



Course Syllabus (Academic Year 2020)
School of Interdisciplinary Studies, Kanchanaburi Campus, Mahidol University

- 1. Course No. and Title** : KAED 228 Survey for Environmental Engineering and Disaster Management
Credit (3 Hour) : 3(3-2-5)
- 2. Program Name** : Bachelor of Environment Engineering and Disaster Management
- 3. Course Module** : Specific course
Pre/co-requisite : None
- 4. Course Semester** : 2/2020
- 5. Class Schedule & Venue:** Laboratory Room/ Campus area
Class Coordinator : Yutthana Phankamolsil (PhD)
Phone: (66) 81 695 4621
Email: yutthana.pha@mahidol.ac.th

6. Course Description

Introduction to surveying work and basic field works; principles and applications of theodolite: measurements of angle, distance and direction; errors and acceptable error; level loop adjustment in survey; triangulation; precise determination of azimuth; precise traverse plane coordinate system; precise leveling; topographic survey; map cartography; basic surveying using Unmanned Aviation Vehicles: (UAVs).

7. Course Learning Outcomes (CLOs)

- (1) Understand the surveying approach in environmental engineering and disaster management field.
- (2) Apply the survey techniques as a tool for solving problems of Environment and Disaster Management.

8. Instructor

- Yutthana Phankamolsil, Email: yutthana.pha@mahidol.ac.th
- Chaiwat Pooworakulchai, Email: Irrman2002@gmail.com
- Supat Prasopsin, Email: suphat.pra@mahidol.ac.th
- Wanveewat Namsoon, Email: wanveewat.nam@mahidol.ac.th
- Teerasuk Srisun, Email: teerasuk.sri@mahidol.ac.th

8.1 Office Hours : 12:00 Noon – 15:00 PM, Wed

8.2 Office : L321 Laboratory Building

8.3 Course Website

- (1) the classroom name is KAED228 in Google Class Room. student have to register google account (xxxx.mahidol.edu) under Mahidol license.
- (2) line group name is KAED228_2020

9. Course Outline

Week	Date	Contents	Instructor
1	22 Jan 21	Introduction to surveying	YP/CP/SP
2	29 Jan 21	Theory of measurement and errors	CP/SP
3	5 Feb 21	Distance measurement	CP/SP
4	12 Feb 21	Leveling I	CP/SP
5	19 Feb 21	Leveling II	CP/SP
6	Makeup	Angle, bearings and azimuths theodolite	CP/SP
7	5 Mar 21	Traverse I	CP/SP
8	12 Mar 21	Traverse II	CP/SP
9		Midterm Examination	
10	26 Mar 21	Contour, area and volume computation	CP/SP
11	2 Apr 21	Triangulation	CP/SP
12	9 Apr 21	Basic surveying using Unmanned Aviation Vehicles: (UAVs) I	SP/WN/TT
13	16 Apr 21	Basic surveying using Unmanned Aviation Vehicles: (UAVs) II	SP/WN/TT
14	23 Apr 21	Basic surveying using Unmanned Aviation Vehicles: (UAVs) III	SP/WN/TT
15	30 Apr 21	Assignment	CP/SP/WN/TT
15	6 May 21	Assignment	CP/SP/WN/TT
17		Final Examination	

Remark : instructor YP (Yutthana Phankamolsil), CP (Chaiwat Pooworakulchai),
SP (Supat Prasopsin), (WN) Wanveewat Namsoon, (TT) Teerasuk Srisun

10. Course Assessment

No.	Methods / Activities	Regulations	Weight Distribution (%) [LC:LB]
1	Quizzes	Exam will cover the content from the previous weeks.	10% [50:50]
2	Midterm examination	Exam will cover the content from the previous weeks.	20% [45:55]
3	Final examination	Exam will cover the content from the previous weeks.	20% [45:55]
4	Assignments (Mimi-Project)	Project-Based Learning	40%
5	Class participation	Student must attend class more than 80% of course.	10%
			100

11. Grading System

This course use the following 8 point grading system

Grade	A	B+	B	C+	C	D+	D	F
Percentage (%)	80-100	75-79	70-74	65-69	60-64	55-59	50-54	0-49
Description	Excellent	Very Good	Good	Fairly Good	Fair	Poor	Very Poor	Fail
GPA	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.0

12. Reference

- ยรรยง ทรัพย์สุขอำนวย. (2555). วิศวกรรมสำรวจ 1. กรุงเทพฯ: นายภาณุกิตต์ ทรัพย์สุขอำนวย จัดพิมพ์.
- วิชัย เยี่ยงสุข. (2558). การสำรวจรังวัดทฤษฎีและการประยุกต์ใช้. กรุงเทพฯ: สำนักพิมพ์จุฬาลงกรณ์มหาวิทยาลัย.
- สมศักดิ์ เอื้ออัมมาสัย. (2556). วิศวกรรมสำรวจ. ปทุมธานี: สำนักพิมพ์วรรณกวี.