Australian Government

UEENEED103A Evaluate and modify object oriented code programs

Release 2

INDUSTRY
SKILLS
COUNCILS
Creating Australia's Future

UEENEED103A Evaluate and modify object oriented code programs

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor	**1) Scope:**
	1.1) Descriptor
	This unit covers evaluating and modifying programs based on object-oriented code. It encompasses safe working practices, following written and oral instruction and procedures, applying knowledge of object-oriented code scripting and testing and documenting outcomes.
	Note:
	This unit applies to all aspects of Electrotechnology – engineering applications only. For general competencies related to Information Technologies refer to the latest endorsed IT Training Package.

Application of the Unit

Application of the Unit	2)
	This unit applies to any recognised development program that leads to the acquisition of a formal award at AQF level 4 or higher.

Licensing/Regulatory Information

License to practice	3)
	The skills and knowledge described in this unit do not require a license to practice in the workplace. However, practice in this unit is subject to regulations directly related to occupational health and safety and where

License to practice	**3)**	
		applicable contracts of training such as apprenticeships.

Pre-Requisites

Prerequisite Unit(s)	**4)**	
Competencies	**4.1)**	

Granting competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

UEENEED1 01A	Use basic computer applications relevant to a energy sector workplace
UEENEEE1 01A	Apply Occupational Health Safety regulations, codes and practices in the workplace

Literacy and numeracy skills   **4.2)**

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading   5   Writing   5   Numeracy   5

Employability Skills Information

Employability Skills   **5)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT		PERFORMANCE CRITERIA	
1	Prepare to evaluate and modify programs written in object oriented code.	1.1	OHS processes and procedures for a given work area are identified, obtained and understood.
		1.2	Established OHS risk control measures and procedures are followed in preparation for the work.
		1.3	The extent of program modification work is determined from job performance specifications and in consultation with relevant persons.
		1.4	Activities are planned to meet scheduled timelines in consultation with others involved in the work.
		1.5	Appropriate development kit and software are selected based on specified requirements and performance standard.
		1.6	Strategies are implemented to ensure programming is carried out efficiently.
2	Evaluate and modify programs written in object oriented code.	2.1	OHS risk control measures and procedures for carrying out the work are followed.
		2.2	Knowledge of computer function features are applied to object oriented programming.
		2.3	Correct syntax is applied to evaluating and

ELEMENT	PERFORMANCE CRITERIA
	modifying.
	2.4 Key features of the a object orientated programming language are applied to evaluation and modification. (See Note)
	2.5 Approaches to issues/problems are analysed to provide most effective solutions.
	2.6 Quality of work is monitored against personal performance agreement and/or established organisational or professional standards.
3 Test and document modified programs written in object oriented code.	3.1 Procedures are developed to test modified programming.
	3.2 Problems and bugs in code are rectified to ensure specification in the creation of the code is met.
	3.3 Intermediate and final work reports are written in accordance with professional standards, and presented to appropriate person(s).

Note.

Key features include object; class; instance; member data/fields; member attributes/methods and local variables.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and evaluating and modifying programs written in object oriented code.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-ED103A   Basic object oriented programming

Evidence shall show an understanding of object orientated programming basics to an extent indicated by the following aspects:

T1   Object-Oriented programming language elements

T2   Object-Oriented programming language operators and control structure

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit and must be read in conjunction with the performance criteria and the range statement of the unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment	**9.1)**
	Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry

and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit	**9.2)**

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEE11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
    - Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement
    - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
    - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
    - Demonstrate an appropriate level of skills enabling employment
    - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
    - Evaluate and modify programs written in object oriented code as described in 8) and including:

A	Using key features of object oriented programming to evaluate and modify program.
B	Modifying three programs' features.
C	Developing testing procedures.

D	Identifying problem and bugs in code.
E	Rectifying problem and bugs in code.
F	Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in a holistic assessment with the above listed items.

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed in this unit.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions for assessment must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to evaluating and modifying programs written in object oriented code.

Method of assessment

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires assessment in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate

the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units	**9.5)**

There are no concurrent assessment recommendations for this unit.

The critical aspects of occupational health and safety covered in unit UEENEEE101A and other discipline specific occupational health and safety units shall be incorporated in relation to this unit.

Range Statement

RANGE STATEMENT

10) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated in relation to evaluating and modifying programs written in object oriented code, any object oriented programming language including the following features.

- Graphical User Interfaces
- Applets and graphics
- Exceptions

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field	**11)**

Computer Systems

E-OZ Training Standards