedures.</p>	<p><i>Equipment</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • workstations • personal computers • modems and other connectivity devices • printers • DSL modems • hard drives • monitors • switches • hubs • personal digital assistant (PDA) • other peripheral devices. 	<p>Learning experiences for the HSC must address:</p> <p>A broad understanding of the importance of and standard procedures for:</p> <ul style="list-style-type: none"> • conducting hardware and software audits • maintaining equipment inventories and service/maintenance schedules and logs (documentation).

Training Package	Information and Communications Technology (ICA05)		HSC Requirements and Advice
Title	Operate a personal computer		
Unit code	Unit sector	HSC Indicative Hours	
ICAU1128B	Use	5	
Unit descriptor	<p>This unit defines the competency required to operate a personal computer, including starting the PC, logging in, using and understanding desktop icons and their links to underlying programs, navigating a directory structure, saving work, printing, closing down the PC.</p> <p>The following unit is linked and forms an appropriate cluster:</p> <ul style="list-style-type: none"> ICAU1129B Operate a word processing application <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>		
Prerequisite units	There are no prerequisites for this unit.		
Employability skills	This unit contains employability skills.		

Required skills and knowledge

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

Required skills	Required knowledge
<ul style="list-style-type: none"> Saving and retrieving files to various locations Mouse management (button usage) for different applications Reading and writing at a level where basic workplace documents are understood Ability to communicate with peers and supervisors Seeking assistance and expert advice Interpretation of user manuals and help functions The ability to input user access details for accessing a personal computer (PC) (possibly a networked environment). 	<ul style="list-style-type: none"> Basic keyboarding skills Computer functions Basic parts of a computer and various hardware components Storage devices and basic categories Basic software operation.

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 this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Context of and specific resources for assessment	Method of assessment	Guidance information for assessment
<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> Assessment must confirm the ability to use software, navigate around the desktop, use system features to perform tasks, and save results of work. <p>To demonstrate competency in this unit the person will require access to:</p> <ul style="list-style-type: none"> personal computer printer mouse and keyboard monitor basic software. 	<p>Using a personal computer is an essential business function and basic core skill in most workplaces. Demonstration of this competency will require:</p> <ul style="list-style-type: none"> knowledge of PC operations in a narrow range of areas basic PC practical skills performing a sequence of routine tasks after having received clear direction receiving and passing on messages and information <p>The breadth, depth and complexity of knowledge and skills in this competency would prepare a person to perform a defined range of activities many of which may be routine and predictable.</p> <p>Assessment must ensure:</p> <ul style="list-style-type: none"> Demonstration of knowledge by recall in a narrow range of areas; demonstrating basic practical skills, such as the use of relevant tools and applications; performing a sequence of routine tasks given clear direction; and receiving and passing on messages or information. Applications may include a variety of employment related skills including preparatory access and participation skills, broad-based induction skills and/or specific workplace skills. They may also include participation in a team or work group. 	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Version 3.0 Section 1.</p> <ul style="list-style-type: none"> Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario. 	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICAU1129B Operate a word processing application <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> demonstrate knowledge by recall in a narrow range of areas demonstrate basic practical skills, such as the use of relevant tools perform a sequence of routine tasks given clear direction receive and pass on messages and information maintain knowledge of industry products and services.

Elements	Performance criteria	Range Statement
1 Start the computer	1.1 Check <i>peripheral device</i> connections for correct position	<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. <i>Bold italicised</i> 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> <p><i>Peripheral device</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • mouse • keyboard • visual display unit • monitor • printer.
	1.2 Switch on power at both the power point and <i>computer</i>	<p><i>Computer</i> may include:</p> <ul style="list-style-type: none"> • laptops • workstations • servers • other devices.
2 Access basic system information	2.1 Insert user name and password as prompted and note access, privacy, security and related conditions of use displayed on introductory screens	
	2.2 Navigate through the <i>operating system</i> to access <i>system information</i> to identify system configuration and application versions in operation	<p><i>Operating System</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • Linux 7.0 or above • Windows 2000 or above • Apple OS X or above. <p><i>System Information</i> may include but is not limited to:</p> <ul style="list-style-type: none"> • hardware and software components that run a computer.
	2.3 Use <i>on-line help functions</i> as required	<p><i>On-line help functions</i></p> <ul style="list-style-type: none"> • an instruction manual or a portion of the manual, integrated into the program.
3 Navigate and manipulate desktop environment	3.1 Create and customise desktop icons	

Elements	Performance criteria	Range Statement
	3.2 Select, open and close desktop icons to access <i>application programs</i>	Application programs may include: <ul style="list-style-type: none"> • database programs • word processors • email programs • internet browsers • system browsers • spreadsheets.
	3.3 Manipulate application windows and return desktop to original condition	
4 Organise basic directory/folder structure and files	4.1 Create and name directories and subdirectories	
	4.2 Identify <i>attributes</i> of directories	Attributes <ul style="list-style-type: none"> • indicates several properties of the directory. For example, they indicate whether the directory is read-only, whether it needs to be backed up, and whether it is visible or hidden.
	4.3 Move subdirectories between directories	
	4.4 Rename directories as required	
	4.5 Access directories and subdirectories via different paths	
5 Organise files for user and/or organisation requirements	5.1 Use <i>system browser</i> to search drives for specific files	System browser may include but is not limited to: <ul style="list-style-type: none"> • Windows Explorer • Konqueror.
	5.2 Access the most commonly used types of files in the directories	
	5.3 Select, open and rename groups of files as required	
	5.4 Move files between directories	
	5.5 Copy files to <i>disk</i>	Disks may include but are not limited to: <ul style="list-style-type: none"> • floppy disks

Elements	Performance criteria	Range Statement
	5.6 Restore deleted files as necessary	<ul style="list-style-type: none"> • CDs • CR-RW (Compact Disks – Read Write) • DVD-RW • zip disks • flash drives • solid state hard drives
	5.7 Erase and format <i>disks</i> as necessary	
6 Print information	6.1 Add a printer if required and ensure correct <i>printer settings</i>	<p>Printer settings may include:</p> <ul style="list-style-type: none"> • layout • paper size • paper tray • cartridge type • number of copies • orientation.
	6.2 Change the default printer if appropriate	
	6.3 Print <i>information</i> from an installed printer	<p>Information may include but is not limited to:</p> <ul style="list-style-type: none"> • documents • text pages • web pages • other output.
	6.4 View and delete progress of print jobs as required	
7 Shut down computer	7.1 Save any work to be retained and close all open application programs correctly	
	7.2 Shut down computer correctly	