芝浦工業大學 SHIBAURA INSTITUTE OF TECHNOLOGY

2019 Global PBL (outbound) Program Report

Introduction to Bioprocess Engineering through PBL

Implementation period	Implementing country	SIT's implementation partner organization	Target students	participant	SIT instructor
2019/08/28 ～2019/09/03	**Taiwan**	**National Taiwan University of Science and Technology Widya Mandala Catholic University Surabaya**	・Applied Chemistry ・Undergraduate 1st grade、Undergraduate 2nd grade、Undergraduate 3rd grade	(SIT) Students 10, Professor 2 (National Taiwan University of Science and Technology) Students 30 (Widya Mandala Catholic University Surabaya) Students 5	yoshimi yasuo(Department of Applied Chemistry)、kidowaki masatoshi(Department of Applied Chemistry)

Image1

The objective of the program is to expose participants to biochemical experimental operation and biochemical processing plants, and to let them make presentation about these events.
Prof. Yasuo Yoshimi of SIT made a 30 min-speech titled “A Manner for Crossing Bridge to Understanding” at the opening address. Then they experienced fundamental experimental operations in the laboratories while studying advanced research of “electric nose” and photochemical biosensor using Rhodopsin (photosensitive protein). They also visited two chemical companies in Yilan County: One was the factory where Asthaxanthin, an antioxidant, is produced using yeast modified by synthetic biological method in a large scale. Another factory was for vinegars and subproducts. Although these topics seemed to be difficult for undergraduate students, they appeared to deepen their knowledge through the final presentation and discussion.
We would like to express our great appeciation on the kind arrangement of the program by Prof. Hsiu-Mei Chen and Prof. Yu-Cheng Chiu, Dept. Chemical Engineering, NTUST.

Image2

Image3

Image4

Image5

Image6

Image7