

SBEU2113 MATHEMATICS FOR SURVEYORS III: SURVEY COMPUTATION

Briefing on Course Outline

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CLASS ATTENDANCE



COURSE LECTURER

	Name	Office	Contact no.	E-mail
Course Lecturer	Sr Dr. Kelvin Tang Kang Wee	B08-315	012-7258699	tkkelvin@utm.my



Kelvin Kang Wee, TANG | 陈康伟 | ケルビン received his B. Eng. (Geomatic) (Hons.) from Universiti Teknologi Malaysia (UTM), Graduate Diploma in Business and Finance from Management Development Institute of Singapore (MDIS), Master of Remote Sensing & GIS from Universiti Putra Malaysia (UPM) and obtained my Ph.D (Hydrography) from UTM.



Sr Dr. Kelvin Tang Kang Wee

You can find me @

**Lecturer Room @ Block B08-315-01, Level 3
GnG Research Lab @ Block C02, Level 3**

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- 01 LIST OF LECTURERS**
- 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:	SBEU2113	Academic Session/Semester:	2024-2025/1
Course name:	Mathematic for Surveyors III: Survey Computation	Pre/co requisite (course name and code, if applicable):	Null
Credit hours:	3		

Course Synopsis

This course introduces students to some aspects of surveying computation related to various land surveying problems. It will examine various ways of solving problems, from the basic formulae to more advanced algorithms for achieving the results. The learning process will be based on two modules: lectures and tutorials. Students can discuss with each other to solve the given problems.

COURSE LEARNING OUTCOME (CLO)

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

1. Explain the principle of survey computations.
2. Differentiate various types of survey computations.
3. Solve problems related to survey computations.
4. Solve surveying computation problems systematically using various surveying calculation method.

Course Content

Week	Topic	Remarks
8 Oct 2024 (Week 1)	Briefing on Course Outline Adjustment of a closed loop traverse	Tutorial
15 Oct 2024 (Week 2)	Adjustment of a closed link traverse	Tutorial Quiz 1
22 Oct 2024 (Week 3)	Calculation of missing data in loop traverse	Tutorial
29 Oct 2024 (Week 4)	Computation of road secant point	Tutorial
5 Nov 2024 (Week 5)	Computation of road secant point (cont.)	Tutorial
12 Nov 2024 (Week 6)	Coordinates Transformation	Tutorial Quiz 2
19 Nov 2024 (Week 7)	Coordinates Transformation Assignment – Coding Skills	Assignment 1
26 Nov 2024 (Week 8)	Mid-Term Break	

Week	Topic	Remarks
3 Dec 2024 (Week 9)	Point Positioning by Intersection Method	Tutorial Test
10 Dec 2024 (Week 10)	Point Positioning by Resection Method	Tutorial
17 Dec 2024 (Week 11)	Coordinate and Height transfer for Underground Surveying	Tutorial
24 Dec 2024 (Week 12*)	Coordinate and Height transfer for Underground Surveying (cont.)	Tutorial Quiz 3
31 Dec 2024 (Week 13)	Propagation of Errors	Tutorial
7 Jan 2025 (Week 14)	Propagation of Errors (cont.)	Tutorial
14 Jan 2025 (Week 15)	Introduction to Least Square Estimation	Tutorial Quiz 4
21 Jan 2025 (Week 16)	Revision Week	
(Week 17 -19)	Final Examination	Good Luck!
17 Feb 2024 (4 Weeks)	Semester Break	

Course Assessment

LIST OF ASSESSMENTS		Marks (%)
1	Assignment/Tutorial	20
2	Quiz 1	5
3	Quiz 2	5
4	Quiz 3	5
5	Quiz 4	5
6	Test	20
7	Final Examination	40
	TOTAL MARKS	100

References

Text book (*if applicable*)

~ None ~

Main references:

1. Tan Liat Choon: Bimbingan Pengukuran bagi Profesion Geomatik (2024)
2. Zulkarnaini Mat Amin: Penghitungan Ukur: Dengan Contoh Masalah & Penyelesaian (2022)
3. Monograf Asas Hitungan dalam Ukur Tanah: Dengan Contoh Masalah dan Penyelesaian
4. Survey Computations: A Compilation of Examination Questions And Methods Of Solution, R.B. Horner, 1956

Additional references:

Please refer to e-Learning and website

Online <http://elearning.utm.my>;



THANK YOU



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