VAAL UNIVERSITY
OF TECHNOLOGY

Inspiring thought. Shaping talent.

STUDY GUIDE

Faculty	Engineering and Technology
Department	Electrical Engineering: Power
Course	Diploma in Engineering
Title	Experiential Learning 1 – EPEXL1A
Compiled By	I.K. Kyere
Year	2023
NQF Level	5
Credits	14.4

Instructional offering: Experiential Learning 1

Code: EPEXL1A

Instructional program: Diploma: Engineering: Electrical

Assessment: Continues Workplace Based Learning

Document revision: January 2023

Advisory committee approved: November 2022

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1 Word of welcome

The Department of Power Engineering welcomes you as a student to the Faculty of Engineering and Technology at the Vaal University of Technology.

The Vision of the Department is to be A Leading Department in Electrical Engineering. The core values of this Department are:

- Integrity
- Honesty
- Punctuality
- Professionalism
- High academic standards
- Excellence
- Trust

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Revision dates	Document revision Advisory committee approved	January 2023 November 2022

2 General requirements

- It is the responsibility of the student to register for WBL before training commences.
  Registration may only occur once all module's required credits have been achieved.
- The student should simultaneously register for EPPRJ4A, EPEXL1A, and EPEXL2A, which are the three components of workplace-based learning.
- The registration, completion, and submission of reports must be done according to the guidelines.
- An accredited assessor, appointed by the industry, will do the assessment of each relevant topic. This assessor must have a qualification equal to or higher than the assessment qualification.
- The student must do the training under the supervision of a mentor, which could also be the assessor if the mentor has the necessary qualifications.
- A VUT-accredited staff member will act as an examiner.
- The assessor must complete and sign all required assessor's reports before submission to VUT.
- If the mentor or assessor needs assistance, feel free to contact the coordinator at VUT (see the top of the page).
- To fulfill the requirements of the Diploma: Electrical Engineering, the student must successfully complete all academic requirements, as well as the three Workplace Based Learning components.
- Topics that are not included in the list of topics in this document but are required by the training company should be added using the Other Topics under unit 7 of the final report's evaluation rubric. Add as many topics as needed.

- Graduate attribute 12 (GA 12) must be covered in this module as part of the Engineering Counsel of South Africa (ECSA) requirements.

3 Philosophy of Teaching and Learning the subject Experiential Learning 1

The nature of the learning process for Workplace Based Learning must include but is not limited to the following:
In the workplace, the students gain knowledge and understanding in a professional and social setting.
It is expected of the student to interact with the management, mentors, technicians, and peers.
The student must also interact with the broader workplace community through an attentive reading of workplace policy and documentation. Each student starts from an initial base of knowledge and experience gained from the previous semester's subjects in focusing on the broader field of electrical engineering.
All students work from this point to build a more meaningful understanding of the practical application of previous subject matter and to enhance their ability to ask questions and find answers.
The student must learn how to deal with new situations with tough problems and unknown answers.

The following steps may guide the student in the learning process:

Articulate initial knowledge
Add to what is already known to refine and enrich it with the student's own efforts
Articulate and correct misconceptions
Make connections between different concepts as applied to the workplace
Realize the limitations of their own ideas when measuring against workplace solutions.
Create and test well-defined problems and ideas
Be concerned with the mental processes as well as the "answer"
Reflect on the way their conceptions are changing
Ask questions (what if, why, how.?)

The ideal learning environment must include but is not limited to:

Initial activities are accessible to everyone and come from common experiences in the workplace
The environment is both accepting and critical
Students are made to feel free to propose their own ideas without premature judgment
Students learn to support their ideas while interacting with management, mentors, technicians, and peers
Conversations take place in which all students feel they can contribute
Ideas are illustrated, and student interest engaged through demonstrations and experiments
An environment is created that fosters self-motivation among the students within the workplace
A variety of types of learning activities are used to meet the wide range of student needs
Students must develop a sense of accomplishment and satisfaction within the workplace.

The responsibilities of management, mentors, and technicians must include but are not limited to:

Help students learn the language of the discipline
Explain goals and methods
Validate the knowledge brought by each student
Create interest and generate curiosity
Encourage students to work hard
Communicate standards of judgment
Help students learn how to use language precisely
Act as a resource without directly answering every question
Provide time to puzzle, wonder, and struggle when permitted.
Provide fair criticism
Encourage collaboration
Teach the student to be an active listener and learner
Question students, so they realize the process of seeking explanations is critically important

The responsibilities of students must include but is not limited to:

- Make use of initial knowledge
- Think freely guided by your workplace environment
- Engage in an active social process of testing and clarifying their understanding
- Develop the ability to work effectively and intensely
- Avoid premature judgment of themselves or others
- Ask questions
- Carefully consider the ideas of others
- Learn to think independently and take responsibility for their own actions
- Value others as useful colleagues
- Evaluate their own progress in an objective manner

4 Module

Name:	Experiential Learning 1	EPEXL1A
Prerequisite:	300 credits	

On successful completion of this subject, the student will have basic knowledge, experience, and understanding to:

Be able to practice calibration and measurement skills.

Be able to demonstrate an understanding of the basics of measurement setups, techniques, and standards applicable.

Be able to conduct functionality determination of electrical, electronic, or computer test equipment used in the specific field as practiced.

Be able to operate electrical, electronic, or computer test equipment used in the specific field as practiced.

This unit links the work covered in the previous modules in a practical manner, for analysis and practice.

5 Assessment

Assessment takes place on a continuous basis by means of a variety of methods and should include the following:

- Active participation in discussions
- Log Book (Annexure A)
- Progress Report (Annexure B)

6 Learning Activities

When you are actively involved with Workplace Based Learning you should:

Understand what is expected of each training section you undertake in the workplace.

Ensure that you attain the outcome for each training section you undertake in the workplace since you must be declared competent to receive the credit for the subject.

Do all learning activities (exercises) as outlined by your mentor

Be well prepared for all work activities and report for work on time.

Successful completion of each activity stipulated by your mentor is compulsory.

Submit the final report fully completed and signed off by the mentor and/or manager, on time.

7 Time schedule / Semester planner

You must make sure that you adhere to all dates of all learning activities in the workplace environment

.

This is a scheduler for your use to ensure punctuality.

Week	Activity
1-20	Complete a logbook of activities daily
10	Complete Progress Report and submit it to Co-operative education at VUT Vanderbijlpark Campus Submit the partially completed logbook (Annexure A) to Co-operative education at VUT Vanderbijlpark campus
20	Complete the Final Report and submit it to Co-operative education at VUT Vanderbijlpark Campus Completed logbook (Annexure A) and submit to Co-operative education at VUT Vanderbijlpark campus

Vaal University of Technology

Faculty of Engineering and Technology

Department Electronic Engineering

VUT

Annexure A

Log Book

Instructional offering: Experiential Learning 1

Code: EPEXL1A

Instructional program: Diploma: Engineering: Electrical (Power)

Assessment: Continues Workplace Based Learning

Document revision: January 2023

Advisory committee approved: November 2022

GENERAL INFORMATION - WBL (EPEXL1A)

STUDENT NUMBER:		**STUDENT'S** POSTAL ADDRESS:
INITIALS & SURNAME:		
ID NUMBER:		
E-MAIL:		
TELEPHONE (WORK):		CELL PHONE:
COMPANY NAME:		
DIVISION:		
TRAINING SITE/STREET ADDRESS:		
MENTOR INITIALS & SURNAME:		
E-MAIL:		

VUT OFFICE USE : *ACCEPTED* □ *DECLINED* □

ACTIVITIES COMPLETED

ACTIVITY NUMBER	NAME	DATES	
		STARTED	COMPLETED

ACTIVITIES SCHEDULED FOR THE REMAINDER OF THE TRAINING PERIOD

ACTIVITY NUMBER	NAME	ESTIMATED DATES	
		START	COMPLETION

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PERSONAL GROWTH

The following is a summary of what I have learned during the past three months in the units that I have completed.

WBL (*EPEXL1A*) activity log compiled by:		
Students signature	*Initials & Surname*	*Date*
WBL (*EPEXL1A*) activity log certified as correct:		
Mentor's signature	*Initials & Surname*	*Date*

Vaal University of Technology

Faculty of Engineering and Technology

Department Electronic Engineering
VUT
Annexure B

Progress Report

Instructional offering: Workplace-Based Learning

Code: EPEXL1A

Instructional program: Diploma: Engineering: Electrical

Assessment: Continues Workplace Based Learning

Document revision: January 2023

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GENERAL INFORMATION - PROGRESS REPORT **WBL (EPEXL1A)**

STUDENT NUMBER:		**STUDENT'S** POSTAL ADDRESS:
INITIALS & SURNAME:		
ID NUMBER:		
E-MAIL:		
TELEPHONE (WORK):		CELL PHONE:
COMPANY NAME:		NUMBER OF EMPLOYEES:
DIVISION:		NUMBER OF STUDENTS IN TRAINING:
TRAINING SITE/STREET ADDRESS:		NUMBER OF ECSA REGISTERED STAFF:
		COMPANY'S SPECIALIZATION FIELD OR PRODUCTS
MENTOR INITIALS & SURNAME:		ACCREDITED ASSESSOR: Y / N
E-MAIL:		CELL OR TELEPHONE:
WPBL PROGRESS REPORT START DATE:		END DATE :

VUT OFFICE USE : *ACCEPTED* □ *DECLINED* □

UNITS COMPLETED

The following table must show the units successfully completed during the past three months.

The units can be seen on pages 17 to 18.

UNIT NUMBER	UNIT NAME	DATES	
		STARTED	COMPLETED

UNITS SCHEDULED FOR THE NEXT THREE MONTHS

The following table must show the units that are scheduled for the next three months of training.

The units can be seen on pages 17 to 18.

UNIT NUMBER	UNIT NAME	ESTIMATED DATES	
		START	COMPLETION

PERSONAL GROWTH

The following is a summary of what I have learned during the past three months in the units that I have completed.

WBL (EPEXL1A) Progress report compiled by:		
Students signature	*Initials & Surname*	*Date*
WBL (EPEXL1A) Progress report WBL certified as correct:		
Mentor's signature	*Initials & Surname*	*Date*