



Australian Government

ICTPRG441 Apply skills in object-oriented design

Release: 1

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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 produce an object-oriented design from specifications, applying the cyclic process of iteration from identification of class, instance, role and type to the final object-oriented model of the application.

It applies to those who are required to design systems using an object-oriented method.

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. Derive high-level design from specification	1.1 Gather and determine specifications in object-oriented design 1.2 Create static class diagram according to given set of specifications 1.3 Develop communication diagrams and sequence diagrams according to given set of specifications 1.4 Develop activity diagram and state diagram using given set of specifications
2. Refine design	2.1 Investigate and refine behaviour, state of classes and collaboration between classes 2.2 Validate visibility of class services and state data 2.3 Identify generalisations and specialisations within classes 2.4 Refine class design and apply aggregation and

	composition principles
3. Document design	3.1 Create detailed unified modelling language (UML) static class diagrams 3.2 Develop detailed UML communication and sequence diagrams 3.3 Create detailed UML activity and state diagrams

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Reading	<ul style="list-style-type: none">Interprets and critically analyses and applies strategies to construct meaning from specifications
Writing	<ul style="list-style-type: none">Prepares required documentation expressing ideas and information for specific audiences according to organisational procedures
Problem-solving	<ul style="list-style-type: none">Decides on a course of action using analytical processesUses systematic, analytical processes in predictable and unpredictable situations, setting goals, gathering information and identifying and evaluating options against agreed criteria when refining design
Technology	<ul style="list-style-type: none">Interprets key principles and concepts underpinning the design and operation of digital systems and tools

Unit Mapping Information

Supersedes and is not equivalent to ICTPRG415 Apply skills in object-oriented design.

Links

Companion Volume Implementation Guide is found on VETNet -

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