



Australian Government

UEENEEH101A Repair basic computer equipment faults by replacement of modules/sub-assemblies

Release: 2

UEENEEH101A Repair basic computer equipment faults by replacement of modules/sub-assemblies

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit deals with the repair of computer equipment by replacement of slot/plug connected modules/sub-assemblies. It encompasses safe working practices, following written and oral instruction and procedures, basic testing techniques, dismantling and assembling apparatus and disconnecting and reconnecting components.

Application of the Unit

Application of the Unit 2)

This unit may apply to persons entering work in electro technology and may be used in school-based vocational programs.

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 provided equipment is not connected to installation wiring at voltage above 50 V a.c. or 120 V d.c. 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.

License to practice

3)

Note:

1. Compliance with permits may be required in various jurisdictions and typically relates to the operation of plant, machinery and equipment such as elevating work platforms, powder operated fixing tools, power operated tools, vehicles, road signage and traffic control, lifting equipment and the like. Permits may also be required for some work environments such as confined spaces, working aloft, near live electrical apparatus and site rehabilitation.

2. Compliance may be required in various jurisdictions relating to currency in First Aid, confined space, lifting and risk safety measures

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.

UEENEEE101 A Apply Occupational Health and Safety regulations, codes and practices in the workplace

UEENEEE102 A Fabricate, dismantle, assemble of utilities industry components

UEENEEE107 A Use drawings, diagrams, schedules, standards, codes and specifications

AND

UEENEEE104 A Solve problems in d.c. circuits

OR

UEENEEE123 A Solve basic problems in electronic and digital equipment

Prerequisite Unit(s) 4)

UEENEEE104 Solve problems in d.c. circuits
A

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 3 Writing 3 Numeracy 3

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 Prepare to repair computer equipment.	1.1 OHS procedures for a given work area are identified, obtained and understood through established routines and procedures.
	1.2 Established OHS risk control measures and procedures are followed in preparation for the work
	1.3 The nature of the repair is obtained from documentation or from work supervisor to establish the scope of work to be undertaken.
	1.4 Advice is sought from the work supervisor to ensure the work is co-ordinated effectively with others.
	1.5 Sources of materials that may be required for the work are established in accordance with established routines and procedures.
	1.6 Tools, apparatus and testing devices needed to carry out the work are obtained and checked for correct operation and safety.
2 Repair computer equipment	2.1 Established OHS risk control measures and procedures for carrying out the work are followed.
	2.2 The need to test or measure live is determined in strict accordance with OHS requirements and when necessary conducted within established safety procedures.
	2.3 Circuits/apparatus are checked as being isolated where necessary in strict accordance OHS requirements and procedures.
	2.4 Apparatus is dismantled in accordance with manufacturer's guide and supervisor's instructions.
	2.5 Modules/sub-assemblies are tagged during the dismantling to help ensure correct and efficient reassembly and stored to protect them against loss or damage.

ELEMENT

PERFORMANCE CRITERIA

- 2.6 Repairs are affected efficiently without damage to other components, apparatus or circuits.
- 2.7 Apparatus is assembled in an appropriate sequence with all modules/sub-assemblies and parts correctly placed, secured and connected in accordance with manufacturer's guide or industry practice.
- 2.8 Procedures for referring non-routine events to immediate supervisor for directions are followed.
- 2.9 Repairs are carried out efficiently without waste of materials or damage to apparatus and the surrounding environment or services and using sustainable energy practices.
- 3 Complete and report repair work activities.
 - 3.1 OHS work completion risk control measures and procedures are followed.
 - 3.2 Repaired computer equipment is prepared and forwarded to appropriate person(s) for testing.
 - 3.3 Work area is cleaned and made safe in accordance with established procedures.
 - 3.4 Work supervisor is notified of the completion of the repair work in accordance with 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 has been acquired of safe working practices and carrying out basic repairs to electronic apparatus by replacement of modules/sub-assemblies.

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

KS01-EH101A

Basic computer equipment repairs

Evidence shall show an understanding of modules/sub-assemblies replacement for basic computer equipment repairs, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

- T1. Personal computers structure and components and their function, including motherboards, memory modules, video modules, connecting buses, storage devices and the like.
- T2. Personal computers assembling and dismantling techniques
- T3. Personal computers hardware faults and troubleshooting techniques, confined to subsystem level
- T4. Basic network hardware and components
- T5. Connection of network media
- T6. Set up of standard network configuration
- T7. Cable and conductor terminations used in electronic equipment:
 - Cable and conductor types and characteristics:
 - Insulated wire
 - Harness wiring,
 - High performance cables - characteristics are transmission performance parameters and electrical characteristics
 - Types include UTP, FTP, and STP
 - Coaxial cables types and characteristics - qualshield, trishield coaxial are armour plated coaxial cables
 - Cable anchoring and support methods
 - Termination methods
- T8. Basic repairs to computer equipment by replacing modules/sub-assemblies

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, policies and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
 - Carry out basic repairs to computer equipment by replacement of modules/sub-assemblies as described in 8) and including:
 - A Following manufacturer service instructions for access to components.
 - B Removing at least three different functional types of modules/sub-assemblies in the work instructions.
 - C Replacing modules/sub-assemblies to manufacturer

requirements.

D Repairing damaged wires/ribbon cable to an industry standard and without damage to other equipments; includes minor soldering.

E Reassembling the computer equipment correctly.

F Testing computer equipment operation.

G 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.
- Relevant Australian and International industry standards for the repair of electronic assemblies and sub-assemblies
- 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 carrying out basic repairs to electronic apparatus by replacement of modules/sub-assemblies.

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)

For optimisation of training and assessment effort, competency development in this unit may be arranged concurrently with unit:

UEENEEE10 Fabricate, dismantle, assemble of utilities industry
2A components

