Australian Government

Department of Education, Employment and Workplace Relations

ICAB4059B Develop detailed technical design

Release: 1

ICAB4059B Develop detailed technical design

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit defines the competency required to assist in the development of a detailed technical design. The following units are linked and form an appropriate cluster: • ICAA4041C Determine and confirm client business expectations and needs • ICAD4043B Develop and present a feasibility report 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. Contribute to determination of technical design features	1.1. Select and revise design model based on iteration and design changes 1.2. Incorporate outstanding design points according to ***acceptance criteria*** 1.3. Distribute reports identifying changes and implications to ***appropriate person*** for review
2. Contribute to design review	2.1. Compare design against ***requirements*** and fix as necessary 2.2. Confirm design with ***appropriate person*** 2.3. Use ***feedback mechanisms*** to gather information on design changes from ***client*** 2.4. Incorporate design changes where required
3. Contribute to development of program specifications	3.1. Implement modules by incremental development techniques 3.2. Identify user authority for each module 3.3. Prepare detailed specifications of module implementation for each module that will not be incrementally built 3.4. Prepare documentation according to ***requirements*** of the ***project***

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 involving participation in the development of strategic initiatives (e.g. when the design model is revised based on iteration and design changes and when design is compared against requirements model and tuned as necessary) • Facilitation and presentation skills in relation to transferring and collecting information and gaining consensus on concepts • Problem solving skills in relation to developing algorithms (e.g. when contributing to the determination of technical design features and when contributing to the development of program specifications)

REQUIRED SKILLS AND KNOWLEDGE
Required knowledge
• Broad knowledge of design fundamentals and refinement (e.g. when contributing to the determination of technical design features) • Broad general knowledge of the client business domain (e.g. when contributing to design review) • Broad general knowledge of the client's critical business functions and processes (e.g. when contributing to design review) • Broad knowledge of current various life cycle options (e.g. when contributing to the determination of technical design features) • Broad knowledge of design quality metrics (e.g. coupling and metrics) e.g. when contributing to the determination of technical design features and when contributing to the development of program specifications

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 design fundamentals and processes. • Assessment must confirm the ability to prepare a clear and best-fit technical design for a set project. To demonstrate competency in this unit the person will require access to: • Requirements model • Business requirements • Project deliverables • Acceptance criteria • Current IT blueprint
Context of and specific resources for assessment	Particular care must be exercised when developing technical designs to ensure that quality outcomes are generated. This includes gathering data to support the design and may involve access and use of information from previous projects or related organisational outcomes. 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

EVIDENCE GUIDE	
	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, for example: • ICAA4041C Determine and confirm client business expectations and needs • ICAD4043B Develop and present a feasibility report

EVIDENCE GUIDE	
	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 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.	
Acceptance criteria may include:	• timeframe • cost implications • technical • logistical considerations
Appropriate person may include:	• supervisor • teacher • authorised business representative • client
Requirements may be in reference to:	• business • system • application • network

RANGE STATEMENT	
	• people in the organisation
Client may include but is not limited to:	• internal departments • external organisations • clubs • individual people • internal employees
Feedback mechanisms may include:	• surveys • questionnaires • interviews • meetings
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

Unit Sector(s)

Unit sector	Build

Co-requisite units

Co-requisite units		

Competency field

Competency field	