Government of Western Australia
North Metropolitan TAFE

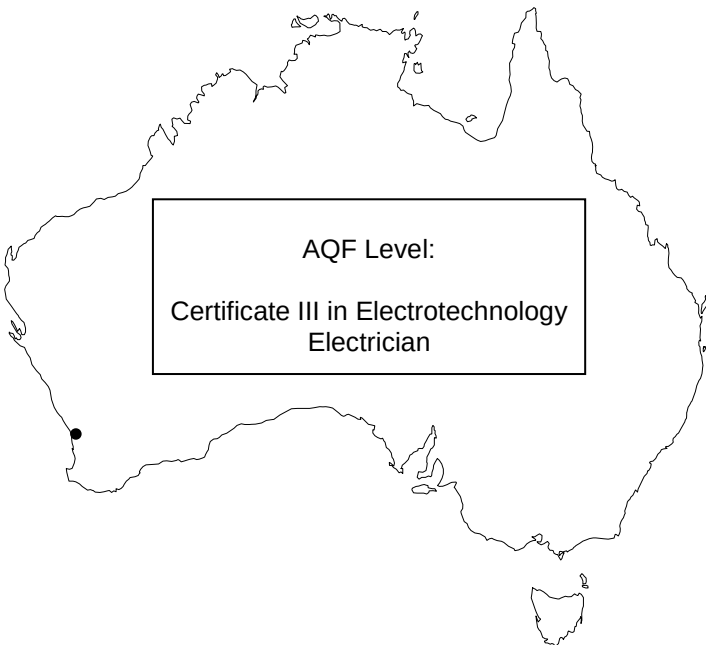
UEE 11 Training Package Support Material
(Non-Endorsed Component)

Based on:
National Electrotechnology Industry Standards

Resource Book

UEENEED101A

Use computer applications relevant to workplace



North Metropolitan TAFE
Compiled by S.Weeks August 2012
Modified By R. Elvidge April 2014.

UEENEED101A

Use Computer Applications Relevant To Workplace

A composite
Training resource

Certificate III in Electrotechnology Electrician

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North Metropolitan TAFE
Locked Bag 6, Northbridge
Telephone: +61 1300 300 822
www.northmetrotafe.wa.edu.au

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Certificate III in Electrotechnology Electrician U**EE 3-08-11**

UEENEED101A Use computer applications relevant to a workplace

C O N T E N T S

Training Achievement Record:

Activity	Topic	Completed
1-1	Starting up	
1-2	Selecting application	
1-3	Entering information	
1-4	Saving	
1-5	Printing and Shutdown	

References

- The Occupational Safety and Health Act 1984 (WA).
- The Occupational Safety and Health Regulations 1996 (WA).
- Electrical Wiring Practice – Volume 1(7th ed.) Pethebridge & Neeson
- Basic Training Manual 16-1, Safe Procedures Electrical Trades
- Code of Practice for Persons working on or near energised electrical installations(WA)

Certificate III in Electrotechnology Electrician UEE30811

Competency Standard Units

UEENEEED101A –Use computer applications relevant to a workplace

Prerequisite Unit(s)

The prerequisite competency for this unit is UEENEEE101A Apply Occupational Health Safety regulations, codes and practices in the workplace.

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	Information required for the use of the application is obtained from appropriate sources.
		1.4	Computer is started up and desktop icons are manipulated to access desired application, directories and files.
		1.5	On-screen instructions in relation to any anomaly such as a virus warning are followed.
		1.6	Help directory is used to resolve any straightforward start up or access issues or anomalies.
2	Use computer basic application.	2.1	Established OHS risk control measures and procedures for carrying out the work are followed.
		2.2	Information is added, altered or deleted as needed in accordance with application user instructions.
		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 a formal record and/or to forward to others.
		3.3	Files are sent via email in a readable format.

ELEMENT	PERFORMANCE CRITERIA	
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.

D1**01A RSAK Topics:**

KS01-ED101A Basic Computer Applications

D101A Work Performance Tasks:

UEENEED101A – Use computer applications relevant to a workplace	
1. Performance requirements: 1a. Related to the following elements: 1. Prepare to use computer applications. 2. Use computer basic application. 3. Output information from an application. 4. Shut down computer. 1b. For each element demonstrate performance: − across a representative body of performance criteria, − on at least 2 occasions, − autonomously and to requirements, − within the timeframes typically expected of the discipline, work function and industrial environment. **2. Representative range** includes the following: All listed tasks related to performance across a representative range of contexts from the prescribed items below:	
The minimum number of items on which skill is to be demonstrated Group No	**Item List**
A. At least three of the following:	• Word processing • Spread sheet applications • Computer based drawings • Business management • Apparatus set-up • Using electronic Profiling system • Using email system

Workplace Rules:

Rule 1	Follow the instructions
Rule 2	Tolerate ambiguity
Rule 3	Meet your obligations

Note: This information and current details of critical aspects for each competency standard unit (CSU) in this qualification can be found at the EE-Oz Training Standards website www.ee-oz.com.au**.**

UEENEED101A – Use computer applications relevant to a workplace
Learning and Assessment Plan

Name of Lecturer: _____

Contact Details: _____

Delivery Mode/s: □ Face to Face □ On-Line □ Blended Delivery □ Other

Using:

Session	Nominal Duration	Program of Work (Topics to be covered)	Primary Reference
1	4hrs	Students will receive a tutorial and complete the worksheet in this session. Lecturer to introduce Q-Tracker and explain relevance to apprenticeship.	Tutorial & D101A Resource Book
2	3hrs	Students will be engaged in tasks that will build their skills and knowledge using applications such as Word and Outlook. Assessment Task 1 to be completed in this session.	Tutorial & D101A Resource Book
3	4hrs	Students will be engaged in tasks that will build their skills and knowledge using Q-Tracker. Assessment Task 2(a & b) to be completed in this session.	Tutorial & D101A Resource Book
4	3hrs	Students will be engaged in tasks that will build their skills and knowledge using MS Excel. Assessment Task 3 to be completed in this session.	Tutorial & D101A Resource Book
5	4hrs	Revision and written assessment	

I acknowledge that I have received and read this Learning Plan Student Name:_____ Signature: _____ Date: _____		
Lecturer Name	Lecturer Signature	Date

Certificate III in Electrotechnology Electrician UEE 30811

UEENEED101A – Use Computer Applications Relevant to Workplace

C O N T E N T S

Training Achievement Record

Name:	PWA No:	App. No.
Employer:		College:

Activity	Topic	Date	Lecturer	
Worksheet 1 - 1	General computer knowledge			
Assessment Task 1	Resume			
Assessment Task 2(a)	Q-Tracker			
Assessment Task 2(b)	Training license			
Assessment Task 3	Excel tasks			

Assessment Strategy

Conditions of Assessment:

Normally learning and assessment will take place in an integrated classroom/ laboratory environment.

It is essential to work through the worksheets and activities in this workbook and follow the guidance of your lecturer. The worksheets and practical activities will provide the essential knowledge and skills outlined in this Unit and assist you in achieving competency.

Assessment Methods:

Written Theory Assessment – based on the Required Skills and Knowledge (RSAK). You must achieve a mark of 75% or more in this assessment.

Observed Practical Assessment – based on the Elements and Performance Criteria of this Competency Unit UEENEEED101A. You must achieve a mark of 100% in this assessment.

On-Job-Training:

It is expected that the off-job component of this competency unit will be complemented by appropriate on-job development involving exposure to re-occurring workplace events and supervised experiences. (See Work Performance Tasks.) You are required to log your on-the-job training in your 'Q-Tracker'account. www.qtracker.com.au

Sufficiency of Evidence:

In all instances competency is to be attributed on evidence sufficient to show that a person has the necessary skills required for the scope of work. These include:

- Task skills - performing individual tasks
- Task management skills - managing a number of different tasks
- Contingency management skills - responding to irregularities and breakdowns in routines
- Job/role environment skills - dealing with the responsibilities and expectations of the work environment including working with others.

Evidence must demonstrate that an individual can perform competently across the specified range of activities and has the essential knowledge, understanding and associated skills underpinning the competency.

	Required Skills and Knowledge (RSAK)
KS01-ED101A	Evidence shall show that knowledge has been acquired of safe working practices using basic computer applications relevant to a workplace. All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies. Evidence shall show an understanding of computer use basics to an extent indicated by the following aspects: T1 Starting up T2 Selecting application T3 Entering information T4 Saving T5 Printing

WORKSHOP SAFETY INSTRUCTIONS

Students working in workshops and installation skills areas at this college do so on condition that they agree to abide by the following safety instructions. Failure to observe the safety instructions may result in immediate suspension.

1. Personally owned eye protection must be worn AT ALL TIMES. Other safety equipment including hearing protection must be worn when applicable to a particular task.

2. Loose clothing must not be worn when working on fixed or portable machines. Hairnets must be worn where applicable. Clothing must cover the upper arms and body.

3. Enclosed footwear must be worn at all times on this campus. Thongs or sandals are not permitted. **Safety boots or safety shoes must be worn in workshop and installation skills areas**.

4. Tools and safety equipment are issued from the tool store on request. It is your responsibility to ask for the correct item (Size, Type and Tool). Check to see that you have been given the correct item before using it. If in doubt ask your LECTURER, not the storeperson.

5. Report any broken, damaged or unserviceable equipment to your Lecturer. Do not use damaged tools or machines.

6. Clean down the machines immediately after use. All tools must be cleaned before returning them to the store.

7. Skylarking is not permitted at any time.

8. Always use protective vice jaws when cutting off material in a bench vice.

9. Accidents resulting in cuts, abrasions or other personal injury must be reported to your Lecturer immediately - no matter how minor they may seem. A first-aid kit is available in the tool store.

10. Never leave a machine unattended when it is running. Do not allow yourself to be distracted when operating a machine.

11. Read all safety signs and notices and follow the instructions.

12. Do not use a fixed or portable machine unless you have been instructed in its proper use.

13. Read all risk assessment documentation provided (JSAs) and conduct a relevant risk assessment process before performing any task.

Student's Signature _____ Date: _____

Government of Western Australia North Metropolitan TAFE	**Use computer applications relevant to a workplace**	Introduction	SGW 11/112/2012

Computer Systems in Engineering

Task:

To list common applications of computers in engineering, and describe typical types of personal computers. To demonstrate a knowledge of the general safety hazards associated with the use of personal computers.

Why:

Many engineering and related office functions involve the use of computers for various purposes. You need to recognise the potential applications of computer equipment so that you can exploit its capabilities in the workplace.

To Pass:

l. You must correctly answer the questions on the Work Sheets provided and achieve a mark of 75% or more in a competency test for each theory Learning Outcome.

2. You must satisfactorily complete the set activities.

3. You must achieve 100% in a final competency test for each practical Learning Outcome.

Equipment:

Typical personal computer configurations

References:* Dalton,James. The Computer Classroom- The Basics,

* Wizard Books 2001,* {www.wizardbooks.com.au}
* Hazards at Work, Robin Booth et.al. TAFE NSW
* Windows Help File
* Manufacturers' information Balga Campus Computing Applications
* Electrical Trades Q Tracker Apprentice workbook

Government of Western Australia North Metropolitan TAFE	**Use computer applications relevant to a workplace**	Study Guide	SGW 11/112/2012

Computer Systems in Engineering

Suggested Self-Study Guide

1. Study the following sections in the recommended references:

Manufacturers' Information

Locate one or more popular computer magazines in the library and scan through the pages
advertising 'computer hardware'.

The Occupational Safety and Health Regulations 1996 (W.A.).

Hazards at Work, Robin Booth et.al. TAFE NSW

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2. Read the Summary and practise answering the questions provided on the Work Sheet. Refer to other relevant texts if you feel it is necessary.

3. Answer the questions given on the Work Sheets. Use a separate answer sheet or sheets for each Work Sheet. Note that you are required to answer all questions correctly; although not necessarily at the same time.

4. Submit your answers to the Work Sheets to your Lecturer for discussion and assessment.

Government of Western Australia North Metropolitan TAFE	**Use computer applications relevant to a workplace**	Summary	SGW 11/112/2012

Computer Systems in Engineering

Applications

1. The most common applications of computers in engineering are:

   a. Planning and documentation processes such as:

   Word processing.
   Retrieving information from databases
   Automating calculations in spreadsheets.
   Project management and critical path analysis.
   Accounting, payroll management.
   Presenting information using presentation software such as Powerpoint.

   b. Control of machinery or processes using microprocessors.

   c. Communications and acquisition of information via the Internet.

   d. Computer aided drafting (CAD) and computer aided manufacture (CAM)

2. The most common types of personal computer in industry are:

   a. Desktop.
   b. Tower.
   c. Laptop
   d. Notebook
   e. Hand-held.
   f. Personal digital assistant (PDA)

Microprocessors

3. A central component of a computer is a small electronic device known as a microprocessor or 'chip'. A microprocessor can be about the size of a typical coin, and it contains miniaturised electronic circuitry which is able to process input signals from sensing devices to detect such conditions as speed, position, temperature, level, light, sound, proximity, on/off and density. The microprocessor is internally programmed to analyse inputs and control associated output devices such as lamps, motors, magnetic relays, signal equipment and solenoids.

4. Microprocessors are also used in some form in most modern engineering equipment such as production lines, robots, energy management, computerised numerically controlled (CNC) machines, programmable controllers, office equipment, vehicles, security equipment and communications equipment.

Personal Safety Issues

5. The potential safety hazards that exist when using personal computers include:

a. Ergonomic hazards. Injuries can result if a person remains in the same position for long periods or uses a small number of movements repeatedly (such as in prolonged typing). Such injuries can be avoided by changing position or taking short breaks involving different activities at intervals of up to 30 minutes. Correct posture is also an important factor in reducing back strain.

b. Radiation hazards. Computer monitors 1 line TV screens, emit radiation which can be hazardous. To reduce the possibility of injury, an operator should be positioned at least 500 mm from the screen, or use a commercially available protective see-through screen in front of the monitor.

c. Lifting hazards. Some types of computer equipment such as monitors are heavy and awkward so correct lifting techniques must be used when handing them-such as keep the back straight when lifting.

d. Click on the link below to provide learning resource for safe use of computers.

http://www.safety.uwa.edu.au/health-wellbeing/physical/ergonomics/workstation

Government of Western Australia North Metropolitan TAFE	**Use computer applications relevant to a workplace**	Work Sheet 1-1	SGW 11/112/2012

Computer Systems in Engineering

Name		**Date**	

1. List eight common applications of computers in engineering.

   i _____

   ii _____

   iii _____

   iv _____

   v _____

   vi _____

   vii _____

   viii _____

2. Describe five of the types of personal computer systems used in the engineering industry.

   i _____

   ii _____

   iii _____

   iv _____

   v _____

3. List four types of machines or processes which may incorporate a microprocessor, other than personal computers.

   i _____

   ii _____

   iii _____

   iv _____

4. Describe three potential safety hazards which exist when using a typical personal computer or peripheral equipment and state how to avoid personal injury.

   i _____

   ii _____

   iii _____

5. What does RAM stand for?

   _____

6. Explain the difference between a CD(R) and a CD(RW)?

   _____

   _____

   _____

7. What is the difference between hardware and software?

   _____

   _____

8. What is a computer virus?

   _____

   _____

9. One gigabyte is equal to how many bytes?

   _____

   _____

10. In the table below indicate whether a device is an input, output or both.

Monitor	Input / Output / Both
Keyboard	Input / Output / Both
Mouse	Input / Output / Both
DVD drive	Input / Output / Both
Modem	Input / Output / Both

Using Excel

1) Copy the data in the table below into a new Excel work book.

Create formulas to show the following:
a) Sub total for each item
b) Average cost for all types.
c) Total quantity and cost.
d) Percentage of total for each item

You may ask your lecturer for assistance if you are not familiar with Excel or you may use web sites such as You Tube etc to view instructional videos.

Create a 3D pie chart showing cost percentage of total for each item.

You must ensure the correct number formatting is selected for each column.

Save the file as your surname followed by - Fred's Electrical Work Book.

Fred's Hardware				
Product Type	Unit Price	Qty	Sub-total	% of total
Self tapper 8 guage x 20mm	$0.25	50		
Tek screw 25mm x 6mm	$0.45	150		
Tek screw 45mm x 8mm	$0.75	250		
Nail 25mm x 3mm	$0.05	500		
Pop rivet 4.5mm S/Steel	$0.08	200		
Coach screw 55mm x 8mm	$1.25	25		
Rawl plug (green 25mm)	$0.20	50		
Ram plug (Red 65mm)	$0.45	25		
Total				
Average				