Australian Government

Department of Education, Employment and Workplace Relations

ICAI3021B Connect internal hardware components

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

ICAI3021B Connect internal hardware components

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit defines the competency required to modify and connect system hardware components according to client and user requirements.
	The following units are linked and form an appropriate cluster:
	• ICAS3115B Maintain equipment and software in working order • ICAT3025B Run standard diagnostic tests

Application of the Unit

Application of the unit	

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine new components required	1.1. Identify and clarify user *component* requirements according to *organisation guidelines* 1.2. Organise and record user *component* requirements, pass onto *appropriate person* for evaluation and vendor selection
2. Obtain components	2.1. Contact vendors to obtain technical specifications for the proposed *components* 2.2. Assess the options and provide recommendations to the *appropriate person* for final analysis 2.3. Obtain *components* in preparation for installation
3. Install components	3.1. Develop plans, with prioritised tasks and contingency arrangements, for the installation of selected *components* with minimum disruption to *clients* 3.2. Liaise with *appropriate person* to obtain approval for the plans 3.3. Install and configure *components* according to plan, in accordance with installation procedures and *organisational requirements* 3.4. Test *components* for error-free performance, utilising available technology 3.5. Identify and resolve identified problems 3.6. Test and enhance system performance, using knowledge of the system, to meet organisational benchmarks 3.7. Document the installation and configuration process according to *organisation guidelines*
4. Provide instruction on use of modified system	4.1. Undertake one-to-one instruction on use of modified system with *client* or user in a manner that is appropriate to the audience
5. Evaluate modified system	5.1. Collect *client* or user feedback and analyse against *client* requirements 5.2. Correct identified shortcomings in the system and record actions

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Problem solving skills for a defined range of unpredictable problems
- Language, literacy and communication skills necessary to process and present written and verbal information to a diverse range of people
- Interpersonal skills
- Report writing skills for business
- Investigation skills for determining requirements
- Analysis and evaluation of information in a defined range of areas
- Questioning and active listening for a range of client/vendor levels
- Customer service for internal and external clients
- Ability to undertake one-to-one instruction
- Literacy skills in regard to interpretation of technical computer installation manuals

Required knowledge

- Detailed knowledge of the system's current functionality
- Current industry-accepted hardware and software products, with broad knowledge of general features and capabilities and detailed knowledge in some areas
- Vendor specifications and requirements for component installation
- Set-up and configuration procedures
- Detailed knowledge of areas of the operating system relevant to configuration and testing
- Detailed knowledge of installation procedures
- Broad knowledge of systems diagnostic software

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • Assessment must confirm the ability to ascertain and meet client requirements for modification of a system's hardware. • An ability to plan the modification and to connect the internal hardware components according to vendor and technical specifications is essential. • Installation of components must be across a variety of situations and include unexpected contingencies. To demonstrate competency in this unit the person will require access to: • Hardware components • Hardware system (e.g. subject personal computer, for installation of hardware components) • Technical manuals and tools
Context of and specific resources for assessment	The careful planning and promotion of hardware upgrades and changes is critical to the effective support of business functions. Hardware modifications need to be risk managed similar to other business processes. The effective management and execution of the component maintenance and replacement process may significantly determine the amount of down time a company encounters. 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.

EVIDENCE GUIDE	
	Assessment must ensure:
	• 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.
Method of assessment	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.
	• 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.
	• Evidence for assessment from industry or vendor certified training may be presented for the whole or part of this unit depending on the range of variables and performance criteria.
	• 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

EVIDENCE GUIDE	
	purposes may vary with the particular project or scenario.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:
	• ICAS3115B Maintain equipment and software in working order
	• ICAT3025B Run standard diagnostic tests
	An individual demonstrating this competency would be able to:
	• 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
	Additionally, an individual demonstrating this competency would be able to:
	• Install hardware components safely
	• Keep appropriate records of changes to hardware
	• Apply hardware solutions to a variety of predictable problems
	• Interpret available information from hardware vendors and request clarification where needed
	• Take responsibility for hardware-related outputs

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Components may include:	- Motherboards - CMOS battery - central processing unit (CPU) - CD and DVD drives - interface cards - drives - fax/modem cards - RAM upgrades - CPU upgrades
Organisational guidelines may include but are not limited to:	- 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
Organisational requirements may include but is not limited to:	- how and what the organisation wants in regard to work environment - problem solution processes - preventative maintenance and diagnostic policy - roles and technical responsibilities in the IT department - vendor and product service-level support agreements
Appropriate person may include:	- supervisor - teacher - authorised business representative - client
Client may include:	- a person within a department - a department within the organisation

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RANGE STATEMENT	
	• a third party

Unit Sector(s)

Unit sector	Implement

Co-requisite units

Co-requisite units		

Competency field

Competency field	

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