

gPBL on Mathematical Sciences in Omiya Campus of Shibaura Institute of Technology

Date	Place	Partner Organization	Students' Major and Grade	Participants' Information	SIT Instructor
2025/03/02 ~2025/03/10	Japan	Institut Teknologi Sepuluh Nopember	Department of Mathematical Sciences, Systems Engineering and Science Undergraduate 1st ~ 4th grade, Master 1st grade	(SIT) Students 23, Student Staff 6, Professor 2, Staff 1 (Institut Teknologi Sepuluh Nopember) Students 16, Professor 2	ZHAI GUISHENG (Department of Mathematical Sciences), TAMORI Hiroyoshi (Department of Mathematical Sciences)



Image1 Kawagoe Cultural Tour

We carried out a global PBL program during the period of March 2–10, 2025, in Omiya campus of SIT. A total of 39 students, 23 from SIT and 16 from Institut Teknologi Sepuluh Nopember (ITS), participated in the program. In addition, 2 SIT faculty members, 6 SIT teaching assistants, and 2 ITS faculty members participated to provide guidance and support to the students.

Concerning the gPBL activities, all students were divided into 6 groups, and all groups performed group work on two projects. In the first project, the students challenged the optimization solutions for creating an open box from a piece of A4 size cardboard, with the primary goal of either optimizing the box's volume or minimizing material waste. In the second project, the students explored optimization formulation and solution of designing a cupboard, by defining the objective function, identifying design variables, and incorporating relevant constraints to ensure a feasible solution. After several days of group work, all groups reported their results on both projects at the final presentation.

During the gPBL period, a cultural tour of visiting Kawagoe city, Shorinji Kempo Club experience, Yukata workshop, and visiting Omiya Technical High School, were conducted to provide students with opportunities to experience aspects of Japanese culture and technology, and to encourage international exchange. The welcome dinner and farewell party were also great opportunities for the students to interact with each other, which have deepened their friendship. With the support of the department secretary and SIT International Office, all activities went smoothly, and we consider this gPBL to have been a great success.



Group Work



Shorinji Kempo Club Experience



Yukata Workshop



Visiting Omiya Technical High School



Final Presentation



Group Photo (Closing Ceremony)