芝浦工業大學 SHIBAURA INSTITUTE OF TECHNOLOGY

AY2025 Global PBL (Outbound) Performance Report

Practical Application of Electronic Circuits Outobound gPBL at Silpakorn University

Date	Place	Partner Organization	Students' Major and Grade	Participants' Information	SIT Instructor
2025/08/18 ～2025/08/26	Thailand	Silpakorn University	・Advanced Electronic Engineering、Department of Electronic Engineering ・Undergraduate 1st grade、Undergraduate 4th grade、Undergraduate 3rd grade、Undergraduate 2nd grade	(SIT) Students 8, Professor 1 (Silpakorn University) Students 12, Student Staff 10, Professor 4	ISHIKAWA Hiroyasu(Electrical and Electronic Engineering Advanced Electronic Engineering)

Image1 Magnetic sensor group

The gPBL was conducted at Sanam Chandra Palace Campus, Silpakorn University (SU), Thailand. 3 SU students and 2 SIT students were in a group, and 4 groups were formed. After a short lecture by the SU teacher on each topic, the groups proceeded to work on their respective PBL assignments. In Group 1, the team built a measurement device using a magnetic sensor and worked on measuring weak magnetic fields. Group 2 tackled the development of a novel counter using digital circuits. Group 3 focused on creating a measurement circuit for analog systems and explored a new method for data acquisition. Group 4 developed an image recognition device using machine learning and worked on improving the accuracy of automated mango sorting. During the final presentation, each group presented their background and outcomes. Through Q&A sessions with participating students and teachers, the groups shared their results and discussed potential future applications. Moreover, SIT students also visited local historical temples and other sites with SU students to learn about the historical background, culture and values.

Image2 Counter group

Image3 Circuit conditioner group

Image4 Machine learning group