



Australian Government

Department of Education, Employment and Workplace Relations

ICAB5230B Maintain custom software

Release: 1

ICAB5230B Maintain custom software

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit defines the competency required to maintain software so that it continues to meet client user requirements. 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	
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		
	ICAB4222C	Apply introductory programming skills in another language

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

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

ELEMENT	PERFORMANCE CRITERIA
1. Determine software fault to be corrected	1.1. Collect and review software fault details from sources 1.2. Obtain technical data from software traces, memory dumps, error messages and other information to assist in identifying the problem 1.3. Clarify the nature of the problem with appropriate person where necessary
2. Identify and isolate fault	2.1. Review program documentation for specific modules in order to pinpoint problem areas 2.2. Review source code for logic errors 2.3. Read manuals, help files, 'read me files' to determine if there is a known fix 2.4. Undertake additional testing to correctly identify or duplicate fault 2.5. Escalate difficult faults that cannot be identified
3. Design fix for fault	3.1. Ensure requirements to fix the fault are understood by client 3.2. Consider alternative options and choose the most effective solution 3.3. Consider the possible impact of the fix on other parts of the system 3.4. Document changes in line with organisational guidelines
4. Carry out fix to software	4.1. Identify and obtain access to appropriate software development tools, correct source code and libraries 4.2. Construct appropriate code to correct the fault in accordance with organisational and programming standards 4.3. Compile/regenerate code for changed programs and associated modules 4.4. Correct and resubmit code until error-free 4.5. Document all changes in accordance with organisational and programming standards
5. Test fix and associated system areas	5.1. Check logic to ensure that it works with test data, corrects original fault and does not cause problems elsewhere 5.2. Request users to perform acceptance testing and record outcomes
6. Hand over to	6.1. Update documentation to reflect all changes made

ELEMENT	PERFORMANCE CRITERIA
systems operations area	6.2. Confirm acceptance by systems operations and arrange for sign-off in accordance with procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Customer service skills in relation to maintenance procedures
- Programming skills in relation to customising and adapting software packages
- Adherence to standards and procedures in programming

Required knowledge

- Concepts of testing of software systems
- Current industry-accepted hardware and software products, with knowledge of general features and capabilities
- Knowledge of the system's current functionality
- Concepts of system performance

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 effectively maintain custom software including the application of a fix that works and the deployment of a possible range of solutions to produce the same results. Assessment must confirm the knowledge of the impact of changes on applications and systems.

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

- Fault logs, help desk reports
- Software documentation
- Software development environment
- Source code and libraries
- Software development tools

Context of and specific resources for assessment

Organisations may use either software that has been developed in-house or from off-the-shelf packages. Some customisation generally occurs with off-the-shelf packages. It is important that all changes made to standard software products are documented. Changes may be made in response to user requests or organisation requirements.

The breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and coordination would be characteristic.

Assessment must ensure:

- The demonstration of competency may also require self-directed application of knowledge and skills, with substantial depth in some areas where

EVIDENCE GUIDE	
	judgement is required in planning and selecting appropriate equipment, services and techniques for self and others. Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team coordination may also 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. - 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.

EVIDENCE GUIDE

	An individual demonstrating this competency would be able to: • Demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas • Analyse and plan approaches to technical problems or management requirements • Transfer and apply theoretical concepts and/or technical or creative skills to a range of situations • Evaluate information, using it to forecast for planning or research purposes • Take responsibility for own outputs in relation to broad quantity and quality parameters • Take some responsibility for the achievement of group outcomes • Maintain knowledge of industry products and services
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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>Documentation</i> may follow:	• ISO/IEC/AS standards • audit trails • naming standards • version control • project management templates and report writing • maintaining equipment inventory; client training and satisfaction reports
<i>Appropriate person</i> may include:	• supervisor • teacher • authorised business representative • client

Unit Sector(s)

Unit sector	Build
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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