

# REFLECTIVE ELECTRICAL ENGINEERING LEARNING (REEL2026)

Building Skills and Professionalism through  
Industrial Training

# SKILLS



**REEL2026**  
Reflective  
Electrical Engineering Learning

# REFLECTIVE ELECTRICAL ENGINEERING LEARNING

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## BUILDING SKILLS AND PROFESSIONALISM THROUGH INDUSTRIAL TRAINING



## REEL 2026

### REFLECTIVE ELECTRICAL ENGINEERING LEARNING

*"Building Skills and Professionalism  
through Industrial Training"*

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*Reflection transforms  
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## Learning, Building Practical Competencies and Professionalism During Industrial Training

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Before I started my internship in March 2026, I didn't have any information about the company, RHA Consulting Engineers Sdn. Bhd that I had already applied. Based on my understanding, the company mainly specializes in consultancy services related to mechanical and electrical engineering fields. I never imagined or expected myself to be a consultant engineer in my career life. Also, I wasn't excited to be intern with the company because I didn't have any other intern friends to accompany me through my internship months and working in office which is getting a little bit boring for me.

On the first day of my internship at RHA Consulting Engineers, I felt like my mind was blank and I didn't know anything about the scope of work that I would face during my first month of internship. This is because I didn't have a single bit of experience in the real world of work. I was invited and introduced by my project manager to find out a little bit about the company I was working for. She also explained the scope of work in the company which is a professional consulting firm specializing in Mechanical, Electrical, and Gas (M.E.G.) engineering,

I was exposed to true engineering tasks that extended far beyond my classroom theories. In this article, I will discuss the processes involved in the consultancy and supervision projects for the company, along with the difficulties encountered during their implementation. The result is that I have gained experience and knowledge about some technical aspects and professional standards concerning the workplace environment. A sample daily activity that I would conduct when there was no staff member in the office can be seen in Figure 1 below. Because of that, I will take a lead to close the office after 5:30 pm.



Figure 1: Closed office after office hours

Not only that, but sometimes I struggled to understand how theoretical knowledge from my diploma applied to actual engineering documents and site inspections. However, I learned to identify real defects in wiring, earthing systems, and main switchboards. Furthermore, I

participated in preparing tender drawings and contract documents by doing AutoCAD software as shows in Figure 2, where I am trying to practice more on using AutoCAD, which taught me the importance of precision in engineering consultancy and the importance of AutoCAD for the industry. One significant challenge I faced was interpreting the scope of works for a building's air conditioning and fire-fighting system.



Figure 2: AutoCAD Practices

During my internship, I also had the opportunity to participate in a PIAT TNB site investigation for a compact substation at Caltex Machang Bubok. I also took part in another PIAT TNB site investigation for a TNB substation double chamber at RTB Sanglang. Figure 3 shows the PIAT TNB investigation that I participated where at the Caltex Machang Bubok site, I learned how to inspect a compact substation and verify its compliance with TNB technical standards. The investigation at RTB Sanglang revealed to me the process in which the double-chambered substation separates the equipment from both high voltage and low voltage to ensure safety and maintenance. The site investigations of PIAT TNB allowed me to gain practical insight into the inspection of actual substations and understand why grounding, cabling, and segregation are crucial.



Figure 3: Participate in PIAT TNB Site Investigation

Finally, my work experience as a trainee engineer in RHA Consulting Engineers Sdn Bhd helped me realize that being an electrical engineer means more than just listening; it requires one to actively solve problems, keep safety in mind, and be professional. I advise upcoming trainees to seize opportunities, question things, and reflect on what they do daily for maximum gain. I am better equipped now to become an engineer in Malaysia's electrical engineering world.

### Author's Biography



**Mohamad Nabil Ashraf bin Mohd Nasir** is a dedicated student pursuing a Diploma in Electrical Engineering Power at Universiti Teknologi MARA Cawangan Pulau Pinang. He is undertaking an internship program at RHA Consulting Engineers Sdn Bhd in order to complete his course work. He assisted with PIAT TNB site investigations in compact substations as well as double chamber substations during the internship period. This helps him put his theoretical knowledge to practical use.



**Abdul Rahim bin Ahmad** is currently a lecturer with the Department of Computer, Faculty of Electrical Engineering at Universiti Teknologi MARA Cawangan Pulau Pinang since 2001. Received his degree of electrical engineering from Universiti Teknologi Malaysia in 1996. His teaching courses are Programming, Computer Networking and Microprocessor System. He is interested in research areas including Embedded System and Image Processing using Artificial Intelligence or Internet of Things.

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