

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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Power and Precision: My Industrial Training Experience

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The electrical systems throughout campus can be described as "the quiet backbone and heartbeat of the campus" in that when you walk past them, you'd never know how many there are or how complex they are until you step inside the campus facilities. My move from the theoretical component lab in my electrical engineering diploma programme to the actual work facility, called Bahagian Fasiliti, involved a significant change for me; I also finished my internship which was only one requirement for graduation, but completing my internship allowed me to see how an abstract circuit diagram is then built out into a physical apparatus.

When I entered the TNB Substation I was amazed at just how large the equipment is (especially the AREVA backup transformers) versus how I had previously pictured them just being a simple calculations on paper and seeing how large a transformer really is in a real world scenario made me realize that engineering is not just doing your calculations or math on paper, but is really about managing the safe use of large amounts of electrical energy from the moment it is produced until it gets to the end user.



Figure 1: Close-Up View of the AREVA Backup Transformer, A Critical Component for Power Reliability

Throughout my internship at this facility, I had the pleasure of using specialized technologies such as HV switch gear and Krone IDC tools for telecommunication installations. Through hands-on experience with physical connections and cables management, I was able to understand how every tiny connection plays an important role in the overall telecommunications network.

During my work experience, I quickly learned that a successful modern-day engineer must be flexible in how they operate digital tools. As I began to handle data more similarly utilizing the Microsoft Excel spreadsheet software (including advanced functions I continued to learn on my own), when I came across new logical challenges that we hadn't covered in classroom, I was able to locate and reference online technical resources and resolve the issues I encountered. This taught me one of the main lessons in my engineering career; the best quality I have as an engineer may be the ability to find and utilize new information in a timely manner when presented with an engineering challenge.



Figure 2: Learning the Operation and Monitoring of High-Voltage (HV) Switchgear Panels Under Professional Supervision

The technical aspect is only about half of the overall responsibilities of a facility; the foremost of which is safety within the facility. My team and I all share in the responsibility of performing routine safety checks on the wall sockets, as well as inspecting the MSSB (Main Secondary Switchboard).

While working on electrical work, I learned that being a member of the facility team means flexibility. I participated in many of the tasks outside of the electrical work such as painting and building preparation. I realized that achieving engineering excellence also entails taking pride in the physical area you work in. Through my experiences here in this cooperative environment and having to overcome my own personal reservations, I have learned what it truly means to be part of "alam pekerjaan".

Having completed my industrial workplace training, I have witnessed an unmistakable transformation in my level of confidence. I previously viewed engineering as merely a strict set of regulations; however, my view has now evolved into that of a constantly changing learning experience. The real-life obstacles that I faced throughout this training period have taught me what will really happen to me in the future workplace environment, from high voltage electrical infrastructure systems down to facility maintenance day-to-day operational activities. It is now even more important for me to keep working on improving both myself

and my abilities to succeed after I graduate as an Electrical Engineer.



Figure 3: Collaborating With Teammates on Facility Maintenance (Left) and Conducting Safety Inspections of Electrical Outlets (Right)

Authors' Biography



Harith bin Hanafiah is a dedicated student currently pursuing a Diploma in Electrical Engineering (Electronics) at Universiti Teknologi MARA (UiTM). He is currently undergoing his 16-week industrial training at Bahagian Pengurusan Fasilitas, UiTM Permatang Pauh, which began on 2nd March 2026. With a strong technical interest in embedded systems and microcontroller programming, he aims to utilize his internship experience to bridge the gap between classroom theory and the professional working world.



Mohaiyedin bin Idris is a Senior Lecturer at Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang. His area of expertise is Electronic System Design. He holds a Diploma in Engineering from Politeknik Ungku Omar, a Bachelor's degree from Universiti Teknologi Malaysia (UTM), and a Master's degree from Universiti Sains Malaysia (USM). He is involved in teaching and developing new ideas in engineering to support industry needs.

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