DEPARTMENT OF GEOMATICS ENGINEERING
UNDERGRADUATE PROGRAM IN GEOMATICS ENGINEERING
COURSE SYLLABUS

COURSE	Name	Environmental Geodesy
	Code	RM184937
	Credits	3 (three)
	Semester	VIII (eight)

COURSE DESCRIPTION

This course studies about Earth Shape, Gravity and Temporal Variations that occur. By paying attention to the activities which occur on the surface of the earth such as plate movements, deformation, climate change, sea level variations, etc. These activities can be identified and observed using geodetic methods such as the application of Altimetry satellites, gravity satellites, GNSS satellites and remote sensing satellites.

EXPECTED LEARNING OUTCOME

C	Able to identify, formulate, analyze and solve problems in the fields of geodesy, surveying, hydrographic, remote sensing, photogrammetry, and cadastral.
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,
E	Able to apply information & communication technology and the latest technological developments in the fields of geodesy, surveying, hydrographic, remote sensing, photogrammetry, geographic information systems, and cadastral.
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.

COURSE LEARNING OUTCOME

1	Able to understand the concepts of geodesy science and technology.
2	Able to understand physical events on the surface of the earth.
3	Able to analyze the geodesy method for observing physical events on the surface of the earth.
4	
5	
6	

COURSE MATERIALS

1	Earth Curvature and Coordinate System
2	Gravity
3	Earth Temporal Variation
4	Geodynamics , Deformation and Plate Tectonic
5	Earthquake
6	Climate Change
7	Sea Levels Variation
8	Gravity and Altimetry Satellite Measurement
9	GNSS Applications
10	Active and Passive Remote Sensing

PREREQUISITE

REFERENCES

A.	Main References
1	Geodesy4th.2012.W.Torge.

2	Physical Geodesy.2005.Hoffmann-Wellenhof and Helmut Moritz
3	Satellite Geodesy.2003.Gunter Seeber
4	Satellite Radar Interferometry.VBH Ketelaar.Springer
5	Geodynamics.Donald.Lturcotte Gerald Schubert.Cambride
B.	Additional References
1	
2	
3	
4	