



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

1. **Course No. and Title** : KAED 375
Geo-Informatics for Environment 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**: Lecture room/Computer Laboratory Room
Class Coordinator :
1. Yutthana Phankamolsil (PhD)
Phone: (66) 81 695 4621
Email: yutthana.pha@mahidol.ac.th

6. Course Description

Introduction, GIS components, map and coordinate system, GIS data acquisition, global positioning system, spatial data, geo-database system, display, spatial analysis, network analysis, 3D analysis.

7. Course Learning Outcomes (CLOs)

- (1) Understand the knowledge of Geo-Informatics System. *[PLOs (1)]*
- (2) Apply GIS as a tool for solving problems of Environment and Disaster Management. *[PLOs (1)]*

8. Instructor

Yutthana Phankamolsil (PhD) +66 816954621, Email: yutthana.pha@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 KAED375 in Google Class Room. student have to register google account (xxxx.mahidol.edu) under Mahidol license.
- (2) line group name is KAED375_2020

9. Course Outline

Week	Date	Contents	Instructor
1	19 Jan 21	Introduction to teaching and learning process - Course Learning Outcomes (CLOS) - Course outline - Course assessment - Grading system - The tool integration facility for GIS	YP/TA
2	26 Jan 21	Map and map projection - Coordinate System - Map projection - Projection transformation	YP/TA
3	2 Feb 21	Spatial data I - Feature data - Attribute Data - Creating feature data - Digitizing	YP/TA
4	9 Feb 21	Data Acquisition - Global Positioning System (GPS) - Google Map and Open Layer	YP/TA
5	16 Feb 21	Spatial Analysis (Vector based approach) - Proximity - Interpolation	YP/TA
6	23 Feb 21	Spatial Analysis (Vector based approach) - Overlay	YP/TA
7	2 Mar 21	Spatial Analysis (Raster based approach) - Raster operation - Raster processing - Raster reclassification	YP/TA
8	9 Mar 21	Spatial Analysis (Raster based approach) - Surface analysis	YP/TA
9		Midterm Examination	
10	23 Mar 21	Basic of Remote Sensing - RS data sources - RS tools for Remote Sensing	YP/TA
11	30 Mar 21	Practice - Case study I	YP/TA
12	20 Apr 21	Practice - Case study II	YP/TA
13	27 Apr 21	Mini-project practice	YP/TA
14	11 May 21	Mini-project practice	YP/TA

Week	Date	Contents	Instructor
15	Makeup	Mini-project practice	YP/TA
16	Makeup	Mini-project practice	YP/TA
17		Final Examination	

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

- Aronoff, S. 1989. Geographic Information Systems: A Management Perspective, 2nd. WDL Publications, Ottawa, Canada. 293 pp.
- Bernhardsen, T. 2002. Geographic Information Systems: An Introduction 3rd ed. John Wiley & Sons, New York, NY. 428 pp.
- Bonham-Carter, G.F. 1994. Geographic Information Systems for Geoscientists: Modelling with GIS. Pergamon,
- Burrough, P.A. 1986. Principles of Geographical Information Systems for Land Resources Assessment. Oxford University Press, Oxford. 193 pp.
- Burrough, P.A. and R.A. McDonnell. 1998. Principles of Geographical Information Systems. Oxford University Press, Oxford. 333 pp.
- Clarke, K.C. 2001. Getting Started with Geographic Information Systems. 3rd. Prentice-Hall, Upper Saddle River, NJ. 352 pp.
- Heywood, I et al. 1998. An Introduction to Geographical Information System. Longman, New York, NY.