



Australian Government

Department of Education, Employment and Workplace Relations

ICAA4233B Determine and apply appropriate development methodologies

Release: 1

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Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit defines the competency required to apply traditional and non-traditional systems development methodologies. The following units are linked and form an appropriate cluster: • ICAA4041C Determine and confirm client business expectations and needs • ICAA4047B Determine project specifications and secure client agreement 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	

Prerequisite units		

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 and select appropriate methodology for a given activity	1.1. Determine and define subject activity 1.2. Define criteria for selection of development methodology 1.3. Review and evaluate a range of traditional and non-traditional system development methodologies 1.4. Select appropriate system development methodology to suit the activity
2. Apply the selected development methodology	2.1. Create an initial project plan to guide developmental processes 2.2. Identify appropriate task types according to development methodology 2.3. Clearly describe and articulate tasks types 2.4. Define appropriate control structures that need to be created during task type execution 2.5. Associate each task type with a set of input/output parameters 2.6. Identify resources to support methodology selection 2.7. Apply appropriate methodology to solve tasks 2.8. Monitor project flow and record effectiveness against project plan 2.9. Review and document opportunities for improvement, lessons learned and recommendations for future projects 2.10. Submit results to appropriate person for approval

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Planning skills in relation to system development
- Communication skills in relation to evaluation
- Presentation skills in relation to information and gaining consensus on concepts (e.g. when planning the application of the methodology to the project or scenario)

REQUIRED SKILLS AND KNOWLEDGE

- Problem solving skills for a defined range of predictable problems (e.g. when applying the development methodology to a given scenario or project)
- Report writing skills for business requiring depth in analysis and evaluation of information in a defined range of areas (e.g. when determining the suitability of development methodologies)

Required knowledge

- Broad knowledge of the client business domain (e.g. when determining suitable methodologies)
- Role of stakeholders and the degree of stakeholder involvement in the development process
- Two or more current industry development methodologies
- Suitability of a given methodology to a client business context

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 understand a variety of system development methodologies and apply this knowledge to a systems project or scenario.

To demonstrate competency in this unit the learner will need access to:

- Design specifications and current methodologies
- Organisational standards for documentation and version control

Context of and specific resources for assessment

Detailed user requirements document, including model and scope

Evaluating systems development methodologies to a project or scenario clarifies the scope and tasks involved in a systems project.

This should enable several development methodologies to be evaluated in order to make a decision of the suitability of the model to a project.

The stages of the development methodology should be followed within the scope of a project or scenario and the relevant supporting documentation produced.

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.

EVIDENCE GUIDE	
	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 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.
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

EVIDENCE GUIDE

- ICAA4047B Determine project specifications and secure client agreement

An individual demonstrating this competency would be able to:

- Understand a range of development methodologies and their application to a project or scenario
- Demonstrate theoretical knowledge of the methodologies investigated
- Apply a methodology to a project or scenario
- Produce documentation required by the chosen methodology
- 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.

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| <i>Traditional system development methodologies</i> may include but are | <ul style="list-style-type: none"> • system development life cycle • structured systems analysis |
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RANGE STATEMENT	
not limited to:	design methodology
Non-traditional system development methodologies may include but are not limited to:	- multi-view - prototyping - object-oriented analysis and design - soft system methodology
Methodology may include:	traditional and non-traditional methodologies
Task types may include but are not limited to:	- cultural - organisational - procedural - developmental or processes - activities of the development process
Input/output	Inputs and outputs for a task may include pre-conditional and post-conditional options. For example, pre-conditions may be a check that inputs fulfil specific requirements. Post-conditions may check if the outputs have met quality requirements
Project may include:	- 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
Control Structures may include but are not limited to:	- acceptance criteria - a review process - inspection - test plans
Appropriate person may include:	- supervisor - teacher - authorised business representative - client

Unit Sector(s)

Unit sector	Analyse and Design
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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