



DEPARTMENT OF GEOMATICS ENGINEERING
UNDERGRADUATE PROGRAM IN GEOMATICS ENGINEERING
COURSE SYLLABUS

COURSE	Name	Basic Terrestrial Mapping
	Code	RM184203
	Credits	3 (three)
	Semester	II (two)

COURSE DESCRIPTION

This course explains the basic understanding of mapping, the purpose and objectives of mapping. Besides that it needs to be explained related to the unit system for the purposes of calculating position and height. Next, it is explained the definition of scale, distance, horizontal angle, vertical angle, coordinate system in a flat plane. The usefulness and various kinds of equipment whether roll meters, measuring signs, theodolite and waterpass, total station. Horizontal positioning methods and calculations: point positioning method, and polygon method. Methods for determining vertical positions and calculations: levelling, long section, cross section, area, barometric, trigonometric and area calculation methods.

EXPECTED LEARNING OUTCOME

D	Able to perform spatial data acquisition using modern measurement methods, geospatial data processing, using industry standard software, and making standard designs and analyzes in the fields of geodesy, surveying,
F	Able to compile scientific reports and provide solutions based on leadership, creativity and communication skills as well as being responsible for the work done.
G	Able to plan, perform and evaluate the process of surveying and mapping activities using the latest technology in the fields of geodesy, surveying, hydrographic, remote sensing, photogrammetry, and cadastral.
H	Able to work in inter-disciplinary and inter-cultural teams so they can compete at national and international levels.

COURSE LEARNING OUTCOME

1	Able to use survey equipment.
2	Being able to do the measurements of the horizontal reference frame and being able to calculate and draw field measurements results..
3	Able to do measurements of a vertical reference frame and be able to do calculations and depiction of measurement results in the field.
4	Able to take levelling measurements and able to calculate the results of measurements in the field.
5	Able to understand area calculation method.

COURSE MATERIALS

1	Basic understanding of mapping
2	Unit system
3	definition of scale
4	Definition of distance
5	Horizontal angle, vertical angle
6	Coordinate system
7	Measuring equipment
8	Positioning method
9	Horizontal and vertical reference frame
10	Area calculation

PREREQUISITE

REFERENCES

A.	Main References
1	Francis H. Moffit, Surveying, Intext Educational Publisher
2	Modul ajar Ilmu Ukur Tanah I
3	Modul ajar Ilmu Ukur Tanah II
4	Paul R wolf & Charles D Ghilani, Elementary Surveying, Prentice Hall
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B.	Additional References
1	Paul R wolf & Charles D Ghilani, Elementary Surveying, Prentice Hall
2	Wolf P & Brinker Russel 1977. Elementary Surveying. Sixth Edition. Toronto
3	
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