



Course Syllabus (Academic Year 2021)

School of Interdisciplinary Studies, Kanchanaburi Campus, Mahidol University

1. **Course No. and Title** : KAED 491 Engineering Project
Credit (study hours) : 2 (0-6-2)
2. **Program Name** : Bachelor of Engineering in
 Environmental Engineering and Disaster Management
3. **Course Module** : Required course
Pre/co-requisite : KAED 490
4. **Class Semester** : 1st Semester 2nd Semester Academic Year 2021
5. **Class Schedule & Venue**: Friday 9:00 to 11:00 AM
6. **Class Coordinator** : (1) Asst. Prof. Dr. Arika Bridhikitti
 Mobile: 0846602919 Email: arika.bri@mahidol.edu
 (2) Dr. Jutamas Kaewsuk Email: Jutamas.kae@mahidol.ac.th

7. Course Description

Study project: indicated in the proposal, report the progress of project in class.

8. Course Objectives / Course Learning Outcomes (CLOs)

No.	Objectives / CLOs	Expected Skills / Knowledge			PLOs
		Specific	Generic	Knowledge	
8.1	Be able to correctly explain environmental engineering principles and theory	/			1
8.2	Be able to apply environmental engineering principles and knowledge for solving problems according to Professional Standards	/			1

8.3	Be able to work in concordantly with professional ethics for engineers		/		2
8.4	Be able to apply or innovate computer simulation program and informatics technology to solve the problems	/			3
8.5	Be able to effectively present and discuss engineering knowledge to related professional people for objective fulfillment by using proper language and media		/		4
8.6	Be able to appropriate write report with logical and technical sound		/		4
8.7	Be able to apply environmental engineering principles and knowledge for well-beings of communities and societies			/	5
8.8	be able to define, formulate, solve and criticize thoroughly		/		6

Program learning outcomes

PLO1 Apply environmental engineering principles and knowledge to systematic solutions according to Professional Standards

PLO2 Apply practical skills in environmental engineering and disaster management to real situations based on academic principles and professional ethics

PLO3 Apply geo-informatics system and information technologies in planning to handle environmental and disaster problems in accordance with academic principles

PLO4 Effectively present and discuss engineering knowledge to related professional people for objective fulfillment by using proper language and media

PLO5 Work as an environmental engineer with other people to solve complicated problems according to economic, social, and environmental issues

PLO6 Develop a creative technology in environmental engineering and disaster management

9. Class Instructor List

9.1	Asst. Prof. Dr. Arika Bridhikitti (AB)	Class coordinator and project advisor(MU-KA)
9.2	Dr. Jutamas Kaewsuk (JK)	Class coordinator and project advisor (MU-KA)
9.3	Dr. Yutthana Phankamolsil (YP)	project advisor (MU-KA)
9.4	Dr. Wimonmas Boonyungyuen (WB)	Project advisor (MU-KA)
9.5	Dr. Pensiri Prachakittikul (PP)	Project advisor (MU-KA)
9.6	Lect. Monchai Pumkaew (MP)	Project advisor (MU-KA)
9.7	Dr. Luksanaree Maneechote (LM)	Project advisor (MU-KA)
9.8	Dr. Sirinon Suwanmoree (SS)	Project advisor (MU-KA)
9.9	Mr. Supat Prasopsin (SP)	Project co-advisor (MU-KA)
9.10	Mr Krit Kaowbang (KK)	Project co-advisor (MU-KA)
9.11	Mr. Pramin Phichikarnka (PMP)	Project co-advisor (GISTDA)
9.12	Associate Prof. Chart Chiemchaisiri (CC)	Project advisor (Kasetsart University)
9.13	Dr. Keerati Sripamai (KS)	Project advisor (Navamindradhiraj University)
9.14	Dr. Thammanitchpol Denpetkul (TD)	Project co-advisor (MU-Saraya campus)
9.15	Asst. Prof. Dr. Weerawut Chaiwat (WC)	Project co-advisor (MU-Saraya campus)
9.16	Ms. Pattarawan Theingtham (PT)	Project co-advisor (Perfect Solution & Consultant Co., Ltd.)
9.17	Mr. Chan Nakpolgrang (CN)	Project co-advisor (Future Engineering Consultants Co., Ltd.)

10. Course Outline

Week	Date	Contents	POs	T & L Methods	Instructors
1	19 Nov 2021	Course introduction: presentation schedule & evaluation and budget expense	2	Lecture - Online	Class Coordinators
2-4	26 Nov, 3	Conduct an engineering project	2	● Experiment	Project

	Dec, 10 Dec 2021	with a monthly evaluation of each individual project progress by project advisor		<ul style="list-style-type: none"> ● Consultation ● Discussion 	advisors
5	17 Dec 2021	Project progress presentation - in English: ED01-ED09 (10min + 1min comments)	2	Presentation Practice - Online	Class Coordinators
6	24 Dec 2021	Project progress presentation - in English: ED010-ED18 (10min + 1min comments)	2	Presentation Practice - Online	Class Coordinators
7	8-9 Jan 2022 9:00 AM to 4:00 PM (Sat-Sun)	Project progress presentation - in English (15min + Q&A 15 min)	1, 3, 4, 5, 6	Presentation – <i>In-class</i>	AB, JK, YP, WB, PP, MP, LM, SS, <i>SP</i> , <i>KK, PMP, CC</i> , <i>KS, TD, WC</i> , <i>PT, CN</i>
8-11	14 Jan, 21 Jan, 28 Jan, 4 Feb, 11 Feb 2022	Conduct an engineering project with a monthly evaluation of each individual project progress by project advisor	1, 3, 4, 5, 6	<ul style="list-style-type: none"> ● Experiment ● Consultation ● Discussion 	Project advisors
12	18 Feb 2022	Short Talk – in English (3min + 1min comments)	2	Presentation Practice	Class Coordinators
13	25 Feb 2022	Conduct an engineering project with a monthly evaluation of each individual project progress by project advisor	1, 3, 4, 5, 6	<ul style="list-style-type: none"> ● Experiment ● Consultation ● Discussion 	Project advisors
14	5-6 Mar 9:00 AM to 4:00 PM	- Poster (A0) submission for MUKA senior exhibition 2021 - Submission of 1 st -draft KAED-EP-	1, 3, 4, 5, 6	- Poster (A0) file - Draft (80%) of	AB, JK, YP, WB, PP, MP, LM, SS, <i>SP</i> ,

	2022 (Sat-Sun)	04 (at least 80% completion) - Short talk (3 min each in English) - Final presentation in English (project defense): The 2 nd International Seminar on Environmental Engineering and Disaster Management (15min + Q&A 15min)		full-report (KAED-EP-04) - Short Talk - Oral presentation – <i>In-class</i>	KK, PMP, CC, KS, TD, WC, PT, CN
15	TBA	MUKA senior project exhibition 2021 (participation/poster presentation)	4, 2	Poster presentation	MUKA faculty
16	30 Mar 2022	Final revised full-report (KAED-EP-04) submission	2	Final revised full-report (KAED-EP-04)	Class Coordinators

11. Course Assessment

No.	Methods / Activities	Regulations	PLOs	Week	Weight Distribution (%)
11.1	Project progress#1 (1) Progress presentation	Rubric, by project committee	1, 3, 4, 5, 6	7	10
11.2	Final project defense (15 min + Q&A 15 min)	Rubric, by project committee and advisor	1, 3, 4, 5, 6	14	20
11.3	Final report (KAED-EP-04)	Rubric, by project committee and advisor	1, 3, 4, 5, 6,	14	20
11.4	Short talk (3-min)	Rubric, by project committee	4	14	10
11.5	Poster	Rubric, by project committee	4	14	10
11.6	Class participation and	Rubric	2	1-16	10

	self-improvement (1) Final report (KAED-EP-04) submission (2) Final poster presentation at MUKA senior project exhibition (3) Presentation Practices (twice)	(improvement/revision), by course-coordinators			(2.5) (2.5) (5)
11.7	Student's performance	Rubric, by project advisors (Monthly evaluation)	2	1-16	20
				Total	100

12. Grading System

Criterion-referenced evaluation

Grade	Score	Grade	Score	Grade	Score	Grade	Score
A	≥ 85 %	B	75 – 79.99%	C	65 – 69.99%	D	55 – 59.99%
B+	80 – 84.99%	C+	70 – 74.99%	D+	60 – 64.99%	F	< 55 %

Norm-referenced evaluation

The grading criteria may be changed subjected the literal approval of the program committee.

13. References

13.1 N. Walliman, Research Methods the Basics, Taylor & Francis e-Library, 2011.