	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
Applied Thematic Mapping		CM234976	Geoinformatics	**T=1**	**P=1**	Elective Course	-
AUTHORIZATION		**SLP Developer**		**Course Group Coordinator**		**Head of Study Program**	
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Learning Outcomes (LO)	**Expected Learning Outcomes (ELO) that Imposed in the Course**	
	ELO-6	Able to identify, formulate, analyze and solve problems in the fields of Geodesy and Surveying, Hydrography, Photogrammetry and Remote Sensing, as well as Geospatial and Land Information.
	ELO-10	Able to work in inter-disciplinary and inter-cultural teams so they can compete at national and international levels.
	ELO-12	Able to apply the concepts of management, entrepreneurship, the latest technology-based innovation, sustainable, and environmentally wise.
	Course Learning Outcomes (CLO)	
	CLO-1	Students able to define the thematic geospatial information in geospatial Information Act, and its rules in One Map Policy
	CLO-2	Students able to create data and presents the elements of basic and thematic geospatial information in sectoral or nonsectoral domain
	CLO-3	Students able to compose and present the data sources and elements of thematic geospatial information for nonsectoral domain i.e. land transporation infrastructure
	CLO-4	Students able to compose and presents the data sources and elements of thematic geospatial information for nonsectoral domain i.e. mineral resources, agriculture, forestry, and volcano-eruption-prone area
	CLO-5	Students able to create and presents thematic geospatial information useing web-GIS and apply it for rural potency in social-economic domain

Matrix ELO – CLO

CPMK	ELO-6	ELO-10	ELO-12
CLO-1	V		
CLO-2	V	V	
CLO-3	V		V
CLO-4	V		V
CLO-5	V	V	V

Course Description	This course teaches students one type of geospatial information i.e. thematic geospatial information. The rules related to geospatial information and their relations to the One map Policy will be given as the basic concept in the creation of geospatial information. In order for fulfilling the deeper understanding of applications in the creation of thematic geospatial information, several assignment will be carried out in groups to create thematic geospatial information in the sectoral or non sectoral area to solve encountered problems related to society and local government. Hence the students able to think critically and applicative to solve problems e.g. in transportation, agroforestry, natural resources, and also for growing up the local potency.
Course Materials	1. The concept of Geospatial Information (GI) includes Basic GI and Thematic GI referring to GI Law. 2. The concept of GI especially Thematic GI concerning one map policy 3. Data and constituent elements of the Basic and Thematic GI both for sectoral and non-sectoral fields. 4. Establishment of thematic GI in comprehensive sectors such as transportation infrastructure, agriculture and forestry, mineral resources, and regional potential.
References	**Main:** 1. Dent B. Cartography: Thematic Map Design. McGraw Hill, 5th Edition; 1999. ISBN: 0697384950 2. Slocum TA, McMaster RB, Kessler FC, and Howard HH. Thematic Cartography and Geovisualization, 3rd 3. President of the Republic of Indonesia, Law No. 4 of 2011 concerning Geospatial Information 4. ESRI, 2009, GIS for Building and Managing Infrastructure **Additional :** 1. Holdstock D.A., 2019, Smart Geospatial Practices and Applications in Local Government: An Altogether Different 2. Wolf P., DeWitt B., and Wilkinson B., 2014, Elements of Photogrammetry with Application in GIS, Mc Graw Hill
Lecturer	1. Agung Budi Cahyono, S.T., M.Sc, DEA 2. Husnul Hidayat, S.T., M.T.
Prerequisite	Photogrammetry

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 – 2	Students are able to explain the basic concepts of fundamental and thematic geospatial information and understand their relevance to the One Map Policy.	Accuracy in explaining the basic concepts of fundamental and thematic geospatial information and understand their relevance to the One Map Policy.	1. Completeness of the material 2. Depth of explanation and effectiveness of communication	1. Lecture [2 x 45'] 2. Discussion [2 x 45']		Basic geospatial Information, thematic geospatial information	15
3	Students are able to identify and explain the sources and elements of thematic geospatial data for national, provincial, and local road networks in the non-sectoral domain.	Accuracy in identifying and explaining the sources and elements of thematic geospatial data for national, provincial, and local road networks in the non-sectoral domain.	1. Completeness of the material 2. Depth of explanation and effectiveness of communication	1. Lecture [1 x 45'] 2. Discussion [1 x 45']		Source of thematic GI for national, provincial, and local roads for non sectoral domain	5
4 – 5	Students are able to compile and map thematic geospatial information related to mineral	Accuracy in compiling and map thematic geospatial	1. Completeness of the material 2. Depth of explanation and	1. Lecture [2 x 45'] 2. Discussion [1 x 45'] 3. Task [1 x 45']		Thematic GI for mineral resources	15

	resource potential in non-sectoral areas.	information related to mineral resource potential in non-sectoral areas.	effectiveness of communication				
6 – 7	Students are able to compile and present thematic geospatial information related to the agricultural sector, including relevant data structures and data sources.	Accuracy in compiling and presenting thematic geospatial information related to the agricultural sector, including relevant data structures and data sources.	1. Completeness of the material 2. Depth of explanation and effectiveness of communication	1. Lecture [2 x 45'] 2. Discussion[1 x 45'] 3. Task [1 x 45']		Thematic GI for agriculture	15
8	**Midterm Evaluation / Midterm Exam**						**50**
9 – 10	Students are able to analyze and present thematic geospatial information for volcanic disaster-prone areas.	Accuracy in analyzing and presenting thematic geospatial information for volcanic disaster-prone areas.	1. Completeness of the material 2. Depth of explanation and effectiveness of communication	1. Lecture [2 x 45'] 2. Discussion[1 x 45'] 3. Task [1 x 45']		Thematic GI for mapping volcano disaster prone areas	15
11 – 12	Students are able to integrate various thematic data sources for spatial mapping of disaster-prone areas.	Accuracy in integrating various thematic data	1. Completeness of the material 2. Depth of explanation and	1. Lecture [2 x 45'] 2. Discussion [1 x 45'] 3. Task [1 x 45']		Thematic GI for mapping volcano disaster prone areas	15

		sources for spatial mapping of disaster-prone areas.	effectiveness of communication				
13	Students are able to explain the basic concepts, architecture, and functions of Web-GIS for presenting thematic geospatial information.	Accuracy in explaining the basic concepts, architecture, and functions of Web-GIS for presenting thematic geospatial information.	1. Completeness of the material 2. Depth of explanation and effectiveness of communication	1. Lecture [1 x 45'] 2. Discussion [1 x 45']		Thematic GI in web-GIS	5
14 – 15	Students are able to build and present Web-GIS-based thematic maps for mapping village potentials in socio-economic contexts.	Accuracy in building and presenting Web-GIS-based thematic maps for mapping village potentials in socio-economic contexts.	1. Completeness of the material 2. Depth of explanation and effectiveness of communication	1. Lecture [2 x 45'] 2. Discussion [1 x 45'] 3. Task [1 x 45']		Thematic GI for rural potency in social-economic domain using web-GIS	15
16	**Final Semester Evaluation / Final Semester Examination**						**100**