



SBEU1013 FUNDAMENTAL OF SURVEY AND MAPPING

Lecture 1: Briefing on Course Outline

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CLASS ATTENDANCE



COURSE LECTURER

	Name	Office	Contact no.	E-mail
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Sr Dr. Kelvin Tang Kang Wee

You can find me @

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- 02 COURSE INFORMATION**
- 03 WEEKLY SCHEDULE**
- 04 COURSE ASSESSMENT**
- 05 SCOPE OF STUDY**



Course Information

School/Faculty:	Faculty of Built Environment and Surveying		
Program name:	Bachelor of Geomatics Engineering with Honours		
Course code:	SBEU1013	Academic Session/Semester:	2024-2025/1
Course name:	Fundamental of Survey and Mapping	Pre/co requisite (course name and code, if applicable):	Null
Credit hours:	3		

Course Synopsis

This course introduces students to fundamental aspects of surveying and mapping. The basic surveying and mapping techniques as well equipment are introduced and students will get the opportunity to use this equipment.

COURSE LEARNING OUTCOME (CLO)

At the end of this course, all of you will be able to:

1. Explain knowledge of science and technology in the field of Geomatics Engineering.
2. Perform basic surveying equipments and surveying works
3. Organise Geomatic Engineering tasks using available resources.
4. Work in a team and liaise at all levels.

Course Content

Week	Topic	Remarks
9 Oct 2024 (Week 1)	Briefing on Course Outline	Fieldwork 1
16 Oct 2024 (Week 2)	Introduction <ul style="list-style-type: none">• Definition and disciplines of survey and mapping• Surveying Organisation in Malaysia and International	Assignment 1 / Fieldwork 1
23 Oct 2024 (Week 3)	Basic Procedure in Surveying <ul style="list-style-type: none">• Principle of Surveying: control accuracy, consistency economy, independent check, maintenance and security.• The Implementation of Surveying: Planning and reconnaissance; marking of station; data acquisition; data processing and adjustment; data presentation.• Introduction to theory of errors in measurements	Quiz 1 Fieldwork 1
30 Oct 2024 (Week 4)	Introduction to reference systems and mapping <ul style="list-style-type: none">• Coordinate systems: Rectangular and Polar• Reference system used in Malaysia• Map, Plan and Scale	Fieldwork 1

Week	Topic	Remarks
6 Nov 2024 (Week 5)	Distance Measurement <ul style="list-style-type: none"> Distance Measurement Techniques: Mechanical, Optical, and Electronic Distance measurement using mechanical technique (surveyor's chain, steel band, tape). Units in distance measurement. 	<i>Guest Lecture*</i> Fieldwork 1
13 Nov 2024 (Week 6)	Orientation and Angle Measurement <ul style="list-style-type: none"> The concept of bearings: magnetic, true and grid Bearing and angle measurements. Units The use of survey compass for bearing measurement 	Fieldwork 1
20 Nov 2024 (Week 7)	Orientation and Angle Measurement (cont.) <ul style="list-style-type: none"> The concept of bearings: magnetic, true and grid Bearing and angle measurements. Units The use of survey compass for bearing measurement 	Test 1
27 Nov 2024 (Week 8)	Mid-Semester Break	Happy Holiday!

Week	Topic	Remarks
4 Dec 2024 (Week 9)	Introduction to theodolite/total station <ul style="list-style-type: none"> • Basic components of a theodolite • Angle measurement using theodolite: procedure, permanent and temporary adjustments, precaution and limitation. 	Assignment 2
11 Dec 2024 (Week 10)	Introduction to theodolite/total station (cont.) <ul style="list-style-type: none"> • Basic components of a theodolite • Angle measurement using theodolite: procedure, permanent and temporary adjustments, precaution and limitation. 	Fieldwork 2
18 Dec 2024 (Week 11)	Theodolite/total station measurement <ul style="list-style-type: none"> • Angle measurement using theodolite: field and office procedures, advantages, precaution and limitation 	Quiz 2 Fieldwork 2
25 Dec 2024 (Week 12*)	Theodolite/total station measurement (cont.) <ul style="list-style-type: none"> • Angle measurement using theodolite: field and office procedures, advantages, precaution and limitation 	Fieldwork 2

Week	Topic	Remarks
1 Jan 2024 (Week 13)	Height measurement <ul style="list-style-type: none"> • The concept of levelling • National levelling network and levelling datum • Equipments used, field operation and booking systems • Data processing and adjustment • Contouring 	Fieldwork 2 Poster Presentation
8 Jan 2025 (Week 14)	Height measurement (cont.) <ul style="list-style-type: none"> • The concept of levelling • National levelling network and levelling datum • Equipments used, field operation and booking systems • Data processing and adjustment • Contouring 	Fieldwork 2
15 Jan 2025 (Week 15)	Height measurement (cont.) <ul style="list-style-type: none"> • The concept of levelling • National levelling network and levelling datum • Equipments used, field operation and booking systems • Data processing and adjustment • Contouring 	Test 2
22 Jan 2025 (Week 16)	Revision Week	
(Week 17 -19)	Final Examination	Good Luck!
17 Feb 2024 (4 Weeks)	Mid-Semester Break	

Course Assessment

LIST OF ASSESSMENTS		Marks (%)
1	Test 1	7.5
2	Test 2	7.5
3	Quiz 1	2.5
4	Quiz 2	2.5
5	Project 1 & Project 2	30
6	Assignment 1 & 2	20
7	Final Examination	30
	TOTAL MARKS	100

References

Text book (*if applicable*)

~ None ~

Main references:

1. Tan Liat Choon: Bimbingan Pengukuran bagi Profesion Geomatik (2024)
2. Christian Tiberius, Hans van der Marel, René Reudink & Freek van Leijen: Surveying and Mapping, TU Delft OPEN (2022)
3. Barry Kavanagh and Tom Mastin: Surveying: Principles and Applications, 9th edition (updated 14 July 2021)
4. J.M. Anderson and E.M. Mikhail: Surveying and Practice, Publication: MH; 7th edition (2013)
5. Charles Ghilani: Elementary Surveying: An Introduction to Geomatics 15th Edition (2017)
6. W. Schofield and Mark Breach: Engineering Surveying, T&F India (6th Edition, 2017)
7. John Uren and Bill Price: Surveying for Engineers, Palgrave Macmillan; 5th Edition (2010)
8. J. M. Anderson and E. M. Mikhail: Introduction to Surveying, McGraw-Hill College (1984)
9. F.A. Shepherd: Ukur Kejuruteraan Lanjutan (Terjemahan Mohd. Zulkefli Mohd Yunus & Zukarnaini Mat Amin, terbitan UTM)
10. Ramsey J.P. Wilson: Ukur Tanah (Terjemahan: Sakdiah Basiron)
11. J. Uren and W.F. Price: Ilmu Ukur Untuk Jurutera (Terjemahan: Kamaruzaman Abd. Rashid, Anuar Ahmad & Shahidah Mohd Ariff)
12. Dhanpat Rai & Sons: Elementary Surveying
13. R. Agor: Surveying and Levelling

**ANY
QUESTION...???**



Why choose UTM?
What is GEOMATICS?
Isn't it your 1st Choice?
Choice no.....?
What's your expectation?



Why choose UTM?

What is GEOMATICS?

Isn't it your 1st Choice?

Choice no.....?

What's your expectation?

What is Geomatic @ Land Surveying?

The art of making measurements of the relative positions of natural and man-made features on the Earth's surface, and the presentation of this information either graphically or numerically.




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Geomatics Engineering

What does Geomatics Engineer do?

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Surveying & Mapping

0 likes 1 comment

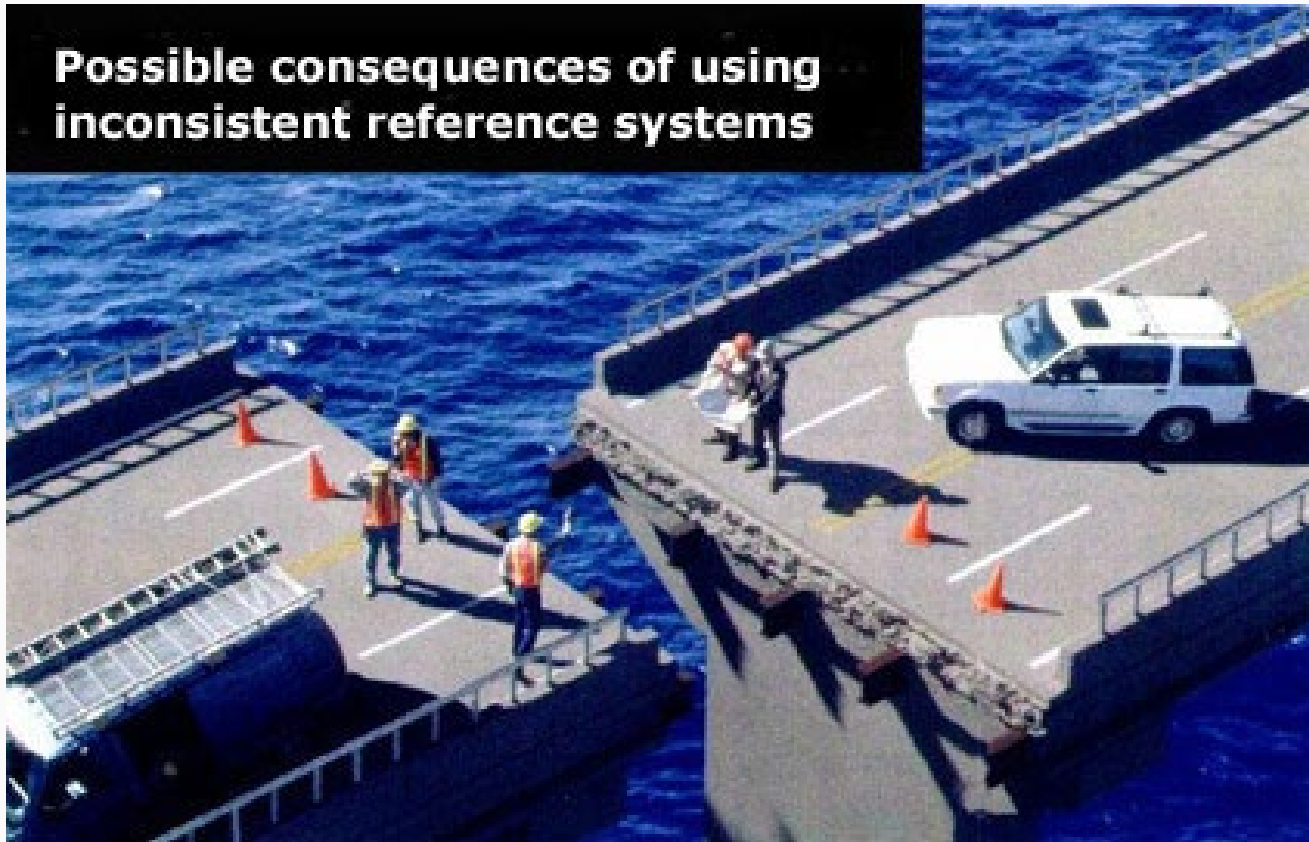
Anonymous 1mo
hello world

+ Add comment



<https://padlet.com/tkkelvin/geomatics-engineering-s0v0r6whb0bmp5yi>

Why Geomatic & Land Surveying (GLS) is important...



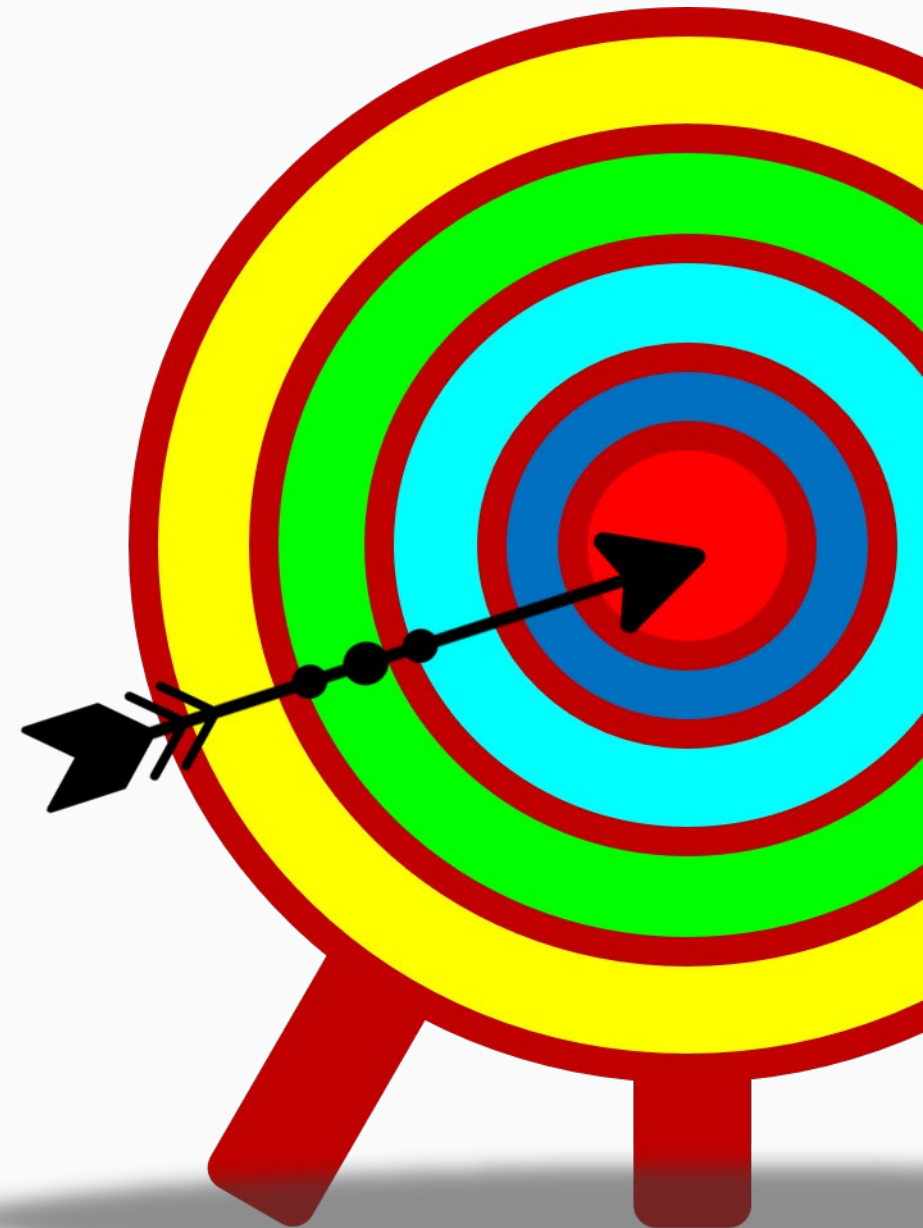


Career Path

A collage of surveying equipment and a drone over a topographic map. The background is a light blue and green topographic map with contour lines. In the foreground, there is a yellow and black surveying instrument on the left, a white drone in the center, and a person in black clothing using a tripod-mounted instrument on the right. A boat is visible in the lower center.

WE ARE SURVEYOR'S

Set you target from now.....



Time
to think about
SUCCESS



KEEP
CALM
AND
ENJOY
UNI LIFE



THANK YOU



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