

REFLECTIVE ELECTRICAL ENGINEERING LEARNING (REEL2026)

Building Skills and Professionalism through
Industrial Training

SKILLS



REEL2026
Reflective
Electrical Engineering Learning

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BUILDING SKILLS AND PROFESSIONALISM THROUGH INDUSTRIAL TRAINING



REEL 2026

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*"Building Skills and Professionalism
through Industrial Training"*

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*Reflection transforms
experience into meaningful learning*

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Developing Industry-Relevant Technical Skills Through Industrial Training in Electrical Engineering

Alif Hakimi bin Abdullah Sani, *Siti Sarah binti Mat Isa
Faculty of Electrical Engineering, Universiti Teknologi MARA Cawangan Pulau Pinang,
Permatang Pauh, Malaysia

*Corresponding author's email: sitisarah6195@uitm.edu.my

It is important to attend training within the industry as a crucial step in gaining knowledge and developing practical skills for an electrical engineering student. Throughout my entire period of internship, I have engaged myself with various practices associated with the industry, such as troubleshooting machines, testing units, and repairing for electronic boards. As a result, I managed not only to make a link between theoretical knowledge and practice but also to improve my technical and professional skills. For instance, one of the essential technical skills which I gained is related to testing units using a DUT board and a socket tester. To ensure the correct results of the tests, it is necessary to align and place each unit properly. Through this testing activity, I learned that accuracy, patience, and attention to detail are very important in ensuring the quality of the product. A small mistake during alignment or placement may affect the testing result and lead to an incorrect judgment on the unit condition. This experience helped me understand that practical work in the industry requires not only technical knowledge but also focus, consistency, and responsibility.

Furthermore, I obtained skills of inspecting and managing electronic boards including the CUH board and the DB board. For example, I discovered how to maintain PCB board on the CUH to prevent any dirt from damaging it. There have been times when even after cleaning the pins, the output of the handler does not come, and there is a need for cleaning the entire PCB. During my internship experience, I was able to learn about troubleshooting processes in machines and handlers. With the help of technicians, I was able to find out the problem, analyze what could be its cause, and then fix the issue accordingly. By consistently observing and doing this, I was able to learn how to solve such problems effectively. Moreover, my skills in troubleshooting have developed as well due to the necessity of conducting observations and thinking logically to take any action on solving the problem. In other words, besides fixing the malfunctioning device itself, one needs to know the reasons for such problems to avoid them in the future. What is more, I have realized how crucial teamwork is during this type of activity. While observing how they communicate with each other, it became obvious to me that cooperation plays an important role in the maintenance process.

One other good experience I gained was when I observed the pin replacement for the CUH board. Since the components in question were very delicate and quite costly, I mainly observed how the technicians would remove and put the pins into place. This made me see the importance of precision and attention to detail when working with electronic components. While doing my internship, I also gained skills in opening and handling the DB board in the testing machine. This meant learning the right way of using the necessary tools.

Not only were the technical skills developed but also some of the professional and organizational skills. An organized email folder was created using Microsoft Outlook to

report the status of work on a daily basis. This helped me develop writing and communication skills as well as the importance of documentation in a professional environment. The aspect of safety and professionalism was also taught during my training period. Some of the important items that I was issued included a smock, safety shoes, and an ID badge.

Figure 1 illustrates several handler and tester machines utilized on the manufacturing line for the purpose of unit testing and inspection. Such machines are critical to ensure accuracy and effectiveness in testing each individual unit based on the needed specifications. In this respect, the machine named "handler" is used to handle and position the unit while the other machine called "tester" conducts electrical testing and determines if the unit is either successful or unsuccessful. During my internship period, I worked on such machines, which enhanced my knowledge about the testing process. By being exposed to these machines, I gained a better understanding of the workflow involved in the production and testing section. I also learned that each machine plays a specific role and must operate properly to ensure a smooth manufacturing process. In addition, I have been able to understand the importance of coordinating the machines and performing preventive maintenance. Indirectly, interacting with machines has helped me learn more about the application of engineering principles in manufacturing.



Figure 1: Multiple Handler and Tester Machines Used in the Production and Testing Process

To conclude, what I would like to state is that my industrial training has been of great use to me as an electrical engineering student. Through this experience, I was able to strengthen my technical knowledge, improve my practical abilities, and develop important professional skills such as communication, documentation, teamwork, and discipline. The exposure to real industrial tasks has increased my confidence and prepared me to face future challenges in the engineering field. More importantly, this internship has motivated me to continue learning and improving myself so that I can become a competent, responsible, and industry-ready engineer in the future.

Authors' Biography



Alif Hakimi bin Abdullah Sani is an Electrical Engineering Diploma student at Universiti Teknologi MARA (UiTM) in Cawangan Pulau Pinang. Currently, he is engaged in his industrial training, which involves troubleshooting machinery, maintaining electronic boards, and conducting unit testing procedures. This internship provides him with the opportunity to gain practical experience in electrical and electronics engineering. His goal is to increase his technical expertise and eventually become a proficient engineer.



Siti Sarah binti Mat Isa has 15 years of teaching experience in power engineering field. She received MEng. In Power System and Electrical Energy from Universiti Malaya (UM) in 2011. Her current research interests are in power system transient and renewable energy specifically in battery energy storage system.

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