

VAAL UNIVERSITY OF TECHNOLOGY
FACULTY OF ENGINEERING AND TECHNOLOGY
WORKPLACE BASED LEARNING (WBL)
ELECTRICAL ENGINEERING - COMPUTER SYSTEMS



VAAL UNIVERSITY
OF TECHNOLOGY

Inspiring thought. Shaping talent.

TOPIC ASSESSMENT REPORT
WBL 1 (EIEXC1A)

ASSESSOR DECLARATION – ASSESSMENT REPORT WBL 1 (EIEXC1A)

STUDENT	INITIALS AND SURNAME:	C CHABALALA
	VUT - STUDENT NUMBER:	221648380
	ID NUMBER:	0112166056088
COMPANY:	MOEPI PUBLISHING	
TRAINING PERIOD	WBL:	TO <i>START DATE: 01 AUGUST 2025 COMPLETION DATE: 16 SEPTEMBER 2025</i>
ASSESSOR	INITIALS AND SURNAME:	T MASOEU
	CELL OR TELEPHONE NUMBER:	0763425352
	E-MAIL:	TSHIDISO.MASOEU@TEKETE.CO.ZA
ASSESSMENT		
ASSESSOR DECLARATION I, the above-mentioned assessor, declare that the above-mentioned student has completed this workplace-based learning module (WBL) of the qualification in the mentioned period under my supervision. The student was found competent in the outcomes as specified in the assessment report. I confirm that graduate attribute 12 was introduced to the student in preparation for the evaluation in the project module.		
<i>SIGNATURE: TRB.MAsoue</i>		<i>DATE: 10/11/2025</i>
VUT OFFICIAL	FINAL MARK:	
<i>SIGNATURE:</i>	<i>DATE:</i>	

ASSESSMENT REPORT AND TRAINING SCHEDULE WBL 1 (EIEXC1A)

SYLLABUS: ELECTRICAL ENGINEERING - COMPUTER SYSTEMS

TOPIC 1	ORIENTATION / INTRODUCTION					
Company policies, procedures and professional requirements.						
After completion of this topic the student should be able to do the following: <ul style="list-style-type: none">Understand the policies, procedures and professional of the company as laid down in the orientation program.						
Start Date: 01 AUGUST 2025	End Date: 01 August 2025			Total Hours: 8 Hours		
TOPIC MARK (Mark with an X using attached rubric page 19) Assessor Signature: TRB.MAsoreu Date: 10/11/2025		1	2	3	4	X
Give a brief description of what was covered under this topic.						
During the orientation, I learned about the company's mission, vision, and structure. The induction helped me understand the company's rules and what was expected of me in the workplace. I was taught about important policies such as attendance, behaviour, IT usage, and data confidentiality. I also learned about my daily duties, working hours, and the tools and software I would use for my tasks.						
As part of the program, I went on a guided tour of the workplace where I met my supervisors and team members. This experience helped me see how different departments work together to achieve company goals. I also attended the MICT SETA induction, where I learned about the purpose of the training program, my responsibilities as a student, and the importance of ethics, teamwork, and accountability. These sessions helped me feel confident and ready to adapt to the company's culture.						
I also received training on the company's IT Policy, which taught me how to use technology responsibly and protect sensitive information. I learned about safe file storage and data backups. The orientation also emphasized professional communication, proper dress, and respectful behaviour in the workplace.						
By the end of the orientation, I had a clear understanding of the company's expectations and felt fully prepared to perform my duties professionally, responsibly, and with confidence.						

Student Signature: <i>C Chabalala</i>	Date: 01 August 2025				
Mentor Signature:	Date: 10/11/2025				
TOPIC 2	SAFETY AND FIRST AID				
Industrial or Mining safety regulations as applicable, NOSA course and Basic first aid course.					
After completion of this topic the student should be able to do the following: <ul style="list-style-type: none"> Contribute to the safety, health and environment of the industry as laid down in a safety program. Demonstrate and comply with relevant OHSACT. Demonstrate and comply with NOSA safety standards. Demonstrate the necessary first aid skills. 					
Start Date: 04 August 2025	End Date: 05 August 2025		Total Hours: 16 Hours		
TOPIC MARK (Mark with an X using rubric attached page 19)		1	2	3	4 <input checked="" type="checkbox"/> 5
Assessor Signature: TRB.MAsveu Date: 10/11/2025					
Give a brief description of what was covered under this topic.					
<p>During this part of the training, I learned about workplace safety rules and my responsibilities under the Occupational Health and Safety Act. I was taught that every employee has the right to work in a safe environment and must report any unsafe conditions. The company makes sure safety standards are followed by keeping fire extinguishers serviced, marking emergency exits clearly, and providing first aid kits. Regular safety drills and inspections are done, and a trained first aider is always available in case of an emergency.</p> <p>I was encouraged to take part in keeping the workplace safe by reporting hazards such as loose cables, broken tools, or faulty electrical equipment. As part of my training, I also reviewed the June 2025 OHS Audit Report, which explained the company's safety procedures and highlighted areas that need improvement.</p> <p>This training helped me understand how important it is to stay alert, follow safety rules, and work as a team to prevent accidents. It also taught me to take responsibility for my own safety and the safety of others, helping to maintain a healthy and safe work environment.</p>					

Student Signature: <i>C Chabalala</i>	Date: 05 August 2025				
Mentor Signature: <i></i> Date: 10/11/2025					
TOPIC 3	BASIC HAND SKILLS				
Mechanical / Electrical / Electronic / Computer.					
After completion of this topic the student should be able to do the following as applicable to the discipline: <ul style="list-style-type: none"> Competent use of basic tools and equipment. 					
Start Date: 06 August 2025	End Date: 11 August 2025		Total Hours: 32 Hours		
TOPIC MARK (Mark with an X using rubric attached page 19)		1	2	3	4
Assessor Signature: TRB.MAsveu		1	2	3	X
Date: 10/11/2025		5			
Give a brief description of what was covered under this topic.					
<p>During this training, I learned to use basic tools like screwdrivers, pliers, and anti-static wristbands for maintaining and repairing computers. We practiced opening devices, cleaning internal parts, and assembling or upgrading components such as RAM and hard drives while handling tools safely.</p> <p>We also gained skills in troubleshooting hardware and setting up devices like Wi-Fi routers and projectors. This gave practical experience in making sure equipment works properly and efficiently.</p> <p>The training emphasized working carefully to avoid damage and follow safety procedures. We learned how to maintain devices without causing harm to hardware or themselves.</p> <p>Through these activities, we built confidence and developed accuracy and professionalism when handling both electronic and network devices.</p> <p>By the end of the training, we could complete technical tasks responsibly, showing attention to detail and readiness to perform effectively in a professional IT environment.</p>					
Student Signature: <i>C Chabalala</i>	Date: 11 August 2025				

Mentor Signature:	Date: 10/11/2025				
TOPIC 4	TEST EQUIPMENT				
Basics and the application of test equipment.					
After completion of this topic the student should be able to do the following: <ul style="list-style-type: none"> • Demonstrate the understanding of the basics of test equipment. • Operate computer hardware and software test equipment used in the specific field. 					
Start Date: 12 August 2025	End Date: 13 August 2025		Total Hours: 16 Hours		
TOPIC MARK (Mark with an X using attached rubric page 19) Assessor Signature: TRB.MAsoen Date: 10/11/2025	1	2	3	X	5
Give a brief description of what was covered under this topic.					
<p>During this part of the training, I learned about different testing tools used to check and maintain computer systems. I became familiar with hardware tools such as multimeters, logic analyzers, and POST cards, as well as software tools like Wireshark and performance monitors. These tools help in identifying faults and improving system performance.</p> <p>I also gained practical experience using these tools in real and virtual environments. They learned to check system health, monitor performance, run disk diagnostics, and test network connections using tools such as HWMonitor, Wireshark, Nmap, and basic network commands like ping and tracert.</p> <p>Additionally, the student learned to use cloud-based diagnostic tools on Microsoft Azure. They practiced setting up alerts, checking system logs, and monitoring virtual machine performance. These activities helped the student build valuable skills in diagnosing, analyzing, and reporting system issues using modern IT tools and methods.</p>					
Student Signature: CChabalala	Date: 13 August 2025				
Mentor Signature:	Date: 10/11/2025				
TOPIC 5	HARDWARE & SOFTWARE MAINTENANCE				

Computer hardware systems which include Servers, PC's, Laptops, Printers and IoT Devices.					
<p>After completion of this topic the student should be able to display an understanding of:</p> <ul style="list-style-type: none"> • Maintenance procedure, functions and use of the above equipment. • The configure and commission the above computer hardware infrastructure. • Install, update, uninstall and maintain software on clients and servers in a network for both Linux and Windows Operating systems. 					
Start Date: 14 August 2025		End Date: 22 August 2025		Total Hours: 56 Hours	
TOPIC MARK (Mark with an X using attached rubric page 19) Assessor Signature: TRB.MAsoreu Date: 10/11/2025		1	2	3	4 <input checked="" type="checkbox"/> 5
<p>Give a brief description of what was covered under this topic.</p> <p>During this part of training, I focused on maintaining and troubleshooting computer hardware, including desktops, laptops, printers, and storage devices. Tools like HWMonitor and Device Manager were used to check system performance, monitor CPU temperatures, and find missing or faulty drivers. Disk checks with chkdsk were performed to detect errors and ensure storage devices worked properly. These tasks gave us practical experience in identifying and fixing common hardware problems.</p> <p>For software maintenance, I practiced installing, updating, and removing programs on Windows and Linux systems. Performance monitoring tools were used to see how applications used system resources, and stress tests were done by running multiple programs to check stability.</p> <p>I also learned to use debugging tools and system utilities to find software errors. This hands-on experience helped the us improve skills in managing and maintaining software while keeping computer systems secure and running efficiently.</p>					
Student Signature: Chabalala		Date: 22 August 2025			
Mentor Signature:		Date: 10/11/2025			
TOPIC 6	NETWORK MAINTENANCE				
Introductory aspects of network maintenance such as cabling and physical infrastructure.					

<p>After completion of this topic the student should be able to demonstrate the ability to:</p> <ul style="list-style-type: none"> • Demonstrate the ability to build and cable network infrastructure. • Demonstrate the ability to configure a heterogenous network, comprising of both Linux and Windows end devices, switches and routers. • Demonstrate the ability to troubleshoot a SOHO to a medium network. 					
Start Date: 25 August 2025	End Date: 28 August 2025		Total Hours: 32 Hours		
TOPIC MARK (Mark with an X using attached rubric page 19) <i>Assessor Signature: TRB.MAsoen</i> Date: 10/11/2025		1	2	X ³	4
<p>Give a brief description of what was covered under this topic.</p> <p>During this part of training, I learned to set up a mixed network of Linux and Windows devices entirely in Packet Tracer. We assigned IP addresses, configured DHCP on the router, and connected all devices to ensure proper communication. This practice helped the student understand LAN design, gateway setup, and how devices connect to the internet and cloud services.</p> <p>We also focused on troubleshooting by creating errors such as incorrect IP addresses, disconnected connections, and misconfigured gateways within Packet Tracer. Tools like show IP interface brief, tracert, and traceroute were used to identify and fix these network problems.</p> <p>By completing these exercises in Packet Tracer, I gained hands-on experience in restoring and maintaining network operations. This training strengthened the student's skills in diagnosing and solving network issues, preparing them to manage networks in small office (SOHO) and medium enterprise environments.</p>					
Student Signature: <i>C Chabalala</i>		Date: 28 August 2025			
Mentor Signature:		Date: 10/11/2025			
TOPIC 7	DATABASE MAINTENANCE				
Database Software					
<p>After completion of this topic the student should be able to:</p> <ul style="list-style-type: none"> . Install, maintain and administer database software. 					

Start Date: 29 August 2025	End Date: 03 September 2025	Total Hours: 32 Hours				
TOPIC MARK (Mark with an X using attached rubric page 19) Assessor Signature: TRB.MAsveen Date: 10/11/2025		1	2	3	X	5
Give a brief description of what was covered under this topic. <p>During this part of training, I focused on working with MySQL databases. We learned how to install and configure MySQL, create user accounts, and assign permissions to keep data secure and control access.</p> <p>We also practiced maintaining databases by performing backups, optimizing performance, and monitoring system efficiency. Troubleshooting skills were developed to fix issues with database connections, query performance, and storage management.</p> <p>I learned to connect MySQL databases to Power BI. This allowed them to extract, analyze, and visualize data, showing how well-managed databases support reporting and business decision-making.</p> <p>In addition, we gained hands-on experience creating dashboards and reports in Power BI, using real database data. This helped develop practical skills in presenting insights clearly and effectively for business use.</p>						
Student Signature: CChabatula		Date: 03 September 2025				
Mentor Signature:		Date: 10/11/2025				

TOPIC 8	IoT			
IoT systems for home and industrial use				
After completion of this topic the student should be able to do the following:				
<ul style="list-style-type: none"> Configure and integrate various IoT devices in an existing network. 				
Start Date:	End Date:	Total Hours:		

TOPIC MARK (Mark with an X using attached rubric page 19)	1	2	3	4	5
Assessor Signature:					
Date:					
<i>Give a brief description of what was covered under this topic.</i>					
Student Signature:	Date:				
Mentor Signature:	Date:				

TOPIC 9	CLOUD COMPUTING				
Virtualisation of resources					
After completion of this topic the student should be able to do the following: <ul style="list-style-type: none"> • Have good understanding of cloud technologies and their use cases. • Carry out simple tasks in a cloud environment (software or hardware related) 					
Start Date: 04 September 2025	End Date: 05 September 2025		Total Hours: 16 hours		
TOPIC MARK (Mark with an X using attached rubric page 19)	1	2	3	4	5
Assessor Signature: TRB.MAsveen					
Date: 10/11/2025					
<i>Give a brief description of what was covered under this topic.</i>					
During this part of training, we learned how to deploy virtual machines (VMs) in Microsoft Azure, including both Linux and Windows systems. We practiced creating and configuring VMs, assigning IP addresses, and connecting to Windows VMs using Remote Desktop Protocol (RDP) for management and administration.					

I worked with resource groups to organize and manage Azure resources efficiently, making it easier to monitor and control multiple VMs and services. Virtual networks and subnets were also configured to allow secure communication between VMs, with proper IP address assignment to ensure network connectivity.

Network Security Groups (NSGs) were set up to control access to the VMs and network resources. The student practiced creating rules to allow or block traffic, ensuring secure access while maintaining connectivity for required services.

I also gained experience using PowerShell to associate, configure, and manage servers and services. This included installing server roles, managing users and permissions, and performing administrative tasks efficiently from the command line.

By the end of the training, we had practical skills in deploying and managing VMs, configuring networks, subnets, NSGs, and IP addresses, connecting via RDP, and using PowerShell for server administration. This provided a strong foundation for designing and maintaining secure, functional cloud infrastructure in Azure.

Student Signature: *CChabalala*

Date: 05 September 2025

Mentor Signature:

Date: 10/11/2025

TOPIC 10	CYBER SECURITY					
Basic protection mechanism for computer systems infrastructure						
Start Date:	End Date:	Total Hours:				
TOPIC MARK (Mark with an X using attached rubric page 19)		1	2	3	4	5
Assessor Signature:						
Date:						
Give a brief description of what was covered under this topic.						
Student Signature:	Date:					

<i>Mentor Signature:</i>	<i>Date:</i>
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OTHER TOPICS (You can add any topics related to the training)

TOPIC 11	POWER BI VISUALS				
After completion of this topic the student should be able to do the following:					
<ul style="list-style-type: none"> Understand how to connect and import data from SQL databases into Power BI using direct queries and data import modes. Perform data transformation and modeling in Power BI using Power Query to clean, merge, and shape SQL data for analysis. Integrate Python scripts within Power BI for advanced analytics, automation, and custom visualizations. 					
Start Date: 08 September 2025	End Date: 16 September 2025			Total Hours: 56 Hours	
TOPIC MARK (Mark with an X using attached rubric page 19)		1	2	3	4 <input checked="" type="checkbox"/>
Assessor Signature: TRB.MAsveen		10/11/2025			
Give a brief description of what was covered under this topic.					
<p>During this part of training, I focused on creating dashboards to support data-driven decision-making. Using MYSQL databases, we organized employee leave data and Scrum meeting information, then connected this data to Power BI to design interactive dashboards that showed trends, approval rates, and project progress.</p> <p>We developed a Leave Management dashboard to visualize employee attendance, leave requests, and departmental statistics. This helped managers easily track leave patterns and make informed decisions.</p>					

For the Scrum Data Dashboard, I captured information from daily Scrum meetings, including team attendance and project updates. The dashboards displayed team performance, consistency, and progress over time, giving clear insights into project management.

We also learned to integrate MYSQL data with Power BI, combining technical database skills with visual reporting. This strengthened the ability to present complex data in a clear and accessible way for management.

By the end of the training, we had hands-on experience in designing dashboards that provide actionable insights. This work showed our ability to create practical, data-driven tools that support workplace productivity and decision-making.

Student Signature: *C Chabalala*

Date: 16 September 2025

Mentor Signature:

Date: 10/11/2025

APENDIX A

GRADUATE ATTRIBUTE(GA)

Note to Assessor and Mentor

ECSA requires that GA12 be evaluated at the end of the WIL training. This GA must be introduced to the student when starting with WBL1 module, developed further in WBL 2 module, and evaluated in WBL 3 (project module). In this module, there is need for proof of how this GA was introduced to the trainee. Below are the descriptions of what this GA entails.

Learning outcome: Demonstrate an understanding of workplace practices to solve engineering problems consistent with academic learning achieved.	
<ul style="list-style-type: none">The balance of investigation and experiment should be appropriate to the discipline. An investigation or experimental study should be typical of those in which the graduate would participate in an employment situation shortly after graduation.	
Where is the outcome assessed?	In the final Workplace project report.
How is this outcome assessed?	<p>Students must submit a report, validated by a mentor, demonstrating their capability to:</p> <ul style="list-style-type: none">Utilize computer engineering principles to develop, construct, and configure systems within the workplace-based learning environment.Employ computer engineering principles for the design or enhancement of existing systems.Implement computer engineering principles to innovate or improve processes within the workplace.

	<ul style="list-style-type: none"> • Certainly! Here are additional points that build upon the initial requirements, showcasing a comprehensive application of computer engineering principles in a workplace-based learning setting: • Analyse and evaluate the performance of implemented systems, employing computer engineering principles to identify optimization opportunities and implement effective solutions. • Apply critical thinking and problem-solving skills to troubleshoot and resolve technical issues that arise during the development or operation of systems. • Collaborate effectively with cross-functional teams, using computer engineering principles to communicate technical concepts clearly and contribute to interdisciplinary projects. • Demonstrate an understanding of industry standards and regulatory requirements relevant to computer engineering, ensuring that all projects comply with these guidelines. • Employ computer engineering principles to assess the security implications of systems and processes, implementing robust security measures and protocols to protect organizational data. • Integrate sustainability considerations into system design and development, applying computer engineering principles to promote environmental responsibility and resource efficiency.
What is satisfactory performance?	<p>The student must comply with conducting a proper investigation and experiment to uncover the required information. The student should reflect the following in the report:</p> <ul style="list-style-type: none"> • define the scope, methodology, and literature review, • analyse the results, draw conclusions, provide possible solutions (outcome if experimental), • report on the work in writing, keeping in mind to use appropriate methods/tools. • Include a portion of data/data analysis in the literature review. <p>This graduate attribute is assessed by a comprehensive four (4) level rubric where a minimum set of outcomes must be met to prove competency. The GA assessment is categorised as follow:</p> <ul style="list-style-type: none"> • Poor - student does not comply at all,

	<ul style="list-style-type: none"> • <i>Borderline</i> - may comply with corrections, • <i>Competent</i> - min to moderate compliance is met, • <i>exceed expectation</i> – max compliance is met. <p>All objectives must be achieved with at least the foundational level of adherence as specified by the assessment criteria. This involves a detailed evaluation of the necessity for the project. Computer engineering students must comprehend the critical importance of experimental and project-based work, demonstrating proficiency in planning and executing technology-driven projects. In particular, they are expected to:</p> <ol style="list-style-type: none"> 1. Choose the most appropriate hardware and software tools for conducting research or experimental projects, showcasing the ability to accurately select and utilize the necessary technology with minimal mistakes. 2. Independently set up and conduct experiments or simulations using specified hardware and software, requiring negligible assistance. They demonstrate a significant degree of autonomy in navigating and employing complex computational tools and environments. 3. Analyse, interpret, and draw meaningful insights from data collected during the project. Perform precise calculations or analyses with minor discrepancies. 4. They should also be capable of comparing experimental data with theoretical concepts, acknowledging any discrepancies, measurement inaccuracies, and variables that could influence the outcomes.
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	<p>5. Formulate conclusions based on a thorough analysis of all gathered data. The conclusions should be detailed in a coherent paragraph that encapsulates the project's findings, exhibits a logical flow, and suggests avenues for future research or development.</p> <p>6. Compile the project's objectives, methodology, and findings into a well-organized technical report. Although the report might omit a few negligible details, it should largely reflect the attributes of a comprehensive and professional document, including being properly bound.</p>
What is the consequence of unsatisfactory performance?	Achieving this attribute is a critical requirement for successfully completing Workplace Based Learning. Non-compliance will result in failure, regardless of whether the aggregate score from all summative assessments is a pass. Students who do not satisfy one or more of the criteria will be afforded a second opportunity, within specified deadlines, to fulfil all requirements for the Graduate Attribute (GA). Should a student fail to meet all criteria after this second chance, they will not pass the module, and their record will indicate 'Fail to meet GA 12'.

APENDIX B

WBL 1 RUBRIC

Evaluation Rubric		This guideline can be used by the assessor to do student evaluations.						
Rating	Theoretical knowledge	Application of theory	Use of: advanced tools / measuring equipment	Skills integration / Competencies gained	Working speed	Accuracy	Interpersonal relations	Diligence motivation
1 0-19%	Has little knowledge	Cannot apply any theory	Cannot use advanced equipment	Has not integrated any skills	Very slow and does not successfully complete any tasks	Never Accurate	Does not get along with any staff	Does nothing unless instructed
2 20-39%	Can recall some basic knowledge	Can apply some theory with assistance	Can use advanced equipment with assistance	Has integrated some documented skills	Never complete tasks successfully on time	Has to redo and then sometimes accurate	Can interact positively with most of the staff	Does just enough to keep out of trouble
3 40-59%	Knows the basic minimum	Can apply the basic minimum theory	Can use advanced equipment to do the basic minimum	Has integrated the basic minimum documented skills	Just complete tasks successfully and on time	Just meets the minimum specifications	Interact positively with all the staff	Does the minimum expect

4 60-79%	Good knowledge	Can apply high-level theory	Can select and use advanced equipment independently	Effectively integrate skills as needed in practical applications	Normally complete all tasks successfully before/on time	Work is always better than the minimum expected	Is accepted by the staff as somebody with good personal skills	Normally looks for over and above work to do
5 80-100%	Excellent knowledge	Can analyse and synthesise	Optimally select and use advanced equipment	Innovatively integrate all theoretical and practical skills to solve problems	Always complete all tasks successfully before the time	Work is always excellent.	Uses personality to positively influence other staff	Ambitious and eager to prove talents beyond requirements

