

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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Held Together by Wires and Will

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It was the first working experience of my entire life. The nervousness and excitement mixed in my heart when I first stepped into J.K. Wire Harness Sdn. Bhd. in Tapah. It seems like just yesterday I registered as a Diploma student at UiTM Cawangan Pulau Pinang, and now I am in my final semester, starting my internship. It was not attending lectures or doing experiments in the laboratory anymore. This is a real industrial environment. The Human Resources department greeted and welcomed me warmly, so that I could calm down a little bit. On the first day, I spent most of the time on orientation. I have been introduced to workplace policies, safety rules, and how the factory operates. The most important thing in this engineering field is safety, discipline, and responsibility, which every worker should have. I will always remember that. I also got an overview of the company's work, which is making wire harnesses for the automotive industry. I try to connect what I learned in class to this real situation. It really triggered me on the first day to know and gain more from this internship opportunity. To have an idea of how the engineering world operates in an actual production setting.

I was assigned to the Cut and Crimp (C&C) department, one of the key areas of the production line. This department produces wires to a specific design and then assembles them into larger systems. First, I was shown different machines for cutting, stripping and crimping wires. Every machine has its own purpose. I am aware that even minor adjustments in the machine configuration can affect the quality of the end product. My co-workers have told me that it is very important to be precise and consistent in order to meet the standards that are needed for the wires. Failing to do so might be a problem later. This experience gave me a better understanding of how the basic electrical components are fabricated and handled in mass production.



Figure 1: J.K. Wire Harness Tapah

My primary responsibility in the department was to support Kaizen activities. Kaizen focuses on continuous improvement through small and consistent changes that enhance productivity,

efficiency, and safety. Although the tasks involved were not always directly related to my core field of electrical and electronic engineering, I do believe they played an important role in the system. I can use this knowledge and experience to develop my analytical thinking and problem-solving skills. I learned how to evaluate existing processes, identify potential issues, and suggest practical improvements. For instance, small adjustments in workflow arrangement or material handling can reduce time wastage and improve overall efficiency. From these experiences, I now understand that engineering is not only about technical knowledge but also about improving systems and processes in a practical and sustainable way.

I took the initiative to observe and assist the maintenance team whenever the opportunity arose to strengthen my technical learning. This allowed me to gain exposure to real troubleshooting processes, especially those involving sensors and machine operations. I observed how faults were identified systematically, starting from basic checks such as power supply and wiring connections, followed by a detailed inspection of components. In some situations, I was able to assist in simple tasks such as checking connections and understanding how sensors function within the system. These hands-on experiences helped me relate classroom concepts, such as sensor operation and basic circuit understanding, to actual industrial equipment. This bridging of theory and practice is essential in developing industry-relevant technical competence.

One of the most valuable experiences during my industrial training was my involvement in the installation of a new machine in the department. This process required careful planning and coordination among different teams. It began with designing a suitable layout to accommodate the new machine, followed by the temporary rearrangement of existing machines to ensure smooth workflow during the installation period. I had the opportunity to assist in preparing the electrical setup, including arranging plug points and observing the installation of safety sensors. I also observed how technicians configured and tested the machine before it was fully operational.



Figure 2: Installing a New Machine

The installation process took several weeks to complete and involved multiple stages, including planning, setup, testing, and final commissioning. Through this experience, I learned that technical implementation in industry requires not only knowledge but also

teamwork, communication, and careful coordination. Each individual involved in the process contributed different expertise, highlighting the importance of collaboration in achieving a common goal. This experience also exposed me to real challenges such as time constraints, safety considerations, and the need for precision in execution. Feels so grateful, and it is a very valuable chance to develop my engineering skills.

Throughout my industrial training, I realized that developing practical technical skills requires continuous effort and a proactive attitude. Learning does not only occur through assigned tasks but also through observation, asking questions, and seeking opportunities to be involved in different activities. Even when my assigned role was not directly aligned with my specialization, I learned to adapt and extract relevant knowledge that could contribute to my development as an engineering student. This adaptability is an important skill, especially in this evolving technology, where engineers are expected to adapt quickly, and update their knowledge and skills continuously.

In conclusion, my industrial training at J.K. Wire Harness Sdn. Bhd. provided meaningful exposure to real-world engineering practices and helped me develop practical and industry-relevant technical skills. Through my involvement in production processes, Kaizen activities, maintenance observation, and machine installation, I gained valuable experience in how engineering knowledge is applied in industry. More importantly, this experience taught me the importance of adaptability, problem-solving, teamwork, and continuous learning. These lessons will serve as a strong foundation for my future career, enabling me to grow as a competent engineer who is prepared for lifelong learning in a dynamic and challenging industry environment.

Authors' Biography



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