Australian Government

Department of Education, Employment and Workplace Relations

ICAB4075B Use a library or pre-existing components

Release: 1

ICAB4075B Use a library or pre-existing components

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit defines the competency required to identify, evaluate and incorporate reuse components from a library or other source as part of a software project. The following unit is linked and forms an appropriate cluster: • ICAB4057B Manage a reuse library 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. Identify potential reuse units	1.1. Analyse ***project*** design and functionality to identify reuse ***components*** 1.2. Source ***reuse components*** with desired functionality
2. Evaluate reuse components for suitability in parent project	2.1. Evaluate ***reuse component*** or libraries for suitability for use within the parent software ***project*** 2.2. Conduct in-depth comparison of functionality of each potential ***reuse component*** to functionality required by parent ***project*** 2.3. Evaluate cost of implementing ***reuse component*** 2.4. Consider technical impact on parent ***project*** design 2.5. Consider ***reuse component*** vendor licensing issues 2.6. Finalise selection of ***reuse components*** 2.7. Document selection, evaluation and decision processes as part of the parent ***project*** design ***documentation***
3. Incorporate reuse components	3.1. Configure ***development environment*** to include ***reuse components*** during build process 3.2. Construct test programs or use provided example programs to become familiar with ***reuse components*** in preparation for incorporation into parent ***project*** 3.3. Add ***reuse components*** to parent ***project*** incrementally 3.4. Resolve ***reuse component*** dependencies 3.5. Assemble and test parent ***project*** with a focus on the functionality provided by ***reuse components***

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Domain analysis skills for identifying, analysing and evaluating a range of solutions
- Ability to complete abstraction for a range of solutions
- Naming skills for a range of solutions

REQUIRED SKILLS AND KNOWLEDGE
• Research skills for identifying, analysing and evaluating broad features of current reuse issues and best practice in component reuse
Required knowledge
• Current industry development and design methodologies • Libraries content and structure • Patterns, frameworks and idioms • Metrics collection • Broad knowledge of contract specifications • Domain modelling • Genericity specification • Repository tools

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 sufficient knowledge of effective and efficient opportunities for reuse. • Assessment must confirm the ability to meet project requirements by efficiently identifying, modifying and integrating components for reuse. To demonstrate competency in this unit the person will require access to: • Software development environment • Technical requirements
Context of and specific resources for assessment	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 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

EVIDENCE GUIDE	
	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, for example: • ICAB4057B Manage a reuse library 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 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

EVIDENCE GUIDE	
	specified quality standards • Take limited responsibility for the quantity and quality of the output of others • 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.	
Project may include:	• a business involved in a total organisational change, • a systems-only change, • a business improvement process, • an e-business solution involving the total organisation or part of the organisation
Reuse components may include but are not limited to:	• code • design patterns • specifications • requirements • metadata
Documentation may follow:	• ISO/IEC/AS standards • audit trails • naming standards • version control • project management templates • report writing protocols
Development environment may include but is not limited to:	• operating systems • target environments • development tools • computer language used • version control systems • development methodology

Unit Sector(s)

Unit sector	Build

Co-requisite units

Co-requisite units		

Competency field

Competency field	