



**INSTITUT TEKNOLOGI SEPULUH NOPEMBER
FACULTY OF CIVIL, PLANNING AND GEO ENGINEERING
DEPARTMENT OF GEOMATICS ENGINEERING
UNDERGRADUATE PROGRAM**

**Document
Code**

SEMESTER LEARNING PLAN (SLP)

COURSE NAME		CODE	COURSE GROUP	CREDITS (SKS)		SEMESTER	Date of Preparation
Boundary Mapping		CM234958	Surveying and Cadastral	T=2	P=1	Elective Course	-
AUTHORIZATION		SLP Developer		Course Group Coordinator		Head of Study Program	
		Dr. Filsa Bioresita, S.T., M.T.		Yanto Budisusanto, ST, M.Eng		Danar Guruh Pratomo, S.T., M.T., Ph.D.	
Learning Outcomes (LO)	Expected Learning Outcomes (ELO) that Imposed in the Course						
	ELO-7	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, hydrography, remote sensing, photogrammetry, and cadastral.					
	ELO-9	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.					
	ELO-10	Able to work in inter-disciplinary and inter-cultural teams so they can compete at national and international levels.					
	ELO-11	Able to be responsible to the community and adhere to professional ethics in solving technical problems in the fields of geodesy, surveying, hydrographic, remote sensing, photogrammetry, geographic information systems, and cadastral.					
	Course Learning Outcomes (CLO)						
	CLO-1	Understand and explain the related legal aspects in the determination and affirmation of territorial boundaries.					
	CLO-2	Able to apply Geomatics technology in determining and affirming regional boundaries					
	CLO-3	Able to express their ideas or ideas orally and in writing					
	CLO-4	Able to think critically about the use of geodesic technology for several regional boundary problems based on their understanding of the rules or regulations that apply					

		<table><tr><td colspan="5">Matrix ELO – CLO</td></tr><tr><td>CPMK</td><td>ELO-7</td><td>ELO-9</td><td>ELO-10</td><td>ELO-11</td></tr><tr><td>CLO-1</td><td>v</td><td></td><td></td><td></td></tr><tr><td>CLO-2</td><td>v</td><td>v</td><td></td><td></td></tr><tr><td>CLO-3</td><td></td><td></td><td>v</td><td>v</td></tr><tr><td>CLO-4</td><td>v</td><td>v</td><td></td><td></td></tr></table>						Matrix ELO – CLO					CPMK	ELO-7	ELO-9	ELO-10	ELO-11	CLO-1	v				CLO-2	v	v			CLO-3			v	v	CLO-4	v	v		
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CLO-3			v	v																																	
CLO-4	v	v																																			
Course Description		This course will provide students with the understanding and skills to study boundary mapping technologies, both related to land and maritime boundaries. The fundamental concepts of boundary determination will be introduced, along with the stages involved in the process of establishing boundaries, which includes legal and Geomatics technology aspects. One application of this technology is the use of Geomatics tools to accurately determine boundary lines, which will be discussed in relation to factors affecting maritime boundary delimitation and boundary dispute resolution. There are two main components that will be presented in this course: a) concepts and procedures for determining land and maritime boundaries along with their applications (e.g., establishing international boundaries and affirming maritime claims); b) the use of Geomatics technology in boundary analysis and mapping contours more accurately and efficiently.																																			
Course Materials		1.																																			
References		Main:																																			
		1.																																			
		Additional :																																			
		-																																			
Lecturer		1. Dr. Filsa Bioresita, S.T., M.T.																																			
Prerequisite																																					
Class/ Week	Lesson Learning Outcome (Sub-CLO)	Evaluation		Forms of Learning, Learning methods,Student Assignments/Task, [Estimated Time]		Learning Materials [References]	Weight (%)																														
		Indicators	Criteria and Form	Offline	Online																																
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)																														
1	Able to explain the concept and meaning of both land and sea boundarie		1. Completeness of the material 2. Depth of explanation and	1. Lecture [1 x 50’] 2. Discussion [1 x 50’]			10																														

			effectiveness of communication				
2 – 3	Able to explain the concept of confirming regional boundaries on land which involves the stages of its determination	1.	1. Completeness of the material 2. Depth of explanation and effectiveness of communication	1. Lecture [2 x 50'] 2. Discussion [1 x 50'] 3. Task [1 x 50']			20
4 – 5	Able to explain the concept of confirming regional boundaries at sea which involves the stages of its determination	1.	1. Completeness of the material 2. Depth of explanation and effectiveness of communication	1. Lecture [2 x 50'] 2. Discussion [2 x 50']			10
6 – 7	Able to explain the factors that influence maritime boundary delimitation	1.	1. Completeness of the material 2. Depth of explanation and effectiveness of communication	1. Lecture [2 x 50'] 2. Discussion, Task [1 x 50'] 3. Response/Exercise [1 x 50']			10
8	Midterm Evaluation / Midterm Exam						50
9 – 10	Able to explain the resolution of regional boundary disputes	1.	1. Completeness of the material 2. Depth of explanation and effectiveness of communication	1. Lecture [2 x 50'] 2. Discussion, Task [1 x 50'] 3. Response [1 x 50']			20
11 – 12	Able to use Geomatics Applications in determining regional boundaries	1.	1. Completeness of the material 2. Depth of explanation and effectiveness of communication	1. Lecture [2 x 50'] 2. Discussion, Task [1 x 50'] 3. Response/exercise [1 x 50']			10

13	Able to explain the procedures for plotting detailed field points for map formation and contouring	1.	1. Completeness of the material 2. Depth of explanation and effectiveness of communication	1. Lecture [2 x 50'] 2. Discussion, Task [1 x 50'] 3. Response/exercise [1 x 50']			10
14-15	Able to apply the concept of future challenges for Indonesia	1.	1. Completeness of the material 2. Depth of explanation and effectiveness of communication	1. Lecture [1 x 50'] 2. Discussion, Task [1 x 50']			10
16	Final Semester Evaluation / Final Semester Examination						100