Introduction of Engineering Approach 1

Basic Course Information

Course Number	02005069	Subject Category	Compulsory (C)
Class Format	Lecture	Credit Type and Number of Credits	1
Department	Computer	Student Category	Year 1
Period of Study	Semester 1	Classes per Week	2
Required Materials	A laptop or Tablet, internet connection is required.		
Instructor	Tanapon Keatisamarn	Yuki Yoshikawa	Amon Sakonkanapong

Course Objective

Student can solve engineering problems with basic knowledge of logical thinking, critical thinking, and lateral thinking. Student can provide reasons for decision making, creating ideas, and problem solving. Group work and presentation skills are also aimed to be developed.

Evaluation(Rubric)	Ideal Level of Achievement (Very Good)	Standard Level of Achievement (Good)	Unacceptable Level of Achievement (Fail)
Logical thinking and critical thinking	Identify and explain main issues. Explain and summarize cause and how to solve the problem.	Identify and explain main issues, but unable explain cause and how to solve the problem.	Unable to identify and explain main issues.
Group work	Working together to reach a goal. Encourage and respect people. Always listen and support others' ideas.	Working together to reach a goal. Try to Encourage and respect other.	Rarely listen to others. Don't share your ideas and support others.
Presentation	The presentation is well organized. Present ideas and information logically.	The presentation is organized. Present ideas and information in a sequence.	The presentation is not organized. Present ideas and information incomplete and messed up.
Responsibility/Time management	Submit all report completely and on time.	Submit all report completely and mostly on time.	Inability ti submit work completely and on time.

Relationship with Learning Outcomes

G(1) Wide knowledge on Science and Engineering and practical ability to apply them to solve problems in the society.

G(5) As an engineer, attitude to act with awareness of social roles and responsibility to make a better society.

C(5) Ability to apply the update technology (e.g., artificial intelligent (AI), Big data etc.) to build up computer system to support the development of society

Teaching Method

Outline	student will study the concept and method of engineering approach, including logical thinking, 4Cs, brainstorming, KJ method, Mind mapping, Venn diagram, and KISS method. Students can use their skills and these methods for solving engineering problem.
Class Format	Lecture and Group work
Please Note :	Group work and presentation are important things in this subject, Taking and sharing your ideas are help you to work very well. The Midterm and Final examinations will not be provided. If you do not submit your report on time, your behavior score is deducted 1 point for each report.

Course Plan

Semester 1	Contents and Method of Course	Goals	Related MCC		
			V-D	B	99
1st week	Name Crosswords/ Self-introduction	Understand concept of Engineering Approch, Classmate hunter			
			V-D	B	98
2nd week	Map making	Working together and get close to your friends.			
			V-D	B	98
3rd week	Interesting poster (Title creating)	Make the interesting poster			
			V-D	B	98
4th week	Logical thinking/ 4Cs/ Johari window	Understand about logical thinking and related topics			
5th week	Brain stroming & KJ method	Understand about KJ method			
6th week	Brain stroming & KJ method	Understand about KJ method and presentation			
	S.E. 5				
7th week	Midterm exam preparation	Midterm exam preparation			
	Midterm exam	no exam			
	Midterm exam	no exam			
8th week	Mind Mapping	Understand about Mind Mapping and evaluation			
9th week	Venn diagram	Understand about Venn diagram			
	Holiday				
			V-D	B	98
10th week	Venn Diagram Prsenation (Gallery walk)	Understand and share your ideas to others			
11th week	KISS Keep Improve Start Stop	Understand about KISS method			
			V-D	B	97
12th week	Problem solving	Understand and solve the problem			
			V-D	B	97
13th week	Telephone game	Understand the IT procedure and work together			
			V-D	B	97
14th week	Who?, What?, Why?	Get close to your friends			
15th week	Final exam preparation	Final exam preparation			
	Final exam	no exam			
16th week	Review this course	Review this course			

Do not c

	Examination	Presentation	Behavior	Report	Portirio	Other
Basic Ability		0	20	60		
Technical Ability		20	0	0		
Interdisciplinary Ability		0	0	0		