

**PBL for Computer Engineering 2**

Basic Course Information			
Course Number	0305077	Subject Category	Compulsory IG
Class Format	Experiment / Practical training	Credit Type and Number of Credits	1
Department	Computer	Student Category	Year 3
Period of Study	Semester 2	Classes per Week	2
Required Materials			
Instructor	Every Computer Department Teachers		

**Course Objective**  
 The course provides students with opportunity to do Problem/Project based learning. Students will develop their own solutions/systems for problems to achieve Sustainable Development Goals. This course aims to develop students' Computer Engineering skills as well as Generic skills.

Evaluation/Rubric	Ideal Level of Achievement (Very Good)	Standard Level of Achievement (Good)	Unacceptable Level of Achievement (Fail)
Activities and leadership	Be able to use the initiative to discuss and address issues with group members.	Be able to discuss and address issues with group members.	Inability to work actively with group members.
Presentation Skills	Be able to write logical reports and give clear presentations on the contents of experiments.	Be able to write reports and give presentations on the contents of experiments.	Does not hand in any reports.

**Relationship with Learning Outcomes**  
**G1) Ability to operate and administer the computer software and hardware**  
**C14) Ability to understand the computer network system and security methods and to implement the safe system within networks, servers, computers, and connected devices.**  
**C16) Ability to apply the latest technology (e.g., artificial intelligence (AI), Big data etc.) to build up computer system to support the development of society**

**Teaching Method**  
 Learning through the experiments  
 Experiment / Practical training

**Course Plan**

Semester 2	Contents and Method of Course	Goals	Related MOC
1st week (Nov. 8) (Online)	Introduction to PBL 2, Review work to be done on PBL 1 and Requirements analysis	To be able to understand and explain the analysis of the development process in PBL 2, and explain the requirements to revise and expand the system developed in the PBL 1	U-D 1 1 U-D 1 11
2nd week (Nov. 15) (Online)	Data analysis	To be able to understand and explain the processes of creating, analyzing, and converting a lot of data.	U-D 1 1 U-D 1 3
3rd week (Nov. 22)	Raspberry pi	To be able to understand and explain the concepts of Raspberry pi	U-D 1 3 U-D 1 6
4th week (Nov. 29)	Lecture by Mr. Masahiro Nakano, CTO of Neural Group (Thailand) Co., Ltd.	To be able to understand and explain the concepts of data security to develop secure information systems	U-D 1 9
5th week (Dec. 6)	Plan a sprint and create a sprint backlog	To be able to analyse the product backlog and plan how much of the backlog to be covered by the sprint	U-D 1 2 U-D 1 9 U-D 1 11
6th week (Dec. 13)	1st Sprint #1: Design, Develop, and Test	To be able to design, develop and test on the sprint To be able to develop software by pair programming	U-D 1 1 U-D 1 3 U-D 1 4 U-D 1 5 U-D 1 9 U-D 1 11
7th week (Dec. 20)	1st Sprint #2: Design, Develop, and Test	To be able to design, develop and test on the sprint To be able to develop software by pair programming	U-D 1 1 U-D 1 3 U-D 1 4 U-D 1 5 U-D 1 9 U-D 1 11
8th week (Dec. 27)	Mid-term Examination		
9th week (Dec. 3)	SE		
10th week (Jan. 10)	Monday Class		
11th week (Jan. 17)	Review work to be done on the 1st Sprint and plan a sprint and revise the sprint backlog	To be able to analyse the requirements to revise the product backlog and plan how much of the backlog to be covered by the sprint	U-D 1 1 U-D 1 2 U-D 1 4 U-D 1 5 U-D 1 9 U-D 1 11
12th week (Jan. 24)	2nd Sprint #1: Design, Develop, and Test	To be able to design, develop and test on the sprint To be able to develop software by pair programming	U-D 1 1 U-D 1 3 U-D 1 4 U-D 1 5 U-D 1 9 U-D 1 11
13th week (Jan. 31)	2nd Sprint #2: Design, Develop, and Test	To be able to design, develop and test on the sprint To be able to develop software by pair programming	U-D 1 1 U-D 1 3 U-D 1 4 U-D 1 5 U-D 1 9 U-D 1 11
14th week (Feb. 7)	Review work to be done on the 2nd Sprint and plan a sprint and revise the sprint backlog	To be able to analyse the requirements to revise the product backlog and plan how much of the backlog to be covered by the sprint	U-D 1 1 U-D 1 2 U-D 1 4 U-D 1 5 U-D 1 9 U-D 1 11
15th week (Feb. 14)	3rd Sprint #1: Design, Develop, and Test	To be able to design, develop and test on the sprint To be able to develop software by pair programming	U-D 1 1 U-D 1 3 U-D 1 4 U-D 1 5 U-D 1 9 U-D 1 11
16th week (Feb. 21)	3rd Sprint #2: Design, Develop, and Test	To be able to design, develop and test on the sprint To be able to develop software by pair programming	U-D 1 1 U-D 1 3 U-D 1 4 U-D 1 5 U-D 1 9 U-D 1 11
17th week (Feb. 28)	Review work to be done on the 3rd Sprint and plan a sprint and revise the sprint backlog	To be able to analyse the requirements to revise the product backlog and plan how much of the backlog to be covered by the sprint	U-D 1 1 U-D 1 2 U-D 1 4 U-D 1 5 U-D 1 9 U-D 1 11
18th week (March 6)	Finalize the product and summarize the development process	To be able to explain what you conducted in the PBL 2	U-D 1 1 U-D 1 2 U-D 1 4 U-D 1 5 U-D 1 11
19th week (March 8-18)	Final Examination		
20th week (March 19-22)	Final Presentation	To be able to present about product and system	

Do not

	Presentation	Attitude	Mutual Evaluation between students	Report	Portfolio	Other
Basic Ability	(5)	(10)		(10)		
Technical Ability	(5)					
Interdisciplinary Ability	(5)					