Australian Government

Department of Education, Employment and Workplace Relations

ICAA5050B Develop detailed component specifications from project specifications

Release: 1

ICAA5050B Develop detailed component specifications from project specifications

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit defines the competency required to analyse requirements of the project specifications in order to produce a set of high-level component specifications. 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. Develop components	1.1. Document behaviour scenarios according to ***documentation standards*** 1.2. Identify or develop components within ***project specifications*** 1.3. Prepare diagrams according to ***standards***
2. Prepare schema	2.1. Analyse and document component connectivity 2.2. Iterate data flows 2.3. Prepare component action diagrams according to ***standards***
3. Prepare component model	3.1. Describe roles and responsibilities 3.2. Review and update functional ***requirements*** 3.3. Specify interface components and component relationships 3.4. Prepare interaction diagrams according to ***standards***
4. Iterate and review model	4.1. Conduct walk-through of current model and review functionality 4.2. Identify relationships to ensure integration of model 4.3. Review class service ***requirements*** 4.4. Prepare initial test criteria 4.5. Implement process for incremental testing

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 (e.g. when components are identified or developed within project specifications)
- Project planning skills in relation to scope, time, cost, quality, communications and risk management (e.g. when components are identified or developed within project specifications, and when interaction diagrams are prepared according to project standards)
- Research skills for specifying, analysing and evaluating broad features of a particular business domain and best practice in program development (e.g. when component connectivity is analysed and data flows iterated)

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE

- Detailed knowledge of tools and their use (e.g. when analysing components)
- Detailed knowledge of current industry-accepted design methodologies (e.g. when analysing components and preparing schema)
- Current industry-accepted hardware and software products, including broad knowledge of general features and capabilities (e.g. when preparing schema)
- Broad knowledge of quality assurance practices, for preparing component model
- Basic knowledge of cost-benefit analysis and ability to identify information sources for a cost-benefit analysis (e.g. when analysing components)
- Detailed knowledge of the system's current functionality, for analysing components
- Detailed knowledge of program development methodologies (e.g. when analysing the requirements to produce a set of high-level component specifications from project specifications)
- Detailed knowledge of configuration management (e.g. when preparing component model)
- Detailed knowledge of data modelling techniques (e.g. when preparing component model and iterating and reviewing)

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 identify and model components relevant to the project requirements. Specifications need to be deliverable. Assessment must confirm the interoperability between components. To demonstrate competency in this unit the learner will require access to: • Technical specifications • Organisational and process goals • Standards for model development • Computer-aided software engineering (CASE) tools • Project deliverables • Test plan • Project budget
Context of and specific resources for assessment	The learner will need access to the outcomes of the business analysis process 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 judgement is required in planning and selecting appropriate equipment, services and techniques for self and others. • Applications involve participation in development of

EVIDENCE GUIDE	
	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 to 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. Assessment for this unit could be across both software and hardware.
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

EVIDENCE GUIDE	
	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

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.	
Documentation standards	• May include but are not restricted to policy relating to sign-off, storage, distribution and revision • 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) • May include tools for documenting (e.g. word processing packages, desktop publishing packages)
Project specifications may include but are not limited to:	• technical requirements • user problem statement • current system functionality
Standards may include:	• ISO/IEC/AS standards • organisational standards • project standards (for further information refer

RANGE STATEMENT	
	to the Standards Australia website at: www.standards.com.au)
Requirements may be in reference to:	• business • system • application • network • people in the organisation

Unit Sector(s)

Unit sector	Analyse and Design

Co-requisite units

Co-requisite units		

Competency field

Competency field	