DEPARTMENT OF GEOMATICS ENGINEERING
UNDERGRADUATE PROGRAM IN GEOMATICS ENGINEERING
COURSE SYLLABUS

COURSE	Name	Satellite Geodesy
	Code	RM184411
	Credits	3 (three)
	Semester	IV (four)

COURSE DESCRIPTION

This course study about the 2D and 3D cartesian and polar coordinate system concepts, reference frames, orbital system time systems, signal and signal propagation, signal propagation medium (atmospheric layer), satellite types and their applications such as VLBI, SLR, LLR, GRACE, GOCE, Altimetry and others.

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.
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 understand the concept of time systems.
2	Able to understand the 2D and 3D coordinate systems.
3	Able to understand both the celestial reference frame and the terrestrial reference frame.
4	Able to explain the concept of signal and signal propagation methods.
5	Able to explain the atmosphere and its role in satellite geodesy.
6	Able to explain about how VLBI, SLR, LLR, Altimetry, GNSS satellites work in data acquisition.

COURSE MATERIALS

1	The concept of cartesian and polar coordinate systems 2D and 3D.
2	The concept of reference frame.
3	The concept of time systems and orbit systems.
4	The concept of signal and signal propagation.
5	The concept of a signal propagation medium (atmospheric layer).
6	Concept of Satellite Types and their applications such as VLBI, SLR, LLR, GRACE, GOCE, Altimetry and others.

PREREQUISITE

REFERENCES

A.	Main References
1	Abidin, H.Z., 2005. Geodesi Satelit
2	Abidin, H.Z., 2005. Survei Satelit
3	
4	
5	
B.	Additional References
1	Wolf, 2010. Elementary Surveying
2	
3	
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