



Australian Government

ICTPRG548 Develop high-level object-oriented class specifications

Release: 1

ICTPRG548 Develop high-level object-oriented class specifications

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to analyse requirements and produce a set of high-level object-oriented class specifications.

It applies to those who are required to develop object designs as part of the systems design process.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Programming and software development

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Analyse behaviour of objects	1.1 Analyse and document behaviour scenarios according to object design requirements 1.2 Identify classes, objects and abstract data types according to object design requirements 1.3 Prepare class, object, module and process diagrams according to object-oriented class specifications
2. Prepare state model	2.1 Analyse data requirements and iterate data flows according to object design requirements 2.2 Determine and document required state-transition diagrams 2.3 Seek respond to feedback from required personnel, and update abstract data types and specifications according to

ELEMENT	PERFORMANCE CRITERIA
	feedback
3. Describe roles and responsibilities of classes	3.1 Review functional requirements, assign responsibilities and update class structures according to task requirements 3.2 Determine and document interface and class communication requirements 3.3 Determine and document required interaction diagrams
4. Iterate and review object model	4.1 Review and document finding of current object model, class functionality and data transformation 4.2 Identify and develop class relationships, priorities, and the inheritance hierarchy according to object-oriented class specifications 4.3 Analyse and document class-service requirements and initial test criteria 4.4 Identify and document object processes and reuse classes 4.5 Submit documentation to required personnel and seek and respond to feedback according to organisational requirements

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Oral communication	Articulates information and requirements, using effective communication techniques and industry standard technical language intended for audience and environment
Reading	Interprets, and analyses, complex technical documentation
Writing	Accurately records and completes documentation according to organisational formats and procedures
Teamwork	Shares knowledge, information and experience openly, liaising with colleagues to achieve the best possible outcome
Planning and organising	Operates from a broad conceptual plan, developing the operational detail in stages, regularly reviewing priorities and performance during implementation, and identifying and addressing issues
Problem solving	- Uses a range of digitally based technologies to access, extract and share relevant information, in order to achieve the required outcomes - Identifies technical or conceptual issues, and applies analytical processes, to resolve these issues

SKILL	DESCRIPTION
	• Uses analytical and lateral thinking to review current practices, and to develop new or improved software or
Self-management	• Uses systematic processes, setting goals, gathering required information and identifying and evaluating options against agreed criteria
Technology	• Uses analytical and lateral thinking to review current practices, and to develop new or improved software or systems

Unit Mapping Information

Supersedes and is equivalent to ICTPRG524 Develop high-level object-oriented class specifications.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTPRG548 Develop high-level object-oriented class specifications

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- specify and model abstract for at least two different data types
- specify the interface between classes and objects, and document results on at least one occasion.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- configuration management applicable to developing high-level object-oriented class specification
- industry standard object-oriented methodologies that may be used to specify high-level object-oriented class specifications
- industry standard program development methodologies applicable to developing high-level object-oriented class specification
- data modelling techniques
- object-oriented analysis tools
- quality assurance practice applicable to developing high-level object-oriented class specifications.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- business system and user requirement
- unified modelling language (UML) modelling tool.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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