

SEMESTER LEARNING PLAN

**ALGORITHM AND PROGRAMMING COURSES
(23H01110604)**



TEACHING TEAM

Dr. Khaeruddin, M.Sc.
196509141991031003

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

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

Vision

The scientific vision is to become a study program with an international reputation in the development of mathematics based on the Indonesian maritime continent by 2030

Vision Strategy

Mission

To fulfill the above vision, the Undergraduate Mathematics Study Program has four missions, namely:

- Organizing innovative and effective mathematics learning to improve the quality and creativity of students in order to compete nationally and internationally.
- Improving a research culture that produces internationally reputable publications.
- Playing an active role in community service activities and collaborating with other academic institutions, government, business, media and society.
- Carry out governance in the Mathematics Study Program that is effective, efficient and transparent based on IT and ISO 9001:2015 standards to achieve the tridharma goals.

Graduate Profiles

Gagal diterjemahkan

PLO charged to courses

CPL-9 (S2) - The students are able to adapt and develop self-abilities, both in mathematics and other relevant areas of science in their professional lives

CPL-1 (ILO 1) - Students are able to demonstrate an advanced understanding of basic pure and simple applied mathematics.

CPL-5 (KK1) - The students are able to construct mathematical modelling with relatively new ideas and present the results orally and in writing

CPL-6 (KK2) - The students are able to apply the mathematical method for solving a mathematical related-problem with or without the aid of computers and software

CPL-7 (KK3) - The students are able to demonstrate mathematical skills which include interpretation, connecting problems, solving problems, and communicating individually or teamwork

Course Learning Outcomes (CLO)

CPMK-1: Students are able to explain algorithms (CPL1 dan CPL5)

CPMK-2: Students are able to apply algorithms into programming languages (CPL5, CPL6 dan CPL7)

CPMK-3: Students are able to analyze algorithms to solve programming problem solutions (CPL7)

CPMK-4: Students are able to communicate ideas in an appropriate context both orally and in writing with the group (CPL9, CPL1 dan CPL7)

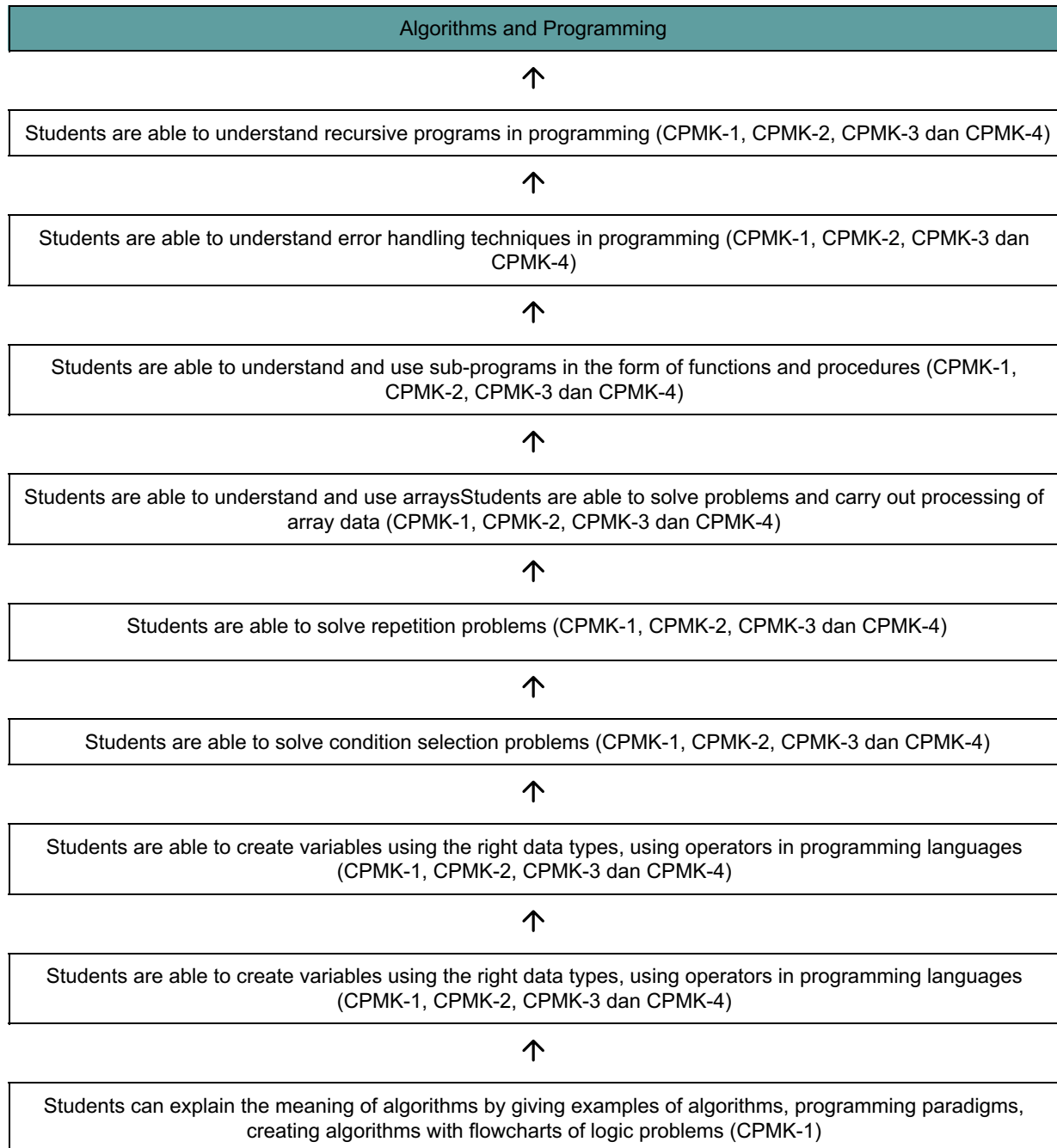
Sub-CLO

Sub CPMK-1: Students can explain the meaning of algorithms by giving examples of algorithms, programming paradigms, creating algorithms with flowcharts of logic problems (CPMK-1)

Sub CPMK-2: Students are able to create variables using the right data types, using operators in programming languages (CPMK-1, CPMK-2, CPMK-3 dan CPMK-4)

- Sub CPMK-3: Students are able to create variables using the right data types, using operators in programming languages (CPMK-1, CPMK-2, CPMK-3 dan CPMK-4)
- Sub CPMK-4: Students are able to solve condition selection problems (CPMK-1, CPMK-2, CPMK-3 dan CPMK-4)
- Sub CPMK-5: Students are able to solve repetition problems (CPMK-1, CPMK-2, CPMK-3 dan CPMK-4)
- Sub CPMK-6: Students are able to understand and use arraysStudents are able to solve problems and carry out processing of array data (CPMK-1, CPMK-2, CPMK-3 dan CPMK-4)
- Sub CPMK-7: Students are able to understand and use sub-programs in the form of functions and procedures (CPMK-1, CPMK-2, CPMK-3 dan CPMK-4)
- Sub CPMK-8: Students are able to understand error handling techniques in programming (CPMK-1, CPMK-2, CPMK-3 dan CPMK-4)
- Sub CPMK-9: Students are able to understand recursive programs in programming (CPMK-1, CPMK-2, CPMK-3 dan CPMK-4)

Learning Analytics





HASANUDDIN UNIVERSITY

FAKULTY OF MATHEMATICS AND NATURAL SCIENCES

STUDY PROGRAM OF MATHEMATICS - S1

SEMESTER LEARNING PLAN

Course		Code	Course Group	Credits	SEMESTER	Compilation Date
Algorithms and Programming		23H01110604	Compulsory Courses	4	2	10 Agustus 2025
AUTHORITY		SLP Developer Lecturer		Coordinator		Head of Study Program
		Dr. Khaeruddin, M.Sc.		Dr. Khaeruddin, M.Sc.		Dr. Firman, S.Si.,M.Si.
	SLOs that are imposed on the course					
	SLO-9:	Mahasiswa dapat beradaptasi dan mengembangkan kemampuan diri, baik dalam matematika dan bidang ilmu lain yang relevan dalam kehidupan profesional mereka, dengan budaya belajar sepanjang hayat				
	SLO-1:	Mahasiwa memiliki pemahaman yang relatif mendalam dalam matematika murni dan matematika terapan sederhana.				
	SLO-5:	Mahasiswa dapat membangun pemodelan matematika dengan ideide yang relatif baru dan mempresentasikan hasil dengan jelas secara lisan dan tertulis				
	SLO-6:	Mahasiswa dapat menerapkan metode matematika untuk memecahkan masalah terkait matematika dengan atau tanpa bantuan komputer dan perangkat lunak				
	SLO-7:	Mahasiswa dapat menunjukkan keterampilan matematika termasuk menghubungkan masalah, menyelesaikan masalah, interpretasi, dan berkomunikasi secara individu atau dengan kerja tim				
	SLO ⇒ Course Learning Outcomes					
	After completing this course, it is expected:					
	SLO-1	CLO-1: Students are able to explain algorithms				
		CLO-4: Students are able to communicate ideas in an appropriate context both orally and in writing with the group				
	SLO-5	CLO-1: Students are able to explain algorithms				
		CLO-2: Students are able to apply algorithms into programming languages				
	SLO-6	CLO-2: Students are able to apply algorithms into programming languages				
	SLO-7	CLO-2: Students are able to apply algorithms into programming languages				
		CLO-3: Students are able to analyze algorithms to solve programming problem solutions				
CLO-4: Students are able to communicate ideas in an appropriate context both orally and in writing with the group						

**Learning
Outcomes
Course**

SLO-9	CLO-4: Students are able to communicate ideas in an appropriate context both orally and in writing with the group
CLO ⇒ Sub-CLO	
CLO-1	Sub-CLO-1: Students can explain the meaning of algorithms by giving examples of algorithms, programming paradigms, creating algorithms with flowcharts of logic problems
	Sub-CLO-2: Students are able to create variables using the right data types, using operators in programming languages
	Sub-CLO-3: Students are able to create variables using the right data types, using operators in programming languages
	Sub-CLO-4: Students are able to solve condition selection problems
	Sub-CLO-5: Students are able to solve repetition problems
	Sub-CLO-6: Students are able to understand and use arraysStudents are able to solve problems and carry out processing of array data
	Sub-CLO-7: Students are able to understand and use sub-programs in the form of functions and procedures
	Sub-CLO-8: Students are able to understand error handling techniques in programming
	Sub-CLO-9: Students are able to understand recursive programs in programming
CLO-2	Sub-CLO-2: Students are able to create variables using the right data types, using operators in programming languages
	Sub-CLO-3: Students are able to create variables using the right data types, using operators in programming languages
	Sub-CLO-4: Students are able to solve condition selection problems
	Sub-CLO-5: Students are able to solve repetition problems
	Sub-CLO-6: Students are able to understand and use arraysStudents are able to solve problems and carry out processing of array data
	Sub-CLO-7: Students are able to understand and use sub-programs in the form of functions and procedures
	Sub-CLO-8: Students are able to understand error handling techniques in programming
	Sub-CLO-9: Students are able to understand recursive programs in programming
CLO-3	Sub-CLO-2: Students are able to create variables using the right data types, using operators in programming languages
	Sub-CLO-3: Students are able to create variables using the right data types, using operators in programming languages
	Sub-CLO-4: Students are able to solve condition selection problems
	Sub-CLO-5: Students are able to solve repetition problems
	Sub-CLO-6: Students are able to understand and use arraysStudents are able to solve problems and carry out processing of array data
	Sub-CLO-7: Students are able to understand and use sub-programs in the form of functions and procedures
	Sub-CLO-8: Students are able to understand error handling techniques in programming
	Sub-CLO-9: Students are able to understand recursive programs in programming

	CLO-4	Sub-CLO-2:Students are able to create variables using the right data types, using operators in programming languages							
		Sub-CLO-3:Students are able to create variables using the right data types, using operators in programming languages							
		Sub-CLO-4:Students are able to solve condition selection problems							
		Sub-CLO-5:Students are able to solve repetition problems							
		Sub-CLO-6:Students are able to understand and use arraysStudents are able to solve problems and carry out processing of array data							
		Sub-CLO-7:Students are able to understand and use sub-programs in the form of functions and procedures							
		Sub-CLO-8:Students are able to understand error handling techniques in programming							
		Sub-CLO-9:Students are able to understand recursive programs in programming							
	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								
	Independent Assignment	Quiz	Case Studies						
SLO-7	CLO-4	SUB-CLO-2	Question and answer	15	0	0	15		
SLO-7	CLO-4	SUB-CLO-4	Question and answer	0	10	0	10		
SLO-7	CLO-4	SUB-CLO-5	Question and answer	0	0	25	25		
SLO-7	CLO-4	SUB-CLO-7	Question and answer	0	10	0	10		
SLO-7	CLO-4	SUB-CLO-8	Question and answer	15	0	0	15		
SLO-7	CLO-4	SUB-CLO-9	Question and answer	0	0	25	25		
				30	20	50	100		
Course Description	Algorithms and programming courses discuss designing an algorithm which is used as a basis for analyzing problems related to logic. Most of these courses take the form of intensive training to improve students' logical skills in solving logical problems encountered and expressed in algorithms and implemented in programming languages.								

Learning Materials/Subjects		1. Definition of Algorithm, Programming Paradigm, algorithm notation (Definition of Algorithm, Paradigm of Programming, Algorithm Notation) 2. Introduction to programming language, variables, data types and operators in programming languages (Introduction to Programming language, variables, operators) 3. Conditional Branching 4. Repetition (Looping) 5. Arrays 6. Sub programs in the form of functions and procedures (function and procedure) 7. Error handling					
Reference		Main References					
		1. Schaum's Outline of Programming with Pascal, Byron S. Gottfried, McGraw Hill 2. Head First Java 2nd Edition, Kathy Sierra, Bert Bates, Oriel					
		Additional References					
		1. Practical Guidebook with Pascal 2016 2. Practical Guidebook with Java in 2016					
Teaching Team		Dr. Khaeruddin, M.Sc.					
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	Students can explain the meaning of algorithms by giving examples of algorithms, programming paradigms, creating algorithms with flowcharts of logic problems (CPMK-1)	Formative: Gagal diterjemahkan Sumative: Accuracy in explaining concepts with examples; Clarity of Description; The latest innovative library materials	Formative Criteria: Question and answer dinilai dengan rubrik 04 Sumative Criteria: Assessment Technique: Non Test	Studying: Discovery Learning 2x3x50		Lecture Contract, course description Understanding algorithms, programming paradigms, designing algorithms from problems in flowcharts	0
3	Students are able to create variables using the right data types, using operators in programming languages (CPMK-1, CPMK-2, CPMK-3, CPMK-4)	Formative: Gagal diterjemahkan Sumative: Accuracy in explaining concepts with examples; Clarity of Description; The latest innovative library materials	Formative Criteria: Question and answer dinilai dengan rubrik 04 Sumative Criteria: Independent Assignment (15) dinilai dengan rubrik 01 Assessment Technique: Non Test	Studying: Discovery Learning 3x50		Data types (integer, string, boolean etc.), creating variables, rules for defining variables, operators (arithmetic operators, comparison operators etc.).	15
4-5	Students are able to solve condition selection problems (CPMK-1, CPMK-2, CPMK-3, CPMK-4)	Formative: Gagal diterjemahkan Sumative: Accuracy in explaining concepts with examples; Clarity of Description; The latest innovative library materials	Formative Criteria: Question and answer dinilai dengan rubrik 04 Sumative Criteria: Quiz (10) dinilai dengan rubrik 01 Assessment Technique: Test	Studying: Discovery Learning 2x3x50		if, if else, switch case, nested if	10

6-8	Students are able to solve repetition problems (CPMK-1, CPMK-2, CPMK-3, CPMK-4)	Formative: Gagal diterjemahkan Sumative: Accuracy in explaining concepts with examples; Clarity of Description; The latest innovative library materials	Formative Criteria: Question and answer dinilai dengan rubrik 04 Sumative Criteria: Case Studies (25) dinilai dengan rubrik 04 Assessment Technique: Non Test	Studying: Case Study (Case Study) Group Assignments in weeks 6-7: 1. Students explore ideas by conducting literature studies in journals, the web, or other references 2. The lecturer gives assignments to each group 2x3x50 Studying: Case Study (Case Study) Group Presentation in week 8: Students present the results of their discussions in class and are responded to directly by other students, the lecturer acts as a facilitator 3x50		for loop, while, do while, nested loop	25
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9-10	Students are able to understand and use arraysStudents are able to solve problems and carry out processing of array data (CPMK-1, CPMK-2, CPMK-3, CPMK-4)	Formative: Gagal diterjemahkan Sumative: Accuracy in explaining concepts with examples; Clarity of Description; The latest innovative library materials	Formative Criteria: Question and answer dinilai dengan rubrik 04 Sumative Criteria: Assessment Technique: Non Test	Studying: Discovery Learning 2x3x50		Array Array declaration, contents, access 1-D Array	0
11-12	Students are able to understand and use sub-programs in the form of functions and procedures (CPMK-1, CPMK-2, CPMK-3, CPMK-4)	Formative: Gagal diterjemahkan Sumative: Accuracy in explaining concepts with examples; Clarity of Description; The latest innovative library materials.	Formative Criteria: Question and answer dinilai dengan rubrik 04 Sumative Criteria: Quiz (10) dinilai dengan rubrik 01 Assessment Technique: Test	Studying: Discovery Learning 2x3x50		Define functions and procedures, advantages of using sub programs, declaring functions and procedures.	10
13-14	Students are able to understand error handling techniques in programming (CPMK-1, CPMK-2, CPMK-3, CPMK-4)	Formative: Gagal diterjemahkan Sumative: Accuracy in explaining concepts with examples; Clarity of Description; The latest innovative library materials	Formative Criteria: Question and answer dinilai dengan rubrik 04 Sumative Criteria: Independent Assignment (15) dinilai dengan rubrik 01 Assessment Technique: Non Test	Studying: Discovery Learning 2x3x50		Definition of error handling in programming, benefits of using error handling in programming, various types of error handling	15

15-16	Students are able to understand recursive programs in programming (CPMK-1, CPMK-2, CPMK-3, CPMK-4)	Formative: Gagal diterjemahkan Sumative: Accuracy in explaining concepts with examples; Clarity of Description; The latest innovative library materials	Formative Criteria: Question and answer dinilai dengan rubrik 04 Sumative Criteria: Case Studies (25) dinilai dengan rubrik 02 Assessment Technique: Non Test	Studying: Case Study (Case Study) Group Assignment for the week 15: 1. Students explore ideas by studying journal, web or reference literature other 2. The lecturer gives assignments to each group 3x50 Studying: Case Study (Case Study) Group Presentation in the week 16: Students present the results of their discussions in class and are responded to directly by other students, the lecturer acts as a facilitator 3x50	Definition of recursive programs, benefits of recursive programs in programming	25
						100

Matrix of SLO, CLO, and Assessment Method

SLO / CLO	CLO-1	CLO-2	CLO-3	CLO-4
CPL-1 (ILO 1)	Independent Assignment (Weight 15%) Quiz (Weight 10%) Case Studies (Weight 25%) Quiz (Weight 10%) Independent Assignment (Weight 15%) Case Studies (Weight 25%)			Independent Assignment (Weight 15%) Quiz (Weight 10%) Case Studies (Weight 25%) Quiz (Weight 10%) Independent Assignment (Weight 15%) Case Studies (Weight 25%)
CPL-5 (KK1)	Independent Assignment (Weight 15%) Quiz (Weight 10%) Case Studies (Weight 25%) Quiz (Weight 10%) Independent Assignment (Weight 15%) Case Studies (Weight 25%)	Independent Assignment (Weight 15%) Quiz (Weight 10%) Case Studies (Weight 25%) Quiz (Weight 10%) Independent Assignment (Weight 15%) Case Studies (Weight 25%)		

SLO / CLO	CLO-1	CLO-2	CLO-3	CLO-4
CPL-6 (KK2)		Independent Assignment (Weight 15%) Quiz (Weight 10%) Case Studies (Weight 25%) Quiz (Weight 10%) Independent Assignment (Weight 15%) Case Studies (Weight 25%)		
CPL-7 (KK3)		Independent Assignment (Weight 15%) Quiz (Weight 10%) Case Studies (Weight 25%) Quiz (Weight 10%) Independent Assignment (Weight 15%) Case Studies (Weight 25%)	Independent Assignment (Weight 15%) Quiz (Weight 10%) Case Studies (Weight 25%) Quiz (Weight 10%) Independent Assignment (Weight 15%) Case Studies (Weight 25%)	Independent Assignment (Weight 15%) Quiz (Weight 10%) Case Studies (Weight 25%) Quiz (Weight 10%) Independent Assignment (Weight 15%) Case Studies (Weight 25%)

SLO / CLO	CLO-1	CLO-2	CLO-3	CLO-4
CPL-9 (S2)				Independent Assignment (Weight 15%) Quiz (Weight 10%) Case Studies (Weight 25%) Quiz (Weight 10%) Independent Assignment (Weight 15%) Case Studies (Weight 25%)

Evaluation Type and Assessment Weight

Type	Assessment Weight
Independent Assignment	30
Quiz	20
Case Studies	50
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					
				Independent Assignment	Quiz	Case Studies			
SLO-7	CLO-4	SUB-CLO-2	Question and answer	15	0	0	15		
SLO-7	CLO-4	SUB-CLO-4	Question and answer	0	10	0	10		
SLO-7	CLO-4	SUB-CLO-5	Question and answer	0	0	25	25		
SLO-7	CLO-4	SUB-CLO-7	Question and answer	0	10	0	10		
SLO-7	CLO-4	SUB-CLO-8	Question and answer	15	0	0	15		
SLO-7	CLO-4	SUB-CLO-9	Question and answer	0	0	25	25		
				30	20	50	100		

Lampiran Rubrik 01 | ASSESMENT TERTULIS

Kriteria Penilaian	Bobot/Skor Penilaian				
	5	4	3	2	1/0
Konsep/ metode yang digunakan	Penjelasan konsep /metode (*) sangat lengkap dan akurat	Penjelasan konsep/metode (*) cukup jelas tetapi beberapa informasi tidak dituliskan secara lengkap.	Penjelasan konsep/metode (*) kurang jelas dan banyak informasi yang tidak dituliskan	Penjelasan yang dituliskan hampir tidak berkaitan dengan konsep/ metode (*)	Tidak memberikan konsep yang dibutuhkan
Sistematika penulisan/ pembuktian	Sistematika penulisan/ pembuktian sangat jelas dan terstruktur	Sistematika penulisan/ pembuktian cukup jelas namun ada langkah yang hilang	Sistematika penulisan/ pembuktian kurang jelas	Sistematika penulisan/ pembuktian tidak jelas	Jawaban tidak benar/ tidak ada
Interpretasi geometri/ kualitatif/ kuantitatif.	Interpretasi geometri/ kualitatif/ kuantitatif (*) tepat dan lengkap	Interpretasi geometri/ kualitatif/ kuantitatif (*) cukup lengkap/ tepat	Interpretasi geometri/ kualitatif/ kuantitatif (*) kurang lengkap/ tepat	Interpretasi geometri/ kualitatif/ kuantitatif (*) tidak lengkap/ tepat	Interpretasi geometri/ kualitatif/kuantitatif(*) tidak benar
Perhitungan/kesimpulan	Perhitungan/ kesimpulan sangat akurat/tepat dan disertai alasan yang mendasarinya	Perhitungan/ kesimpulan cukup akurat/tepat dan disertai alasan yang mendasarinya	Kesimpulan cukup tepat, namun tidak disertai alasan yang jelas	Perhitungan/ kesimpulan kurang akurat/tepat dan tidak disertai alasan yang mendasarinya	Perhitungan/kesimpulan salah

Lampiran Rubrik 02 | ASSESMENT PRESENTASI

Kriteria Penilaian	Bobot/Skor Penilaian				
	5	4	3	2	1
Penguasaan Materi	Mahasiswa sangat menguasai materi	Mahasiswa menguasai materi	Mahasiswa cukup menguasai materi	Mahasiswa kurang menguasai materi	Mahasiswa tidak menguasai materi
Sistematika Penyajian	Mahasiswa menyajikan materi presentasi dengan sangat sistematis	Mahasiswa menyajikan materi presentasi dengan sistematis	Mahasiswa menyajikan materi presentasi dengan cukup sistematis	Mahasiswa menyajikan materi presentasi dengan kurang sistematis	Mahasiswa menyajikan materi presentasi dengan tidak sistematis
Suara dan Ekspresi	Mahasiswa menjelaskan dengan suara yang sangat jelas, volume yang sangat sesuai, pengucapan istilah sangat tepat	Mahasiswa menjelaskan dengan suara yang jelas, volume yang sesuai, pengucapan istilah tepat	Mahasiswa menjelaskan dengan suara yang cukup jelas, volume yang cukup sesuai, pengucapan istilah cukup tepat	Mahasiswa menjelaskan dengan suara yang kurang jelas, volume yang kurang sesuai, pengucapan istilah kurang tepat	Mahasiswa menjelaskan dengan suara yang tidak jelas, volume yang tidak sesuai, pengucapan istilah tidak tepat
Kepercayaan Diri	Mahasiswa berbicara dengan sangat semangat, menularkan semangat dan antusiasme pada pendengar, eye contact ke semua peserta (audience)	Mahasiswa berbicara dengan semangat, menularkan semangat dan antusiasme pada pendengar, eye contact ke semua peserta (audience)	Mahasiswa berbicara dengan cukup semangat, cukup menularkan semangat dan antusiasme pada pendengar, eye contact ke semua peserta (audience)	Mahasiswa berbicara dengan kurang semangat, kurang menularkan semangat dan antusiasme pada pendengar, eye contact yang kurang ke semua peserta (audience)	Mahasiswa berbicara dengan tidak semangat, tidak dapat menularkan semangat dan antusiasme pada pendengar, tidak ada eye contact ke semua peserta (audience)
Kemampuan menjawab pertanyaan	Mahasiswa mampu menjawab semua pertanyaan dengan sangat tepat, sangat mendalam (lebih dari yang dibutuhkan), dan sangat tajam	Mahasiswa mampu menjawab semua pertanyaan dengan tepat, mendalam (lebih dari yang dibutuhkan), dan tajam	Mahasiswa mampu menjawab semua pertanyaan dengan cukup tepat, cukup mendalam, dan cukup tajam	Mahasiswa mampu menjawab semua pertanyaan dengan kurang tepat, kurang mendalam, dan kurang tajam	Mahasiswa mampu menjawab semua pertanyaan dengan tidak tepat, tidak mendalam, dan tidak tajam
Kepemimpinan (diskusi kelompok)	Mahasiswa sangat mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya presentasi	Mahasiswa mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya presentasi	Mahasiswa cukup mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya presentasi	Mahasiswa kurang mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya presentasi	Mahasiswa tidak mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya presentasi

Lampiran Rubrik 04 | ASSESMENT DISKUSI

Kriteria Penilaian	Bobot/Skor Penilaian				
	5	4	3	2	1
Kelugasan argumen	Mahasiswa menyampaikan pendapat menggunakan bahasa yang sangat baik, sangat mudah dimengerti, intonasi suara yang sangat jelas	Mahasiswa menyampaikan pendapat menggunakan bahasa yang baik, mudah dimengerti, intonasi suara yang jelas	Mahasiswa menyampaikan pendapat menggunakan bahasa yang cukup baik, cukup mudah dimengerti, intonasi suara yang cukup jelas	Mahasiswa menyampaikan pendapat menggunakan bahasa yang kurang baik, kurang mudah dimengerti, intonasi suara yang kurang jelas	Mahasiswa menyampaikan pendapat menggunakan bahasa yang tidak baik, tidak mudah dimengerti, intonasi suara yang tidak jelas
Parsipitasi aktif	Mahasiswa sangat aktif menyampaikan pendapat/masukannya, sangat aktif memberi jawaban, dan sangat berinisiatif mencari solusi	Mahasiswa aktif menyampaikan pendapat/masukannya, aktif memberi jawaban, dan berinisiatif mencari solusi	Mahasiswa cukup aktif menyampaikan pendapat/masukannya, cukup aktif memberi jawaban, dan cukup berinisiatif mencari solusi	Mahasiswa kurang aktif menyampaikan pendapat/masukannya, kurang aktif memberi jawaban, dan kurang berinisiatif mencari solusi	Mahasiswa tidak aktif menyampaikan pendapat/masukannya, tidak aktif memberi jawaban, dan tidak berinisiatif mencari solusi
Etika dan sikap tata nilai	Mahasiswa sangat mengindahkan etika diskusi akademik secara umum	Mahasiswa mengindahkan etika diskusi akademik secara umum	Mahasiswa cukup mengindahkan etika diskusi akademik secara umum	Mahasiswa kurang mengindahkan etika diskusi akademik secara umum	Mahasiswa tidak mengindahkan etika diskusi akademik secara umum
Kepemimpinan (diskusi kelompok)	Mahasiswa sangat mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya diskusi	Mahasiswa mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya diskusi	Mahasiswa cukup mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya diskusi	Mahasiswa kurang mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya diskusi	Mahasiswa tidak mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya diskusi