



UNIVERSITAS PENDIDIKAN INDONESIA

SEMESTER LEARNING PLAN (RPS)

COURSE IDENTITY

Course Name	Course Code	Sks	Workload	Course Group	Semester	Prerequisite Course	Publication Date
GEOLOGY AND GEOMORPHOLOGY SURVEY AND MAPPING	SA529	2	90	Study Program Specialization Course (MKKP)	2		2025-09-09 11:26:56

Prepared by	Reviewed by	Approved by
Drs. Jupri, M.T.	Shafira Himayah, S.Pd., M.Sc.	Dr. Lili Somantri, S.Pd., S.S., M.Si.

COURSE DESCRIPTION AND GRADUATE LEARNING OUTCOMES (GLO/CPL)

Course Description	This course is designed to provide both theoretical and practical understanding of geological and geomorphological survey and mapping methods. Students will study the geological and geomorphological principles underlying terrain mapping, field survey techniques, image and remote sensing data analysis, as well as spatial data integration for producing accurate geological and geomorphological maps. In addition, students will be trained in the use of mapping software and spatial data processing for geological and geomorphological applications.		
Graduate Learning Outcomes (GLO/CPL)	1	Understand the fundamental concepts of geology and geomorphology.	
	2	Master geological and geomorphological survey and mapping techniques.	
	3	Capable of analyzing geological and geomorphological data for decision-making.	
Course Learning Outcomes (CLO/CPMK)	1	Understand the concepts and fundamental principles of geological and geomorphological mapping.	
	2	Understand the types of maps, including situation maps, topographic maps, and thematic maps.	
	3	Understand the functions of geological mapping equipment (types and categories of instruments/materials and techniques for their use).	
	4	Understand geological mapping methods (field orientation, compass traverses, and compass-and-tape traverses).	
	5	Apply the stages of geological mapping (preparation, field data collection, laboratory analysis, and map presentation).	
	6	Apply occupational safety and geological/field ethics.	
Sub-CPMK	1	CPMK - 1	Study the fundamental concepts and principles of geological and geomorphological mapping.
	2	CPMK - 2	Study the types of maps, including situation maps, topographic maps, and thematic maps.
	3	CPMK - 3	Study the types and functions of geological and geomorphological mapping equipment, including the categories of instruments and materials.
	4	CPMK - 3	Study the techniques for using geological and geomorphological mapping equipment.
	5	CPMK - 4	Study the geological mapping method of field orientation.
	6	CPMK - 4	Study the geological mapping method: the compass traverse.
	7	CPMK - 4	Study the geological mapping method: the compass-and-tape traverse.
	8	CPMK - 5	Carry out the geological mapping preparation stage for field data collection.
	9	CPMK - 5	Carry out the field data collection process.
	10	CPMK - 5	Carry out laboratory analysis.

	11	CPMK - 5	Carry out the map presentation process.
	12	CPMK - 6	Apply appropriate occupational safety procedures and field ethics.
Course Materials	1	Introduction, Understanding the Syllabus and Semester Learning Plan (RPS)	
	2	Introduction to Cartography	
	3	Types of Maps: Situation Maps, Topographic Maps, and Thematic Maps	
	4	Geological Mapping Equipment (Types and Categories of Instruments/Materials)	
	5	Geological Mapping Equipment: Techniques for Using the Equipment	
	6	Geological Mapping Method: Field Orientation	
	7	Geological Mapping Method: Compass Traverse Method and Compass-and-Tape Traverse Method	
	8	Midterm Examination (UTS)	
	9	Carrying Out the Geological Mapping Preparation Stage	
	10	Carrying Out the Geological Mapping Stage in Preparation for Field Data Collection (Petrology and Mineralogy)	
	11	Carrying Out the Geological Mapping Stage in Preparation for Field Data Collection (Stratigraphy and Geological Structure)	
	12	Carrying Out the Geological Mapping Stage in Preparation for Field Data Collection (Sampling and Data Plotting)	
	13	Carrying Out Laboratory Analysis	
	14	Geological Map Presentation	
	15	Geological Map and Derivative Map Presentation	
	16	Final Examination (UAS)	
Demonstrable Learning Outcomes at the End of the Course *)	Preparation of the Geology and Geomorphology Survey and Mapping Report		
Learning Strategy		Case Method	
	✓	Team based Project	
		Others	
Learning Steps	Explanation of fundamental concepts and principles — Study of survey equipment and techniques — Field observation — Interpretation of geological and geomorphological data from maps — Case studies and simulation of geological mapping projects.		

References	1	Sukandarrumidi, 2011. Pemetaan Geolog : Penuntun Praktis UntukGeologist Pemula. UGM Press, Yogyakarta.
	2	Coe, A.L., Argles, T.W., Rothery, D.A. And Spicer, R.A., 2010. Geological Field Techniques, John Wiley & Sons, Inc., UK.
	3	Bates, R.L. and Jackson, J.A., 1987., Glossary Geolog, 3th Edition. American Geological Institute Elexandria, Virginia
	4	Van Der Pluijm, B. A. and Marshak, S. 2004. Earth Structure . 2ndEdition. W. W. Norton & Company, Inc., USA

LEARNING PLAN

Week	Sub-CPMK	Sub-CLO Achievement Indicators Demonstrable by Students	Course Material	Assessment		Learning Form and Method		Duration(mi n)	Ref.No.	AccessTime
				Assessment Form(test /non-test)	Weight(%)	Synchronous(Face-to-Face& Online)	Asynchronous (Individual &Group Tasks)			
1	Study the basic concepts and principles of geological and geomorphological mapping	Able to re-explain the fundamental concepts and principles of geological and geomorphological mapping.	Introduction, Understanding the Syllabus and Semester Learning Plan (RPS)	Multiple Choice	5	Face-to-face expository using lecture methods and interactive media to create interactions that provide critical thinking experiences	Independent material exploration	2 x 50	1	04-02-2025 10:20
2	Study Types of Maps, Situation Maps, Topographic Maps & Thematic Maps	Students are able to recognize the types of maps required in geological and geomorphological survey and mapping.	Introduction to Cartography	Participatory	5	Face-to-face expository using lecture methods and interactive media to create interactions that provide critical thinking experiences	Independent material exploration	2 x 50	1	11-02-2025 10:20
3	Study the types and functions of Geological and Geomorphological Mapping equipment in the form of types of tools/materials	Students understand the functions of geological and geomorphological mapping equipment.	Types of Maps: Situation Maps, Topographic Maps, and Thematic Maps	Participatory	5	Face-to-face expository using lecture methods and interactive media to create interactions that provide critical thinking experiences	Independent material exploration	2 x 50	2	18-02-2025 10:20
4	Study techniques for using geological and geomorphological mapping tools	Understand the use of geological and geomorphological mapping equipment.	Geological Mapping Equipment (Types and Categories of Instruments/Materials)	Participatory	5	Face-to-face expository using lecture methods and interactive media to create interactions that provide critical thinking experiences	Independent material exploration	2 x 50	1	25-02-2025 12:01

Week	Sub-CPMK	Sub-CLO Achievement Indicators Demonstrable by Students	Course Material	Assessment		Learning Form and Method		Duration(min)	Ref.No.	AccessTime
				Assessment Form(test /non-test)	Weight(%)	Synchronous(Face-to-Face& Online)	Asynchronous (Individual &Group Tasks)			
5	Study Geological Mapping Methods Field orientation	Students understand the method applied through the field orientation approach.	Geological Mapping Equipment: Techniques for Using the Equipment	Participatory	5	Face-to-face expository using lecture methods and interactive media to create interactions that provide critical thinking experiences	Independent material exploration	2 x 50	2	04-03-2025 10:15
6	Study Geological Mapping methods: Compass trajectories	Understand the compass traverse mapping method.	Geological Mapping Method: Field Orientation	Participatory	5	Face-to-face expository using lecture methods and interactive media to create interactions that provide critical thinking experiences	Independent material exploration	2 x 50	2	11-03-2025 10:15
7	Studying geology mapping methods Compass trajectories and measuring tape)	Students understand the compass-and-tape traverse method.	Geological Mapping Method: Compass Traverse Method and Compass-and-Tape Traverse Method	Participatory	5	Face-to-face expository using lecture methods and interactive media to create interactions that provide critical thinking experiences	Independent material exploration	2 x 50	1	18-03-2025 10:15
8	MIDTERM EXAMINATION				15					25-03-2025 10:30
9	Carrying out the Geological Mapping Stage in preparation for collecting field data	Prepare for field data collection.	Carrying Out the Geological Mapping Preparation Stage	Performance	5	Face-to-face expository using lecture methods and interactive media to create interactions that provide critical thinking experiences	Independent material exploration	2 x 50	2	08-04-2025 10:30

Week	Sub-CPMK	Sub-CLO Achievement Indicators Demonstrable by Students	Course Material	Assessment		Learning Form and Method		Duration(mi n)	Ref.No.	AccessTime
				Assessment Form(test /non-test)	Weight(%)	Synchronous(Face-to-Face& Online)	Asynchronous (Individual &Group Tasks)			
10	Carrying out the Geological Mapping Stage in preparation for collecting field data	Understand the preparations undertaken for geological data collection in the field.	Carrying Out the Geological Mapping Stage in Preparation for Field Data Collection (Petrology and Mineralogy)	Performance	5	Face-to-face expository using lecture methods and interactive media to create interactions that provide critical thinking experiences	Independent material exploration	2 x 50	2	15-04-2025 10:20
11	Carrying out the field data collection process	Understand the process of geological data collection in the field.	Carrying Out the Geological Mapping Stage in Preparation for Field Data Collection (Stratigraphy and Geological Structure)	Performance	5	Face-to-face expository using lecture methods and interactive media to create interactions that provide critical thinking experiences	Independent material exploration	2 x 50	2	22-04-2025 10:30
12	Carrying out the field data collection process	Understand the process of geological data collection in the field.	Carrying Out the Geological Mapping Stage in Preparation for Field Data Collection (Sampling and Data Plotting)	Performance	5	Field lecture	Independent material exploration	2 x 50	2	29-04-2025 10:20
13	Carrying out laboratory analysis	Understand the process of processing field data.	Carrying Out Laboratory Analysis	Performance	5	Face-to-face expository using lecture methods and interactive media to create interactions that provide critical thinking experiences	Independent processing using the provided module	2 x 50	2	06-05-2025 10:20

14	Carry out the map presentation process	Understand the process of presenting field data.	Geological Map Presentation	Performance	5	Face-to-face expository using lecture methods and interactive media to create interactions that provide critical thinking experiences	Independent processing using the provided module	2 x 50	2	13-05-2025 10:20
Week	Sub-CPMK	Sub-CLO Achievement Indicators Demonstrable by Students	Course Material	Assessment		Learning Form and Method		Duration(mi n)	Ref.No.	AccessTime
				Assessm ent Form(test /non-test)	Weight(%)	Synchronous(Face-to-Face& Online)	Asynchronous (Individual &Group Tasks)			
15	Carry out the map presentation process	Able to present geological map data and its derivative products.	Geological Map and Derivative Map Presentation	Performance	5	Face-to-face expository using lecture methods and interactive media to create interactions that provide critical thinking experiences	Independent processing using the provided module	2 x 50	2	20-05-2025 10:20
16	UAS				15					27-05-2025 10:15

STUDENT LEARNING TIME (WORKLOAD)

	Activity	Synchronous(Face-to-Face / Online)	Asynchronous(Structured / Independent)	Student LearningPreparation	Total Student Learningand Instructional Time
LEARNING	Lectures / Recitation / Tutorial	14 × 90 min = 1,260 min	-x-	-x-	1,260 min (21.0 hrs)
	Project-Based Learning	-x-	8 × 90 min = 720 min	8 × 30 min = 240 min	960 min (16.0 hrs)
	Discussion (Case-Based Learning)	8 × 60 min = 480 min	-x-	8 × 30 min = 240 min	720 min (12.0 hrs)
	SUBTOTAL				2,940 min (49.0 hrs)
ASSESSMENT	Continuous Assessment				
	Participation During Learning	16 × 60 min = 960 min	8 × 30 min = 240 min	-x-	1,200 min (20.0 hrs)
	Project Work	-x-	8 × 90 min = 720 min	4 × 30 min = 120 min	840 min (14.0 hrs)
	Assignment	-x-	-x-	-x-	0 min (0.0 hrs)
	Quiz	-x-	-x-	-x-	0 min (0.0 hrs)
	Formative				90 min (1.5 hrs)
	Summative				90 min (1.5 hrs)
	SUBTOTAL				2220 min (37.0 hrs)
TOTAL WORKLOAD					5,160 min (86 hrs)
IDEAL CREDIT HOURS					90 Hours
CREDITS (SKS)					2
CONFORMITY WITH CREDIT LOAD					NOT COMPLIANT

CLO ASSESSMENT CRITERIA

No	CPMK	CPL			Taxonomy	Weight	CLO Achievement Criteria
		CPL-1	CPL-2	CPL-3			
1	Understand the concepts and fundamental principles of geological and geomorphological mapping.					5	0% of all students achieve a minimum score of 0 (on a scale of 100)
2	Understand the types of maps, including situation maps, topographic maps, and thematic maps.					5	0% of all students achieve a minimum score of 0 (on a scale of 100)
3	Understand the functions of geological mapping equipment (types and categories of instruments/materials and techniques for their use).					10	0% of all students achieve a minimum score of 0 (on a scale of 100)
4	Understand the geological mapping methods (field orientation, compass traverses, and compass-and-tape traverses).					15	0% of all students achieve a minimum score of 0 (on a scale of 100)
5	Apply the stages of geological mapping (preparation, field data collection, laboratory analysis, and map presentation).					35	0% of all students achieve a minimum score of 0 (on a scale of 100)
6	Apply occupational safety and geological/field ethics.					0	0% of all students achieve a minimum score of 0 (on a scale of 100)

COLLABORATIVE ASSIGNMENT DESIGN

Collaborative Assignment Details Not Yet Available.