



Australian Government

Department of Education, Employment and Workplace Relations

ICAU4205B Select and employ software and hardware tools

Release: 1

ICAU4205B Select and employ software and hardware tools

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit defines the competency required to select and use software and hardware diagnostic tools, including multimedia contexts and automated testing environments. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.
------------------------	--

Application of the Unit

Application of the unit	
--------------------------------	--

Licensing/Regulatory Information

Refer to Unit Descriptor

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. Establish process operational requirements	1.1. Identify the process requirements ensuring they are accurate, complete, prioritised, have functionality and reference appropriate method/media types 1.2. Identify conflicting or overlapping requirements 1.3. Document and validate functional requirements of the client 1.4. Identify and validate available resources and budget of the client
2. Select hardware and software for processing function	2.1. Identify and evaluate relevant hardware and software with reference to functional requirements 2.2. Identify and analyse relevant products and equipment interdependencies with reference to functional requirements and system architecture 2.3. Identify and document appropriate tools, including their limitations for the required use and industry standards 2.4. Select and acquire tools in accordance with purchasing policies
3. Configure and test hardware and software	3.1. Install and configure appropriate hardware and software according to vendor guidelines with reference to system architecture and client functionality requirements 3.2. Configure system architecture for optimal usage 3.3. Prepare, schedule and execute tests and record outcomes 3.4. Track errors, interpret and correct 3.5. Make changes based on test results 3.6. Document the hardware and software configuration according to requirements
4. Use and validate software and hardware	4.1. Provide appropriate training of client with reference to guides, instructions and vendor materials 4.2. Use hardware and software according to vendor guidelines 4.3. Validate hardware and software performance with reference to client functional requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Ability to analyse hardware and software tools
- Ability to integrate multiple items of data and reconcile conflicting information
- Ability to develop creative solutions and demonstrate automating process capability
- Ability to predict outcomes and results of selection of tools
- Ability to identify key sources of information
- Ability to understand specification sheets
- Ability to accurately summarise and document information
- Ability to see the conflicts and integration capabilities between diverse equipment
- Ability to organise and assess importance and relevance of product information
- Ability to communicate with vendors effectively

Required knowledge

- Batch scripting of nominated automating software routines
- The interaction between relevant hardware and software products
- Broad general knowledge of the client business domain (e.g. when confirming system components to acquire, and when agreeing to methods to acquire components)
- Current industry-accepted hardware and software products, with knowledge of general features and capabilities and detailed knowledge in some areas
- Broad knowledge of vendor product directions
- Functions and features of animation development tools as required (e.g. Animator Studio and Director, Encore)
- Functions and features of development tools as required (e.g. Fireworks, Adobe, Director Shockwave Studio)
- Functions and features of media management tools as required (e.g. Media On Demand Producer, Windows Media Author, Windows Media Presenter, ASF Chop, ASF Check)
- Functions and features of development tools as required (e.g. scripting languages, development package automating options, third-party tools for automating a range of software applications)
- Functions and features of technologies as required, including but not limited to 3D graphic simulations, internet applications, verification processes, VOIP and wireless communication
- Knowledge of basic design principles of each media type as required

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 select and use the correct automating tools and to develop an automating process that produces an outcome that is measurable and meets specified requirements.

To demonstrate competency in this unit the person will require access to:

- Specifications for a range of automating vendor products

Context of and specific resources for assessment

Meeting modern IT needs can be complex and difficult. Using process automating can improve organisation performance and remove mundane tasks. Designing and automating processes should undergo an analysis and design across a broad range of technical and/or managerial functions.

Meeting technical applications involves significant judgement in planning, design, evaluation, technical or leadership/guidance and communications functions related to services, operations and processes.

The breadth, depth and complexity of knowledge and skills in this competency would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance would be involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.

Assessment must ensure:

- Performance of a broad range of skilled applications

EVIDENCE GUIDE	
	including the requirement to evaluate and analyse current practices, develop new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills would be characteristic. • Applications may involve responsibility for, and limited organisation of, others.
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. • 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.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. An individual demonstrating this competency would be able to:

EVIDENCE GUIDE

- Demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
- Apply solutions to a defined range of unpredictable problems
- Identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas
- Identify, analyse and evaluate information from a variety of sources
- Take responsibility for own outputs in relation to specified quality standards
- Take limited responsibility for the quantity and quality of the output of others

Additionally, an individual demonstrating this competency would be able to:

- Demonstrate understanding of automating processes, with depth in some areas
- Use judgements and analysis to employ automated processes in the organisation
- Demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills
- Generate ideas through the analysis of information and concepts at an abstract level
- Demonstrate accountability for personal outputs within defined technical requirements
- Maintain knowledge of industry products and services

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.

- | | |
|--|--|
| <i>Requirements</i> may be in reference | <ul style="list-style-type: none"> • business • system |
|--|--|

RANGE STATEMENT	
to:	• application • network • people in the organisation for the purpose of developing multimedia products or carrying out automated testing of software and systems
Equipment may include but is not limited to:	• workstations • personal computers • other peripherals or standalone units
Client may include but is not limited to:	• internal departments • external organisations • clubs • individual people • internal employees
System architecture may include but is not limited to:	• Operating system: Novell NetWare 5 or above or operating system that has multi-user ability; Linux, Mac OS, Windows 2000 or above • Database software: PostgreSQL, Oracle, Sybase, Microsoft SQL Server, Ingres, DB2, Informix, mSQL, MySQL, SQL server • Configuration: small memory model, large memory model, requests per second
Solution may include but is not limited to:	• new hardware • hardware upgrades • new software • software upgrades • user training • implementing a new system
Standards may include:	• ISO/IEC/AS standards • organisational standards • project standards (for further information refer to the Standards Australia website at: www.standards.com.au)
Hardware may include but is not limited to:	• workstations • personal computers • modems and other connectivity devices • networks • DSL modems • remote sites • servers

RANGE STATEMENT

Software may include but is not limited to:

- commercial software applications
- organisation-specific software, packaged software, in-house or customised software

Unit Sector(s)

Unit sector	Use
-------------	-----

Co-requisite units

Co-requisite units		

Competency field

Competency field	
------------------	--