Australian Government

Department of Education, Employment and Workplace Relations

ICAB4225B Automate processes

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

ICAB4225B Automate processes

Modification History

Not Applicable

Unit Descriptor

| Unit descriptor | This unit defines the competency required to automate solutions by using basic scripting processes and application specific scripting options.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication. |
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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.

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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop algorithms to represent solution to a given problem	1.1. Develop an algorithm which is an exact and sufficient description of the solution 1.2. Develop an algorithm which takes account of all expected possible situations 1.3. Develop an algorithm which is guaranteed to end
2. Describe structures of algorithms	2.1. Demonstrate use of structure, sequence, selection and iteration 2.2. Use structures to describe algorithmic solutions to a problem
3. Design and write script	3.1. Create an abstract design to fulfil the *requirements* of the proposed process 3.2. Review the abstract design for omissions or errors 3.3. Translate the abstract design to the chosen *script language* 3.4. Create internal script document
4. Verify and review script	4.1. Check the script for syntax and semantic errors 4.2. Identify areas that are not covered or are covered incorrectly in the script
5. Document script	5.1. Create technical-level documentation 5.2. Create user-level documentation

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
• Creation of scripts to automate application system tasks • Manipulation and automation of data • Execution of scripts for set repeat time slices/single runs or break-out loops • Interaction with user via script • Using inbuilt scripting options for a variety of scenarios
Required knowledge
• Scripting language syntax

REQUIRED SKILLS AND KNOWLEDGE

- Scripting techniques
- Debugging knowledge for a variety of scripting scenarios

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 will confirm knowledge of algorithm design and development. - Assessment will develop an algorithmic statement of a solution for a set process. To demonstrate competency in this unit the person will require access to: - Applications capable of being scripted or having own scripting language - Templates for automating processes
Context of and specific resources for assessment	Automating processes using inbuilt scripting languages forms a key part of increasing throughput for applications to automate processes. All applications or systems administration should examine the options to automate processes to enhance performance. Automating processes are an integral part of contemporary computing. 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 including the requirement to evaluate and analyse current practices, develop new criteria and procedures for performing current practices and

EVIDENCE GUIDE	
	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: • Demonstrate understanding of a broad knowledge base incorporating some theoretical concepts • Apply solutions to a defined range of unpredictable

EVIDENCE GUIDE	
	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:
	• Understand the application or process that scripting will control
	• Demonstrate basic theoretical knowledge of algorithm design
	• Apply scripting concepts to a variety of manual operations
	• 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.	
Requirements may be in reference to:	• business • system • application • network • people in the organisation
Script language may include:	• Java Script • Python • Perl

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RANGE STATEMENT	
	• Shell script • VB Script
Client may include but is not limited to:	• internal departments • external organisations • clubs, individual people • internal employees

Unit Sector(s)

Unit sector	Build

Co-requisite units

Co-requisite units		

Competency field

Competency field	