



Course Syllabus (Academic Year 2022)

School of Interdisciplinary Studies, Kanchanaburi Campus, Mahidol University

1. **Course No. and Title** : KAGS351 Geophysics
Credit (study hours): 2(2-0-4)
2. **Program Name** : Bachelor of Science in Geoscience
3. **Course Module** : core
Pre/co-requisite : SCPY167, SCPY168 and K Aid260
4. **Class Semester** : 1st Semester 2nd Semester Academic Year 2022
5. **Class Schedule & Venue** : Monday 08:30 – 10:30 Online (Webex /zoom) and Google classroom
 Room for online and sit-in
 Laboratory Room
6. **Class Coordinator** : Songkhun Boonchaisuk
Contact No.: 080-5997690 Email : songkhun.boo@mahidol.edu

7. Course Description

Basic principles of geophysics. Application of geophysics to the study of subsurface geology: DC resistivity, gravity, magnetic, electric fields, and seismic methods; self-responsibility.

8. Course Objectives / Course Learning Outcomes (CLOs)

No.	Objectives / CLOs	Expected Skills / Knowledge			PLOs
		Specific	Generic	Knowledge	
8.1	Understand the principles of geophysics		x	x	2
8.2	analyze area and target and select the appropriated geophysics survey technique	x		x	2, 3, 5
8.3	Design the appropriate geophysics survey for case study	x		x	2, 3, 5
8.4	Understand the interpretation related to geology	x		x	2, 3, 5

9. Class Instructor List

9.1 Name : Songkhun Boonchaisuk Contact No. : 080-5997690 Email : songkhun.boo@mahidol.edu

10. Course Outline

Week	Date	Contents	CLOs	Teaching & Learning	Instructor's Names	
1	08/08/22	Introduction	1	Introduction how to learn, assignment and grading PTT presentation/online	Songkhun	
2	15/08/22	Planning	1, 2, 3	PTT presentation/online	Songkhun	
3	22/08/22	DC resistivity1	1	PTT presentation/online	Songkhun	
4	29/08/22	DC resistivity2	1, 2	PTT presentation/online	Songkhun	
5	05/09/22	DC resistivity3	1, 2, 3, 4	PTT presentation/online	Songkhun	
6	12/09/22	Gravity	1, 2	PTT presentation/online	Songkhun	
7	19/09/22	Gravity	3, 4	PTT presentation/online	Songkhun	
8	26/09/22	GPR	1, 2, 3, 4	PTT presentation/online Report and student presentation	Songkhun	
9	03/10/22	Mid-term Examination				
10	10/10/22	Seismic refraction1	1, 2	PTT presentation/online	Songkhun	
11	17/10/22	Seismic refraction2	3, 4	PTT presentation/online	Songkhun	
12	24/10/22	Seismic refraction3	1	PTT presentation/online	Songkhun	
13	31/10/22	Seismic reflection1	1, 2	PTT presentation/online	Songkhun	
14	07/11/22	Seismic reflection2	1, 2, 3, 4	PTT presentation/online	Songkhun	
15	14/11/22	Magnetic	1, 2, 3, 4	PTT presentation/online	Songkhun	
16	21/11/22	Paleomagnetic	1, 2	PTT presentation/online Report and student presentation	Songkhun	
17	12/12/22	Final Examination				

11. Course Assessment

No.	Methods / Activities	Regulations	CLOs	Week	Weight Distribution (%)
11.1	Mid-term exam	Paper base; online	1, 2, 3, 4	9	30
11.2	Final exam	Paper base; online	1, 2, 3, 4	17	30
11.3	Quiz	Online; kahoot; google form	1, 2, 3, 4	1, 2, 3, 6, 8, 11, 14, 16	10
11.4	Reports / Assignments	Homework; Report and PPT presentation	1, 2	1, 2, 3, 6, 8, 11, 14, 16	20
11.5	Class participation	Must be greater than 80%			10
				Total	100

12. Grading System

✓ Criterion-referenced evaluation

Grade	Score	Grade	Score	Grade	Score	Grade	Score
A	≥ 80 %	B	70 – 74.99%	C	60 – 64.99%	D	50 – 54.99%
B+	75 – 79.99%	C+	65 – 69.99%	D+	55 – 59.99%	F	< 50 %

✓ Norm-referenced evaluation

*If use both criterion and norm-referenced evaluation, please tick two boxes.

13. References

13.1 Robert J. Lillie, (1998). Whole Earth Geophysics: An Introductory Textbook for Geologists and Geophysicists

13.2 Telford, W., Geldart, L., & Sheriff, R., (1990). Applied Geophysics. Cambridge: Cambridge University Press. doi:10.1017/CBO9781139167932

13.3 เพียงตา สาทรรักษ์, (2550). ธรณีฟิสิกส์เพื่อการสำรวจใต้ผิวดิน (Exploration geophysics) ภาควิชาเทคโนโลยีธรณี คณะเทคโนโลยี มหาวิทยาลัยขอนแก่น, 663 หน้า

13.4 C. M. R. Fowler, (2004). The Solid Earth: An Introduction to Global Geophysics, Cambridge University Press; 2 edition, 500 pages