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

SEMESTER LEARNING PLAN (SLP)

COURSE NAME	**CODE**	**COURSE GROUP**	**CREDITS (SKS)**		**SEMESTER**	**Date of Preparation**
Practical Work	CM234733	-	**T=0**	**P=3**	7	-

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-7	Able to perform spatial data acquisition using modern measurement methods, geospatial data processing, using industry standard software, and making standard designs and analyses 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 cross-disciplinary and cross-cultural teams so that they can compete at national and international levels.
	ELO-12	Able to apply the concepts of management, entrepreneurship, innovation based on the latest technology, sustainable and environmentally sound
	Course Learning Outcomes (CLO)	
	CLO-1	Able to formulate problems for Practical Work and make designs in survey and mapping activities based on certain standards of the Indonesian National Standard (SNI) from the National Standardization Agency (BSN) and the International Organization for Standardization (ISO).
	CLO-2	Able to carry out practical work by applying information & communication technology in the fields of geodesy, surveying, hydrography, remote sensing, photogrammetry, geographic information systems, and cadastre.
	CLO-3	Able to carry out practical work quantitatively and qualitatively, draw clear conclusions and recommend the results of their work to interested parties from various sectors and fields with problem solving.
	CLO-4	Able to make Practical Work reports starting from the preparation of designs, and the implementation of Practical Work.

Matrix ELO – CLO

CLO	ELO-6	ELO-7	ELO-10	ELO-10
CLO-1	V	V	V	V
CLO-2	V	V	V	V
CLO-3	V	V	V	V
CLO-4	V	V	V	V

Course Description

This course aims to provide understanding and skills in problem formulation, design, and implementation of surveying and mapping activities in accordance with specific standards, such as the Indonesian National Standard (SNI) from the National Standardization Agency (BSN) and the International Organization for Standardization (ISO). Students will be able to apply information and communication technology in the fields of geodesy, surveying, hydrography, remote sensing, photogrammetry, geographic information systems, and cadastre. Additionally, students will be trained to conduct quantitative and qualitative analyses, draw clear conclusions, and provide relevant recommendations to various stakeholders. By the end of the course, students are expected to prepare a comprehensive Internship (Kerja Praktek) report, covering planning to execution of the activities.

Course Materials

1. Formulating problems.
2. Designing surveys in accordance with SNI and ISO standards.
3. Information and communication technology in geodesy, surveying, hydrography, remote sensing, photogrammetry, GIS, and cadastre.
4. Information and communication technology in Internship (Kerja Praktek) for surveying and mapping.
5. Quantitative and qualitative analysis.
6. Drawing conclusions.
7. Preparing work reports.
8. Presenting internship results.
9. Defending and recommending internship results.

References

Main:

1. Standar Nasional Indonesia (SNI) by BSN, ISO (International Organization for Standardization), and Related Government Regulations & Technical Guidelines.
2. Ghilani, C. D., & Wolf, P. R. (2017). **Elementary Surveying: An Introduction to Geomatics** (15th ed.). Pearson.
3. Kavanagh, B. F., & Bird, S. J. (2013). **Surveying: Principles and Applications** (9th ed.). Pearson.
4. Lillesand, T., Kiefer, R. W., & Chipman, J. (2015). **Remote Sensing and Image Interpretation** (7th ed.). Wiley.
5. Smith, M. J., Parry, S., & Griffiths, J. S. (2014). **Professional Surveying Practice**. Whittles Publishing.

Schofield, W., & Breach, M. (2007). **Engineering Surveying** (6th ed.). Elsevier.

Additional:

Lecturer	Danar Guruh Pratomo, S.T., M.T., Ph.D.
Prerequisite	

Class/ Week	Lesson Learning Outcome (Sub-CLO)	Valuation		Learning Forms, Learning Methods, Student Assignments /Task, [Estimated Time]		Learning Materials [References]	Weight (%)
		Indicators	Criteria	Offline	Online		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1-2	Able to formulate problems for Internship (Practical Work) and develop survey and mapping designs based on SNI and ISO standards.	Accuracy in formulating problems for Internship (Practical Work) and develop survey and mapping designs based on SNI and ISO standards.	**1.** Completeness of material **2.** Depth of explanation and effectiveness of communication	1. Lecture [1 x 50'] 2. Discussion [1 x 50']		1. Formulating problems. 2. Designing surveys in accordance with SNI and ISO standards.	5
3-4	Able to identify information and communication technology in the fields of geodesy, surveying, hydrography, remote sensing, photogrammetry, GIS, and cadastre.	Accuracy in identifying information and communication technology in the fields of geodesy, surveying, hydrography, remote sensing, photogrammetry, GIS, and cadastre.	**1.** Completeness of material **2.** Depth of explanation and effectiveness of communication	1. Lecture [2 x 50'] 2. Discussion [1 x 50'] 3. Assignment [1 x 50']		Information and communication technology in geodesy, surveying, hydrography, remote sensing, photogrammetry, GIS, and cadastre.	10

5-6	Able to apply information and communication technology in Internship (Practical Work) for survey and mapping activities.	Accuracy in applying information and communication technology in Internship (Practical Work) for survey and mapping activities.	**1.** Completeness of material **2.** Depth of explanation and effectiveness of communication	1. Lecture [1 x 50'] 2. Discussion [1 x 50']		Information and communication technology in Internship (Kerja Praktek) for surveying and mapping.	10
7	Able to perform quantitative and qualitative analysis in Internship (Practical Work).	Accuracy in performing quantitative and qualitative analysis in Internship (Practical Work).	**1.** Completeness of material **2.** Depth of explanation and effectiveness of communication	1. Lecture [2 x 50'] 2. Discussion, Assignment [1 x 50'] 3. Response/Exercise [1 x 50']		Quantitative and qualitative analysis.	15
8	**Midterm Evaluation / Midterm Exam**						**50**
9-10	Able to draw clear conclusions and provide recommendations based on the results of the Internship (Practical Work).	Accuracy in to drawing clear conclusions and provide recommendations based on the results of the Internship (Practical Work).	1. Completeness of material 2. Depth of explanation and effectiveness of communication	1. Lecture [2 x 50'] 2. Discussion, Assignment [1 x 50'] 3. Response [1 x 50']		Drawing conclusions.	10
11-12	Able to produce an Internship (Practical Work) report that adheres to scientific report standards.	Accuracy in producing an Internship (Practical Work)	1. Completeness of material 2. Depth of explanation and	1. Lecture [2 x 50'] 2. Discussion, Assignment [1 x 50'] 3. Response [1 x 50']		Preparing work reports.	10

		report that adheres to scientific report standards.	effectiveness of communication				
13 – 14	Able to present the results of the Internship (Practical Work) clearly and accurately.	Accuracy in presenting the results of the Internship (Practical Work) clearly and accurately.	1. Completeness of material 2. Depth of explanation and effectiveness of communication	1. Lecture [2 x 50'] 2. Discussion, Assignment [1 x 50'] 3. Response/exercise [1 x 50']		Presenting internship results.	10
15	Able to defend the report and recommendations of the Internship (Practical Work) in front of examiners.	Accuracy in defending the report and recommendations of the Internship (Practical Work) in front of examiners.	1. Completeness of material 2. Depth of explanation and effectiveness of communication	1. Lecture [2 x 50'] 2. Discussion, Assignment [1 x 50'] 3. Response/exercise [1 x 50']		Defending and recommending internship results.	30
16	**Final Semester Evaluation / Final Semester Examination**						**100**