



Australian Government

Department of Education, Employment and Workplace Relations

UEENEED104A Use engineering applications software on personal computers

Release: 1

UEENEED104A Use engineering applications software on personal computers

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers the use of computer application relevant to engineering support work functions. It encompasses applying user preferences, using application menus and tools, entering and retrieve information, working with groups and transferring and printing files.

Note:

Examples of engineering application software are Visio, Electronic Work Bench, Lab View, Network Simulator.

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. It may be used to augment previously acquired competencies.

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)

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

UEENEE101A 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 3 Writing 3 Numeracy 3

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 use computer applications.	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 in relation to computer and keyboard use are followed.
	1.3 Application software and information required for use is obtained from appropriate sources.
	1.4 On-screen instructions in relation to any anomaly such as a virus warning are followed.
	1.5 Help menu is used to resolve any straightforward start up or access issues or anomalies.
2 Use engineering application software.	2.1 Established OHS risk control measures and procedures for carrying out the work are followed.
	2.2 Techniques that apply to a particular software package are used to produce appropriate files.
	2.3 Routine checks are made to ensure accuracy of information in accordance with quality requirements.
3 Output information from an application.	3.1 Completed files are stored appropriately in accordance with enterprise requirements.
	3.2 Files are printed for formal records and/or forwarded to others.
4 Shut down computer.	4.1 Files are named, arranged, saved and backed up in accordance with enterprise requirements.
	4.2 Computer shutdown procedures are followed and computer switched off.

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 using engineering application software.

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

KS01-ED104A Personal computers, engineering applications software basic

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

T1 Computer Systems Overview encompassing:

- Safety
- Applications of computers in industry
- Types of computer systems
- Hardware components
- Software and firmware
- Memory
- Peripherals
- Removable storage devices
- PC hardware inventory
- Networking

T2 Operating System Overview encompassing:

- Software layer model
- Function and characteristics of an operating system
- File structure
- Formatting disks
- Boot process
- Configuration files

T3 Windows Operating System encompassing

- Windows screen
- Windows Explorer
- File management
- Managing software, updates, backups and virus protection.

T4 Word Processors encompassing

- Word files
- Formatting
- Engineering symbols
- Tables and lists

REQUIRED SKILLS AND KNOWLEDGE

- Drawings
- Spelling, grammar, and ‘search-and-replace’
- Printing

T5 Spreadsheets encompassing

- Parts of a spreadsheet
- Excel file management
- Inserting data into spreadsheets
- Formatting spreadsheets
- Charts
- Engineering problem solving
- Printing

T6 Databases encompassing:

- Features and purpose of database
- Searching existing database
- Creating a simple database
- Manipulating data in a database
- Advance sort functions
- Reports

T7 Transferring Data Between Windows Applications encompassing:

- Moving data between Word, Excel and Access

T8 Drawing and Computer Assisted Design (CAD) programs encompassing:

- Computer drawing using applications such as Visio.
- Incorporation of electrical/electronic symbols into computer drawings.

T9 E-mail and Internet Browsers encompassing:

- Browsers
- Search Engines
- Web-based e-mail (e.g. Hotmail)
- Application-based e-mail (e.g. Outlook).

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, policies and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
 - Use engineering applications software as described in 8) and including:
 - A Following application instructions to input and output information.
 - B Storing information appropriately.
 - C Outputting information to a printer.

- D Transferring information between systems.
- E Saving, storing and backing up files for effective retrieval by others.
- 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.

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 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 using engineering application software.

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.

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 using at least two of the following types of engineering applications at a basic level.

- Office Applications
- Computer Aided Design
- Engineering data analysis software
- Engineering modelling
- Project management
- Network simulator
- Protocol analyser

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