



Australian Government

ICTPRG415 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 1.0.

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 system designers 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 Develop static class diagram from given set of specifications 1.2 Develop either collaboration diagram or sequence diagram from given set of specifications 1.3 Develop either activity diagram or state diagram from given set of specifications
2. Refine design	2.1 Investigate and refine behaviour, state of classes and collaboration between classes 2.2 Validate correct visibility of class services and state data 2.3 Identify generalisations within classes 2.4 Identify specialisations within classes 2.5 Apply principles of aggregation and composition to refine class design
3. Document design	3.1 Create detailed uniform modelling language (UML) static class diagrams 3.2 Create detailed UML collaboration or sequence diagrams 3.3 Create detailed UML activity or state diagrams

Foundation Skills

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

Skill	Performance Criteria	Description
Reading	1.1, 1.2, 1.3	<ul style="list-style-type: none"> Interprets and critically analyses and applies appropriate strategies to construct meaning from specifications
Writing	1.1-1.3, 3.1-3.3	<ul style="list-style-type: none"> Communicates complex relationships between ideas and information, matching style of writing and diagrams to purpose and audience
Get the work done	1.1, 1.2, 1.3, 2.1-2.5, 3.1-3.3	<ul style="list-style-type: none"> Uses systematic, analytical processes in complex, non-routine situations, setting goals, gathering relevant information, and identifying and evaluating options against agreed criteria when refining the design Uses analytical processes to decide on a course of action, establishing criteria for deciding between options Understands key principles and concepts underpinning the design and operation of digital systems and tools

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTPRG415 Apply skills in object-oriented design	ICAPRG415A Apply skills in object-oriented design	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion volumes available from the IBSA website:

http://www.ibsa.org.au/companion_volumes -

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