Australian Government

UEENEEH141A Manage computer systems/electronics projects

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

UEENEEH141A Manage computer systems/electronics projects

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This unit covers the management of computer systems/ electronics projects involving management of safety, budget variation, personnel, resources, timelines and completion documentation.

Application of the Unit

Application of the Unit **2)**

This unit is intended for competency development entry-level employment based programs incorporated in approved contracts of training or approved training programs. It is intended to apply to any formal recognition for this standard at the aligned AQF 6 level 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 applicable contracts of training such as apprenticeships.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

There are no prerequisite competencies for this unit.

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)**

This unit contains Employability Skills

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 Establish the scope of the projects.	1.1 OHS processes and procedures for a given work area are identified, obtained and understood.
	1.2 Project deliverables and project objectives (as measurable outcomes) are established from project planning and other relevant documentation and from discussions with appropriate person(s).
	1.3 The "work breakdown structure" (WBS) is developed to identify component parts of the project.
	1.4 Major milestones and deliverables are identified.
	1.5 Resources needed to meet project outcome are established.
	1.6 Processes and procedures are developed for managing contract variations from discussions with appropriate person(s) and in accordance with contractual agreement.
	1.7 Risks are identified and project plan strategies devised to ensure that outcomes are achieved to the required standard of quality specified in the contract.
	1.8 A project plan is devised. The project plan typically includes: scope statement, WBS, cost estimates, proposed timeline and deliverables, required staff and other resources, key risks and their planned responses.
2 Manage computer systems/electronics/ projects.	2.1 OHS policies, procedures and programs are implemented and monitored.
	2.2 Achievement of project outcomes is delegated to appropriately competent person(s) involved in the project.
	2.3 Risk events are monitored and project plan strategies implemented to ensure that outcomes are achieved to the required standard of quality specified in the contract.

ELEMENT	PERFORMANCE CRITERIA	
	2.4	Procurement processes and procedures are monitored to ensure on time supply of equipment and materials and in accordance with organisation policy.
	2.5	Verification of the project technical design, modification, installation, and/or maintenance of system and equipment parameters is frequently made against specifications and established procedures.
	2.6	Project progress is monitored against schedule, quality requirements and budget.
	2.7	Conflict issues at the work site and between stakeholders, clients and regulators are identified and managed in accordance with established procedures.
	2.8	Variations are managed in accordance with agreed processes and in accordance with the contract.
	2.8	Project records are maintained and progress reports written and forwarded to all appropriate person(s).
3 Complete projects and document	3.1	Project outcomes are reviewed against original plan, implemented risk strategies, contract variations, safety record, and budget.
	3.2	Project completion acceptance is sought from appropriate person(s) and hand-over documented in accordance with organisation policy and established procedures.

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 of safe working practices and managing electronics/computer systems projects has been acquired.

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

KS01-EH141A Computer systems/electronics project management

Evidence shall show an understanding of computer systems/electronics project management, applying safe working practices and relevant Standards Codes and Regulations to an extent indicated by the following aspects:

T1. Electronic/computer systems industry sector customs and practices

- Technical aspects of project planning and management encompassing:
  - Method of ensuring equipment meets specified performance requirements
  - Performance/cost benefit analysis
  - Equipment procurement
- Typical approaches to planning and management
- Successful planning techniques
- Best practice management methods and styles

T2. Defining project parameters - Project scope; Project stakeholders and clients; Project phases and the relationship between phases; Time requirements and limitations; Resource requirements and limitations; Quality requirements and limitations.

T3. Time management - time management concepts; standard practices for ensuring a project runs to time and the like.

T4. Financial management - Financial management concepts; Standard practices for managing project finances; Project budgets; Costs, variations and estimations; Invoicing against project phases/deliverables; Acquittals and the like.

T5. Quality management - Quality management concepts; Standard practices for managing quality within a project.

T6. Human Resource management - human resource management concepts; standard practices for managing personnel within a project

T7. Communication management - Communication management concepts; Standard practices for managing communication within a project and the like.

T8. Risk management and contingencies - risk management concepts; standard practices for managing risk within a project; Internal risks; External risks; Risk minimisation; Risk removal; Contingencies and the like.

REQUIRED SKILLS AND KNOWLEDGE

T9. Procurement management - procurement management concepts; standard practices for managing procurement and the like.

T10. Physical Resource management - Types of physical resource, including; Equipment, Technology, Information, Facilities; Physical resource management concepts; Standard practices for managing physical resources

T11. Contracts - Understanding project contracts; Standard practices for working to contract specifications; Contract format; Contract content; Legal obligations of contract parties; Accompanying documentation including; Contract Schedules and the like.

T12. Performance assessment and continuous improvement - standard performance assessment practices; standard continuous improvement practices and the like

T13. Engineering ethics principles

T14. Customer/Client relations

- Importance of customer/client relations
- Interpersonal skills that enhance customer/client
- Dispute resolution
- Customer/client relations strategies

Evidence Guide

EVIDENCE GUIDE

9) The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package. .

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of the 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 must 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 accord 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 influence decisions about how/how much 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:
  - Manage electronics/computer systems projects as described in 8) and including:

A Establishing the scope of the project accurately.

B Managing time effectively.

C Developing project plans.

D Managing resources and variations effectively.

E Resolving conflicts.

F Adopting risk management strategies.

G Maintaining records and submitting progress reports.

H Verifying the project technical design, modification, installation, and/or maintenance of system and equipment parameters

I Meeting project outcomes.

J 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.

Note:

Successful completion of relevant vendor training may be used to contribute to evidence on which competency is deemed. In these cases the alignment of outcomes of vendor training with performance criteria and critical aspects of evidence shall be clearly identified.

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 by this unit.

These should be part of the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions 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 managing electronic/computer systems projects.

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 that the specified essential knowledge and associated skills are assessed 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.

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 managing medium sized electronics/computer systems projects (see Note 1), which involves design, modifications, installation, and/or maintenance of systems and equipment, with attributes that include management of safety, budget variation, personnel, resources and critical path timelines, and completion documentation.

Note 1:

Medium sized electronics/computer systems projects are those which would be recognised by a representative peer group of industry experts as medium sized within the norm customs and practices of the industry.

Note 2:

"Work breakdown structure" (WBS) – used for the purposes of identifying manageable components of a project including their hierarchical structure.

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)**

Electronics/Computer Systems