Australian Government

Department of Education, Employment and Workplace Relations

ICAPRG426A Prepare software development review

Release: 1

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Modification History

Release	Comments
Release 1	This Unit first released with *ICA11 Information and Communications Technology Training Package version 1.0*

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to establish standards associated with IT technical requirements in the context of quality assurance processes applicable to software development.

Application of the Unit

This unit applies to staff in the software development area who are required to ensure that the software development process incorporates quality.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
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

1. Review software standards	1.1 Ensure that ***stakeholders*** have an understanding of the ***organisational requirements*** 1.2 Document software ***standards*** according to ***project standards***
2. Review implementation standards	2.1 Assign software standards to functions according to detailed technical plan 2.2 Take action to ensure that ***communication*** and distribution strategies are clear, coherent and meet overall project plan requirements 2.3 Monitor and report on implementation of standards against acceptance criteria and detailed technical specifications
3. Review software metrics and milestones	3.1 Define metrics related to the project milestones, and timeframe and cost considerations 3.2 Develop schedule of quality reviews 3.3 Determine quality considerations by identifying in-process measurement points that relate to critical organisational requirements 3.4 Determine method to benchmark and scale achievement against stated stakeholders requirements and cost considerations 3.5 Report metrics and milestones to stakeholders in a clear and coherent manner and take action to ensure written agreement

Required Skills and Knowledge

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

Required skills

- analytical skills to analyse and evaluate a range of solutions using database modelling
- communication skills to:
  - liaise with stakeholders
  - provide clear communication and distribution strategies to meet project plan requirements
- literacy skills to provide clear and coherent technical reports
- numeracy skills to account for cost considerations in project plan
- planning and organisational skills to develop a detailed project plan and schedule of quality reviews
- problem-solving skills to develop technical solutions
- technical skills to use metrics software.

Required knowledge

- current industry-accepted software configuration management processes
- quality assurance practices and the identification of standards
- software metrics development
- client business domain.

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 ability to: • establish the standards associated with the IT technical requirements, taking into account quality assurance processes that are in place for the development of software • monitor the application of these standards within the project.
Context of and specific resources for assessment	Assessment must ensure access to: • technical specifications • organisational standards for documentation and version control • project management process and hierarchy • future organisational business processes • software requirement specifications • interface requirement specifications • system requirements • design specifications • project budget and timeframe • appropriate learning and assessment support when required • modified equipment for people with special needs. Note: Data used in preparing the development review should be validated and come from other projects or related organisational activities.

Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
	• verbal or written questioning to assess candidate's knowledge of:
	  • quality assurance
	  • appropriate quality standards for software development
	  • benchmarking
	• review of candidate's documented software standards
	• evaluation of candidate's report to stakeholders.

Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where

	appropriate. Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed. Indigenous people and other people from a non-English speaking background may need additional support. In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.

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.

Stakeholders may include:	• development team • project team • sponsor • user.
Organisational requirements may include:	• how and what the organisation wants in regard to work environment • preventative maintenance and diagnostic policy • problem solution processes • roles and technical responsibilities in the IT department • vendor and product service level support agreements.
Standards may include:	• International Organization for Standardization (ISO), International Electrotechnical Commission (IEC) and Australian Standards (AS) standards • Java coding standards • GNU coding standards • organisational standards • project standards.
Project standards may include:	• change control • delivery against required milestones and budget • development methodology • ease of modification and maintenance • project plan • quality of software modules • reporting mechanisms • sharing of code or libraries.
Communication may include:	• non-verbal methods, such as written messages, emails and memos • verbal methods, such as telephone, meetings and video conferencing.

Unit Sector(s)

Programming and software development