

SEMESTER COURSE PLAN

**INDONESIAN TEKTONICS (P1) COURSES
(23H06131002)**



TEACHING TEAM

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STUDI PROGRAM OF GEOPHYSICS - S1
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
HASANUDDIN UNIVERSITY
MAKASSAR
2025

**STUDY PROGRAM OF GEOFISIKA - S1
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
HASANUDDIN UNIVERSITY**

Vision

Become a program Reliable studies in the field of geophysics to produce superior graduates and mastering science, technology, arts and culture based on BMI in 2030.

Vision Strategy

Mission

Based on the Vision above, the Geophysics Study Program has a mission:

1. Improving the quality of education to produce graduates who are competitive, able to work independently and in groups in implementing and developing BMI science and technology;
2. Carrying out research to produce reliable and competitive scientific work oriented towards the scientific development of solid geophysics, marine geophysics, geoinformatics and hydro-meteorology;
3. Disseminate the results of applied research, action studies and appropriate technology packages in synergistic and accelerated productive activities to improve the quality of life of the community.

Graduate Profiles

Educators in the Field of Geophysics; meteorologist; geomaths; oceanographer; exploration geophysicist; seismologist ; geophysical entrepreneur.

PLO charged to courses

CPL-4 (P1) - Mastering theoretical concepts of land, sea and geophysics atmosphere, principles of exploration, and design exploration necessary for identification and mapping natural resources and natural disaster mitigation;

CPL-7 (P4) - Master the principles and current issues of natural disasters and how to mitigate disaster risks

CPL-12 (KK2) - Able to discover new natural resources through a process of exploration, analysis, interpretation of data and information based on environmentally friendly exploration geophysical principles

CPL-13 (KK3) - Able to formulate alternative solutions to solve disaster mitigation problems by taking into account public safety, social and environmental factors

Course Learning Outcomes (CLO)

CPMK-1: Able to analyze tectonic phenomena through surface deformation (CPL4 dan CPL7)

CPMK-2: Able to analyze tectonic processes that occur in Indonesia through geophysical modeling (CPL12 dan CPL13)

Sub-CLO

Sub CPMK-1: Able to describe plate tectonic processes (CPMK-1)

Sub CPMK-2: Able to describe the comparison of continents (CPMK-1)

Sub CPMK-3: Able to describe the process of breaking up the earth's plates (CPMK-1)

Sub CPMK-4: Able to describe Tectonic Support (CPMK-1)

Sub CPMK-5: Able to Describe the Catastrophic Process (CPMK-1)

Sub CPMK-6: Able to analyze Geosyncline Processes (CPMK-1)

Sub CPMK-7: Able to describe the Formation of Continents (CPMK-2)

Sub CPMK-8: Able to Analyze Tectonostratigraphy (CPMK-2)

Sub CPMK-9: Able to identify tectonic phenomena in the field (CPMK-2)

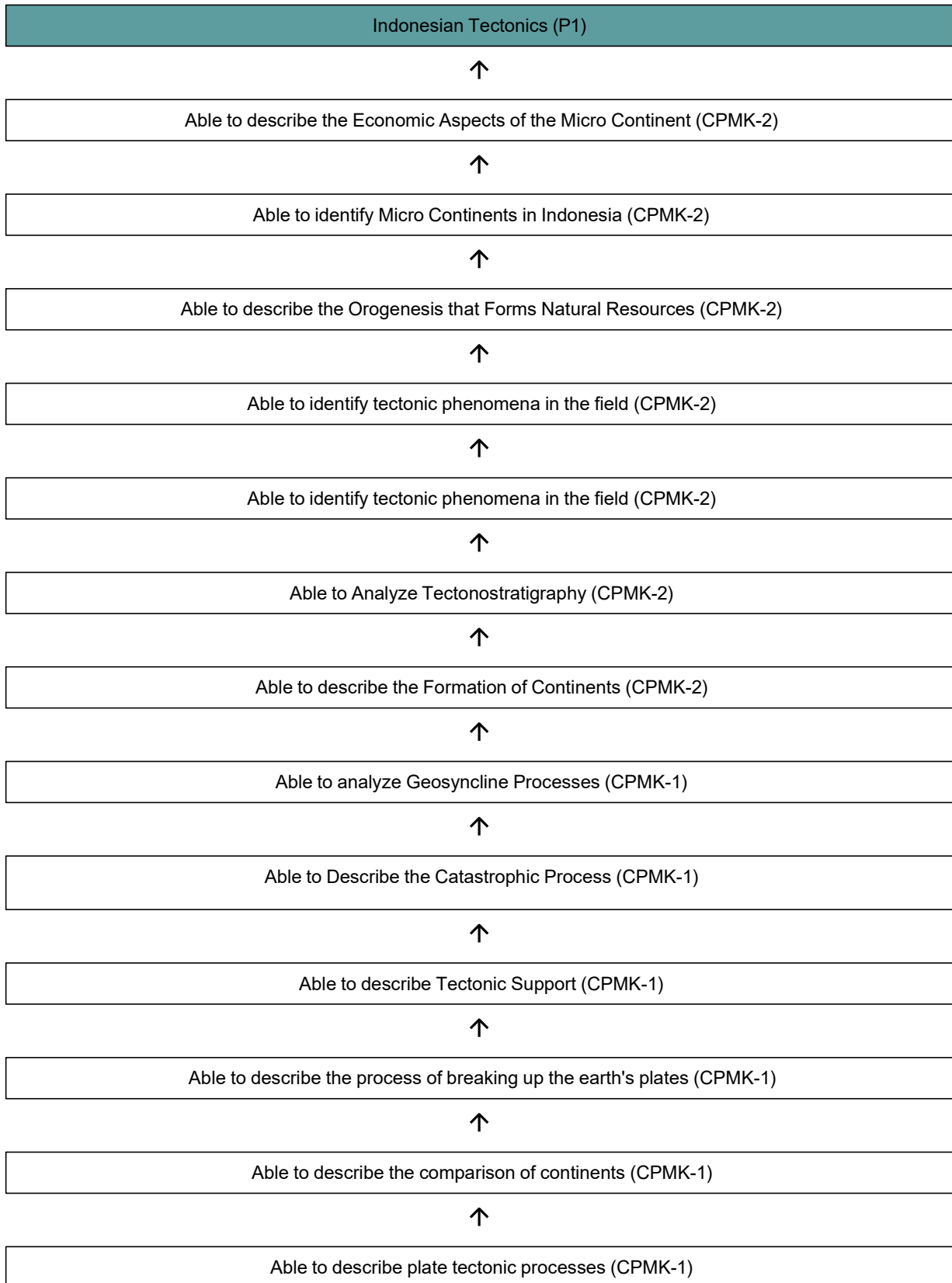
Sub CPMK-10: Able to identify tectonic phenomena in the field (CPMK-2)

Sub CPMK-11: Able to describe the Orogenesis that Forms Natural Resources (CPMK-2)

Sub CPMK-12: Able to identify Micro Continents in Indonesia (CPMK-2)

Sub CPMK-13: Able to describe the Economic Aspects of the Micro Continent (CPMK-2)

Learning Analytics





HASANUDDIN UNIVERSITY
FAKULTY OF MATHEMATICS AND NATURAL SCIENCES
STUDY PROGRAM OF GEOPHYSICS - S1
SEMESTER LEARNING PLAN

Course		Code	Course Group	Credits	SEMESTER	Compilation Date
Indonesian Tectonics (P1)		23H06131002		2	5	1 Juli 2025
AUTHORITY		SLP Developer Lecturer		Coordinator		Head of Study Program
		Prof. Dr. Ir. Muh. Altin Massinai, MT., Surv., Makhрани, S.Si. M.Si		Prof. Dr. Ir. Muh. Altin Massinai, MT., Surv.		Dr. Muhammad Alimuddin, Eng.
Learning Outcomes Course	SLOs that are imposed on the course					
	SLO-4:	Menguasai konsep teoritis Geofisika darat, laut dan atmosfer, prinsip-prinsip eksplorasi, dan perancangan eksplorasi yang diperlukan untuk identifikasi dan pemetaan SDA serta mitigasi bencana alam;				
	SLO-7:	Menguasai prinsip dan issue terkini bencana alam dan bagaimana memitigasi resiko bencana				
	SLO-12:	Mampu menemukan sumber Daya alam baru melalui proses eksplorasi, analisis, interpretasi data dan informasi berdasarkan prinsip-prinsip geofisika eksplorasi yang ramah lingkungan				
	SLO-13:	Mampu merumuskan alternatif solusi untuk menyelesaikan masalah mitigasi bencana dengan memperhatikan faktor-faktor keselamatan publik, sosial dan lingkungan				
	SLO ⇒ Course Learning Outcomes					
	After completing this course, it is expected:					
	SLO-4	CLO-1: Able to analyze tectonic phenomena through surface deformation				
	SLO-7	CLO-1: Able to analyze tectonic phenomena through surface deformation				
	SLO-12	CLO-2: Able to analyze tectonic processes that occur in Indonesia through geophysical modeling				
	SLO-13	CLO-2: Able to analyze tectonic processes that occur in Indonesia through geophysical modeling				
	CLO ⇒ Sub-CLO					
	CLO-1	Sub-CLO-1:Able to describe plate tectonic processes				
		Sub-CLO-2:Able to describe the comparison of continents				
		Sub-CLO-3:Able to describe the process of breaking up the earth's plates				
		Sub-CLO-4:Able to describe Tectonic Support				
		Sub-CLO-5:Able to Describe the Catastrophic Process				
Sub-CLO-6:Able to analyze Geosyncline Processes						
	Sub-CLO-7:Able to describe the Formation of Continents					

	CLO-2	Sub-CLO-8:Able to Analyze Tectonostratigraphy							
		Sub-CLO-9:Able to identify tectonic phenomena in the field							
		Sub-CLO-10:Able to identify tectonic phenomena in the field							
		Sub-CLO-11:Able to describe the Orogenesis that Forms Natural Resources							
		Sub-CLO-12:Able to identify Micro Continents in Indonesia							
		Sub-CLO-13:Able to describe the Economic Aspects of the Micro Continent							
	Correlation between SLOs/CLOs to Sub-CLOs								
SLOs that are charged on the Course	CPMK	SUB CPMK	Form of Assessment*				Weight	Value	Student Score
			Formative	Sumative					
				Project/Case Study	Task	Summative Test			
SLO-7	CLO-1	SUB-CLO-1	Participation	10	0	0	10		
SLO-7	CLO-1	SUB-CLO-2	Participation	5	0	0	5		
SLO-7	CLO-1	SUB-CLO-3	Participation	10	0	0	10		
SLO-7	CLO-1	SUB-CLO-4	Participation	5	0	0	5		
SLO-7	CLO-1	SUB-CLO-5	Participation	0	5	0	5		
SLO-7	CLO-1	SUB-CLO-6	Participation	10	0	0	10		
SLO-13	CLO-2	SUB-CLO-7	Participation	0	0	5	5		
SLO-13	CLO-2	SUB-CLO-8	Participation	5	0	0	5		
SLO-13	CLO-2	SUB-CLO-9	Participation	5	0	0	5		
SLO-13	CLO-2	SUB-CLO-10	Participation	0	10	0	10		
SLO-13	CLO-2	SUB-CLO-11	Participation	0	5	0	5		
SLO-13	CLO-2	SUB-CLO-12	Participation and Participation	5	10	0	15		
SLO-13	CLO-2	SUB-CLO-13	Participation and Participation	5	0	5	10		
				60	30	10	100		
Course Description	In this lecture, the understanding and concepts of earth structure, plate tectonics, continental alignment, plate distribution are explainedearth, tectonic support, catastrophism, geosynclines, continental formation, tectonostratigraphy, Indonesian Neogene Orogeny, Orogenesa forming natural resources, the Indonesian micro continent, economic aspects of the micro continent and tectonic phenomena in the field(held fieldtrip to learn about mineral analysis and practical sampling in the field).								

Learning Materials/Subjects		1. Plate Tectonics 2. Tectonostratigraphy 3. Neogene orogenesis in Indonesia 4. Micro continent in Indonesia 5. Economic aspects of micro continents					
Reference		Main References					
		1. Hamilton, Warren. 1979. Tectonics of the Indonesian Region. Washington: Geological Survey Professional Paper 1078. 345 p. 2. Hall, Robert (2003) Cenozoic Tectonics of Indonesia, Short Course of Indonesia. Petrol. Assoc. Annual Meeting, Jakarta, 183p. 3. Simandjuntak, TO (2004) Tectonics, Center for Geological Research and Development, Bandung, 216 p					
		Additional References					
		-					
Teaching Team		Prof. Dr. Ir. Muh. Altin Massinai, MT., Surv., Makhrani, S.Si. M.Si					
Course requirement							
Week	Sub CPMK (End-of-stage learning ability)	Penilaian (Assesment)		Learning Forms and Methods [time estimate]		Content	Weight of Assessment (%)
		Indicator	Techniques & Criteria	Offline	Online		
1	2	3	4	5	6	7	8

1-2	Able to describe plate tectonic processes (CPMK-1)	Formative: Precision in understand Plate tectonics Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Project/Case Study (10) dinilai dengan rubrik 1 Assessment Technique: Non Test	Studying: Group discussion (Small Group Discussion), Case Study (Case Study) None	Plate tectonics Expansion ocean bottom ridge mid-ocean Crust earth Bancuh Tectonic cycle	10
3	Able to describe the comparison of continents (CPMK-1)	Formative: Explanation, activity, understanding Matching Continents Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Project/Case Study (5) dinilai dengan rubrik 1 Assessment Technique: Non Test	Studying: Group discussion (Small Group Discussion), Case Study (Case Study) None	Quiz (10-15 minutes first) Continent Alignment-Lithology Palaentology Magnetism ancient climate	5

4	Able to describe the process of breaking up the earth's plates (CPMK-1)	Formative: Explanation, activity, understanding Area earth plates Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Project/Case Study (10) dinilai dengan rubrik 1 Assessment Technique: Non Test	Studying: Group discussion (Small Group Discussion), Case Study (Case Study) None	Quiz (10-15 minutes first) Plate array earth Continent broken Continent fringe	10
5	Able to describe Tectonic Support (CPMK-1)	Formative: Explanation, activity, comprehension about Focus Tectonics Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Project/Case Study (5) dinilai dengan rubrik 1 Assessment Technique: Non Test	Studying: Group discussion (Small Group Discussion), Case Study (Case Study) None	Quiz (10-15 minutes first) Tectonic Focus Type fulcrum tectonics Volcano arc Pair path transfer	5

5-6	Able to describe the Economic Aspects of the Micro Continent (CPMK-2)	Formative: - Sumative: -	Formative Criteria: Sumative Criteria: Assessment Technique: Non Test			-	0
7	Able to analyze Geosyncline Processes (CPMK-1)	Formative: Explanation, activity, understanding about Process Geosynclinal Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Project/Case Study (10) dinilai dengan rubrik 1 Assessment Technique: Non Test	Studying: Group discussion (Small Group Discussion), Case Study (Case Study) None		Quiz (10-15 minutes first) Geosynclin Geatinklin Formation granite "S" Collision between continent Island arc	10

8	Able to describe the Formation of Continents (CPMK-2)	Formative: - Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Summative Test (5) dinilai dengan rubrik 1 Assessment Technique: Test and Non-Test			-	5
9	Able to Analyze Tectonostratigraphy (CPMK-2)	Formative: Explanation, activity, comprehension about Formation of Continents Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Project/Case Study (5) dinilai dengan rubrik 1 Assessment Technique: Non Test	Studying: Group discussion (Small Group Discussion), Case Study (Case Study) None		Quiz (10-15 minutes first) Formation Origin of continents Archean Shield Path accration orogenesis Paleogeography	5

10	Able to identify tectonic phenomena in the field (CPMK-2)	Formative: Precision in determining Tektonostratigrafi Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Project/Case Study (5) dinilai dengan rubrik 1 Assessment Technique: Non Test	Studying: Group discussion (Small Group Discussion), Case Study (Case Study) None	Quiz (10-15 minutes first) Tectonostratigraphy Tectonostratigraphy east arm Mintakat Banggai-Sula ophiolite path East Sulawesi	5
11	Able to identify tectonic phenomena in the field (CPMK-2)	Formative: Accuracy in identifying the phenomenon tectonic Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Task (10) dinilai dengan rubrik 1 Assessment Technique: Non Test	Studying: Group discussion (Small Group Discussion), Case Study (Case Study) None	Tectonic Phenomena on the field (Bantimala Location, Pangkep)	10

12	Able to describe the Orogenesis that Forms Natural Resources (CPMK-2)	Formative: Precision in identify Neogen di Indonesia Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Task (5) dinilai dengan rubrik 1 Assessment Technique: Non Test	Studying: Group discussion (Small Group Discussion), Case Study (Case Study) None	Neogene Orogeny in Indonesia OrogenesaLine Sundanese Orogenesa orogenesa Sulawesi Orogenesa Banda orogenesa Melanesia Dayak Orogenesa	5
13	Able to identify Micro Continents in Indonesia (CPMK-2)	Formative: Precision in define Shaper Resources Nature Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Project/Case Study (5) dinilai dengan rubrik 1 Assessment Technique: Non Test	Studying: Group discussion (Small Group Discussion), Case Study (Case Study) None	Quiz (10-15 minutes first) Micro Continents in Indonesia Development micro continent tectonic evolution micro continent Change continent micro	5

14	Able to identify Micro Continents in Indonesia (CPMK-2)	Formative: Able to identify Micro Continents in Indonesia Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Task (10) Assessment Technique: Non Test	Studying: Group discussion (Small Group Discussion), Case Study (Case Study) None	Quiz (10-15 minutes Micro Continent in "Development Tectonic evolution"continent micro micro	10
15	Able to describe the Economic Aspects of the Micro Continent (CPMK-2)	Formative: Mastery and comprehension Aspects Economics Microcontinent Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Project/Case Study (5) dinilai dengan rubrik 1 Assessment Technique: Non Test	Studying: Group discussion (Small Group Discussion), Case Study (Case Study) None	Quiz (10-15 minutes first) Economic Aspects Micro Continent Indent in Indonesia Formation hydrocarbon	5

16-6	Able to Describe the Catastrophic Process (CPMK-1)	Formative: Explanation, activity, understanding about Process Catastrophism Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Task (5) dinilai dengan rubrik 1 Assessment Technique: Non Test	Studying: Group discussion (Small Group Discussion), Case Study (Case Study) None		Quiz (10-15 minutes first) Catastrophism Diastrophism Volcanotectonics	5
16	Able to describe the Economic Aspects of the Micro Continent (CPMK-2)	Formative: - Sumative: -	Formative Criteria: Participation dinilai dengan rubrik 1 Sumative Criteria: Summative Test (5) dinilai dengan rubrik 1 Assessment Technique: Test and Non-Test			-	5
							100

Matrix of SLO, CLO, and Assessment Method

SLO / CLO	CLO-1	CLO-2
CPL-4 (P1)	Project/Case Study (Weight 10%) Project/Case Study (Weight 5%) Project/Case Study (Weight 10%) Project/Case Study (Weight 5%) Task (Weight 5%) Project/Case Study (Weight 10%)	
CPL-7 (P4)	Project/Case Study (Weight 10%) Project/Case Study (Weight 5%) Project/Case Study (Weight 10%) Project/Case Study (Weight 5%) Task (Weight 5%) Project/Case Study (Weight 10%)	

SLO / CLO	CLO-1	CLO-2
CPL-12 (KK2)		Summative Test (Weight 5%) Project/Case Study (Weight 5%) Project/Case Study (Weight 5%) Task (Weight 10%) Task (Weight 5%) Project/Case Study (Weight 5%) Task (Weight 10%) Project/Case Study (Weight 5%) Summative Test (Weight 5%)
CPL-13 (KK3)		Summative Test (Weight 5%) Project/Case Study (Weight 5%) Project/Case Study (Weight 5%) Task (Weight 10%) Task (Weight 5%) Project/Case Study (Weight 5%) Task (Weight 10%) Project/Case Study (Weight 5%) Summative Test (Weight 5%)

Evaluation Type and Assessment Weight

Type	Assessment Weight
Project/Case Study	60
Task	30
Summative Test	10
Total	100

Assessment and Evaluation of Student Achievement of CLOs

SLOs that are charged on the Course	CLO	SUB CLO	Form of Assessment*				Weight	Value	Student Score
			Formative	Sumative					
				Project/Case Study	Task	Summative Test			
SLO-7	CLO-1	SUB-CLO-1	Participation	10	0	0	10		
SLO-7	CLO-1	SUB-CLO-2	Participation	5	0	0	5		
SLO-7	CLO-1	SUB-CLO-3	Participation	10	0	0	10		
SLO-7	CLO-1	SUB-CLO-4	Participation	5	0	0	5		
SLO-7	CLO-1	SUB-CLO-5	Participation	0	5	0	5		
SLO-7	CLO-1	SUB-CLO-6	Participation	10	0	0	10		
SLO-13	CLO-2	SUB-CLO-7	Participation	0	0	5	5		
SLO-13	CLO-2	SUB-CLO-8	Participation	5	0	0	5		
SLO-13	CLO-2	SUB-CLO-9	Participation	5	0	0	5		
SLO-13	CLO-2	SUB-CLO-10	Participation	0	10	0	10		
SLO-13	CLO-2	SUB-CLO-11	Participation	0	5	0	5		
SLO-13	CLO-2	SUB-CLO-12	Participation and Participation	5	10	0	15		
SLO-13	CLO-2	SUB-CLO-13	Participation and Participation	5	0	5	10		
				60	30	10	100		

Lampiran Rubrik 1 | Rubrik Holistik

Tabel 6. 1 Rubrik Holistik		
Grade Capaian	Skor	Uraian
Sangat Baik	≥ 85	Memperlihatkan pemahaman yang lengkap tentang permasalahan. Semua metode dan persyaratan tentang tugas terdapat dalam jawaban
Baik	71 - 84	Memperlihatkan cukup pemahaman tentang permasalahan. Semua persyaratan tentang tugas terdapat dalam jawaban
Cukup Baik	61 - 70	Memperlihatkan hanya sebagian pemahaman tentang permasalahan. Kebanyakan persyaratan tentang tugas terdapat dalam jawaban
Kurang	51 - 60	Memperlihatkan sedikit pemahaman tentang permasalahan. Banyak persyaratan tugas yang tidak ada
Sangat kurang	< 51	Memperlihatkan tidak ada pemahaman tentang permasalahan