SEMESTER LEARNING PLAN

CRYPTOGRAPHY COURSES
(23H01131303)

TEACHING TEAM

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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

Misson

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

CPL-2 (P2) - The students are able to identify objects, techniques, and theorems in fundamental mathematics, and making a connection for solving problems

CPL-3 (KU1) - The students are able to analyse a mathematical problem with logic, analytic, and systematic structure

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

Course Learning Outcomes (CLO)

CPMK-1: Students will be able to describe cryptosystems and build cipher models of a problem (CPL1 dan CPL2)

CPMK-2: Students will be able to explain several types of public key systems and apply them to solve several everyday problems (CPL2 dan CPL6)

CPMK-3: Students are able to explain and apply cryptanalysis for classical cryptography (CPL1 dan CPL6)

Sub-CLO

Sub CPMK-1: Understand well the objectives, uses of lecture material, and its relationship to other courses. (CPMK-3)

Sub CPMK-2: Students know problems and solutions related to data communication in networks (CPMK-2)

Sub CPMK-3: • Students are able to understand the concepts of numbers and algebra related to classical cryptography.• Students are able to explain several classical methods such as Ceasar Code, Affine, Vigenere, One Time Pad, Transposition and permutation. (CPMK-1 dan CPMK-2)

Sub CPMK-4: Students are able to recall algebraic concepts about Groups, Rings and Fields (CPMK-1)

Sub CPMK-5: • Students know the components and basic operations of modern block ciphers• Students are able to explain cryptography using a simple Data Encryption System (DES).• Students are able to explain the concept of the Feistel code. (CPMK-1 dan CPMK-2)

Sub CPMK-6: Students are able to explain the DES block password encryption and decryption algorithm (CPMK-1)

Sub CPMK-7: Students are able to recall the concepts of prime numbers, Fermat's and Euler's theorems, factorization, exponentials and discrete logarithms (CPMK-1)

Sub CPMK-8: • Students understand the concept of public keys• Students know several public key cryptography methods• Students understand the RSA cryptography system• Students know the security of the RSA cryptographic system. (CPMK-1)

Sub CPMK-9: • Students know the benefits of hashing functions in cryptography.• Students can explain the types of hashing functions• Students can explain the Random Oracle Model (CPMK-1 dan CPMK-2)

Sub CPMK-10: • Students can explain the challenges of digital signature services• Students can explain digital signature schemes using RSA (CPMK-2)

Learning Analytics

Cryptography

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• Students can explain the challenges of digital signature services• Students can explain digital signature schemes using RSA (CPMK-2)

↑

• Students know the benefits of hashing functions in cryptography.• Students can explain the types of hashing functions• Students can explain the Random Oracle Model (CPMK-1 dan CPMK-2)

↑

• Students understand the concept of public keys• Students know several public key cryptography methods• Students understand the RSA cryptography system• Students know the security of the RSA cryptographic system. (CPMK-1)

↑

Students are able to recall the concepts of prime numbers, Fermat's and Euler's theorems, factorization, exponentials and discrete logarithms (CPMK-1)

↑

Students are able to explain the DES block password encryption and decryption algorithm (CPMK-1)

↑

• Students know the components and basic operations of modern block ciphers• Students are able to explain cryptography using a simple Data Encryption System (DES).• Students are able to explain the concept of the Feistel code. (CPMK-1 dan CPMK-2)

↑

Students are able to recall algebraic concepts about Groups, Rings and Fields (CPMK-1)

↑

• Students are able to understand the concepts of numbers and algebra related to classical cryptography.• Students are able to explain several classical methods such as Ceasar Code, Affine, Vigenere, One Time Pad, Transposition and permutation. (CPMK-1 dan CPMK-2)

↑

Students know problems and solutions related to data communication in networks (CPMK-2)

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Understand well the objectives, uses of lecture material, and its relationship to other courses. (CPMK-3)

Have passed the course Algebraic Structure and Number Theory

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

Course	Code	Cource Group	Credits	SEMESTER	Compilation Date
Cryptography	23H01131303	General Courses	3	5	10 Agustus 2024

AUTHORITY	SLP Developer Lecturer	Coordinator	Head of Study Program
	Prof. Dr. Amir Kamal Amir, M.Sc., Dr. Andi Muhammad Anwar, S.Si., M.Si	Prof. Dr. Amir Kamal Amir, M.Sc.	Dr. Firman, S.Si.,M.Si.

Learning Outcomes Course	**SLOs that are imposed on the course**	
	SLO-1:	Mahasiwa memiliki pemahaman yang relatif mendalam dalam matematika murni dan matematika terapan sederhana.
	SLO-2:	Mahasiswa mampu mengidentifikasi objek, teknik, dan sifat dalam matematika dasar, dan membuat koneksi untuk menyelesaikan masalah
	SLO-3:	Mahasiswa mampu menganalisis suatu masalah matematika dengan logika, analitik, dan struktur sistematis
	SLO-6:	Mahasiswa dapat menerapkan metode matematika untuk memecahkan masalah terkait matematika dengan atau tanpa bantuan komputer dan perangkat lunak
	SLO ⇒ Course Learning Outcomes	
	After completing this course, it is expected:	
	SLO-1	**CLO-1:** Students will be able to describe cryptosystems and build cipher models of a problem
		CLO-3: Students are able to explain and apply cryptanalysis for classical cryptography
	SLO-2	**CLO-1:** Students will be able to describe cryptosystems and build cipher models of a problem
		CLO-2: Students will be able to explain several types of public key systems and apply them to solve several everyday problems
	SLO-6	**CLO-2:** Students will be able to explain several types of public key systems and apply them to solve several everyday problems
		CLO-3: Students are able to explain and apply cryptanalysis for classical cryptography
	CLO ⇒ Sub-CLO	
		Sub-CLO-3:• Students are able to understand the concepts of numbers and algebra related to classical cryptography.• Students are able to explain several classical methods such as Ceasar Code, Affine, Vigenere, One Time Pad, Transposition and permutation.
		Sub-CLO-4: Students are able to recall algebraic concepts about Groups, Rings and Fields

CLO-1	**Sub-CLO-5:**• Students know the components and basic operations of modern block ciphers• Students are able to explain cryptography using a simple Data Encryption System (DES).• Students are able to explain the concept of the Feistel code.
	Sub-CLO-6: Students are able to explain the DES block password encryption and decryption algorithm
	Sub-CLO-7: Students are able to recall the concepts of prime numbers, Fermat's and Euler's theorems, factorization, exponentials and discrete logarithms
	Sub-CLO-8:• Students understand the concept of public keys• Students know several public key cryptography methods• Students understand the RSA cryptography system• Students know the security of the RSA cryptographic system.
	Sub-CLO-9:• Students know the benefits of hashing functions in cryptography.• Students can explain the types of hashing functions• Students can explain the Random Oracle Model
CLO-2	**Sub-CLO-2:**Students know problems and solutions related to data communication in networks
	Sub-CLO-3:• Students are able to understand the concepts of numbers and algebra related to classical cryptography.• Students are able to explain several classical methods such as Ceasar Code, Affine, Vigenere, One Time Pad, Transposition and permutation.
	Sub-CLO-5:• Students know the components and basic operations of modern block ciphers• Students are able to explain cryptography using a simple Data Encryption System (DES).• Students are able to explain the concept of the Feistel code.
	Sub-CLO-9:• Students know the benefits of hashing functions in cryptography.• Students can explain the types of hashing functions• Students can explain the Random Oracle Model
	Sub-CLO-10:• Students can explain the challenges of digital signature services• Students can explain digital signature schemes using RSA
CLO-3	**Sub-CLO-1:**Understand well the objectives, uses of lecture material, and its relationship to other courses.

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					
				Case Studies	Quiz	Written Exam	Written Exam			
SLO-6	CLO-2	SUB-CLO-2		10	0	4.29	0	14.29		
SLO-6	CLO-2	SUB-CLO-3		0	10	4.29	0	14.29		
SLO-6	CLO-2	SUB-CLO-5		15	0	6.43	0	21.43		
SLO-2	CLO-1	SUB-CLO-6		10	0	0	4.29	14.29		
SLO-2	CLO-1	SUB-CLO-7		0	10	0	4.29	14.29		
SLO-2	CLO-1	SUB-CLO-8		10	0	0	4.29	14.29		
SLO-6	CLO-2	SUB-CLO-10		5	0	0	2.14	7.14		
				50	20	15	15	100		

Course Description	This course is an elective course in the field of algebra which specifically discusses the latest topics in the application of mathematics. The topics discussed are: Classical Cryptography, Cryptoanalysis, DES and AES, symmetric and public cryptography, and cryptosystem security.
Learning Materials/Subjects	1. Data communication security in computer networks (Data communication security in computer networks) 2. Explanation of Classical Cryptography (Classical Cryptography explanation) 3. Reviewing algebraic concepts about Groups, Rings and Fields (Algebra concepts about Group, Ring, and Field review) 4. Explanation of Modern Symmetric Cryptography explanation) 5. Explaining about DES block password explanation) 6. Reviewing the number theory concept of Public Key Cryptography (The concept of number theory on Public-key Cryptography) 7. Explaining Public-key Cryptography Explanation 8. Explaining the Hashing Function for Cryptography Explanation) 9. Explain about digital signatures (digital signature explanation)
Reference	**Main References**
	1. Hoffstein, J., Pipher, J., Silverman, H.J., 2014, An Introduction to Mathematical Cryptography (Undergraduate Text in Mathematics), Springer Science- Business Media, New York 2. Johannes A. Buchmann, 2001, Introduction to Cryptography, Springer-Verlag, New York, Berlin, Heidelberg. Calculus, 7th edition, James Stewart, 2000.
	Additional References
	Gagal diterjemahkan
Teaching Team	Dra. Nur Erawati, M.Si., Muhammad Sadno, S.Si., M.Si
Course requirement	Algebraic Structures, Number Theory

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	Understand well the objectives, uses of lecture material, and its relationship to other courses. (CPMK-3)	**Formative:** Gagal diterjemahkan **Sumative:** -	**Formative Criteria:** **Sumative Criteria:** **Assessment Technique:** Gagal diterjemahkan	**Studying:** Other methods Lecture 3x50		Lecture Contract Explanation of the lecture contract (purpose, scope, material, use of learning and its relationship to other courses) Formation of groups (Teams)	0
2	Students know problems and solutions related to data communication in networks (CPMK-2)	**Formative:** Gagal diterjemahkan **Sumative:** Students explain the types of attacks on computer networks. Students know network security services Students can differentiate between cryptography and steganography	**Formative Criteria:** **Sumative Criteria:** Case Studies (10) dinilai dengan rubrik 03 **Assessment Technique:** Test and Non-Test	**Studying:** Case Study, Collaborative Learning 3x50		Explanation of Data Communication Security in Computer Networks	10
3-4	• Students are able to understand the concepts of numbers and algebra related to classical cryptography.• Students are able to explain several classical methods such as Ceasar Code, Affine, Vigenere, One Time Pad, Transposition and permutation. (CPMK-1, CPMK-2)	**Formative:** Gagal diterjemahkan **Sumative:** Students are able to simulate the encryption and decryption process using classical cryptography methods	**Formative Criteria:** **Sumative Criteria:** Quiz (10) dinilai dengan rubrik 01 **Assessment Technique:** Test	**Studying:** Simulation (Role-Play & Simulation), Other methods 2 x 3x50		Explanation of Classical Cryptography	10

5	Students are able to recall algebraic concepts about Groups, Rings and Fields (CPMK-1)	**Formative:** Gagal diterjemahkan **Sumative:** Students can solve simple problems related to the concepts of group, ring and field.	**Formative Criteria:** **Sumative Criteria:** **Assessment Technique:** Gagal diterjemahkan	**Studying:** Other methods Lecture 3x50		Review algebraic concepts about Groups, Rings and Fields	0
6-7	• Students know the components and basic operations of modern block ciphers• Students are able to explain cryptography using a simple Data Encryption System (DES).• Students are able to explain the concept of the Feistel code. (CPMK-1, CPMK-2)	**Formative:** Gagal diterjemahkan **Sumative:** Students are able to simulate the encryption and decryption process using Simple DES. Students can demonstrate the correctness of the Feistel cipher concept.	**Formative Criteria:** **Sumative Criteria:** Case Studies (15) dinilai dengan rubrik 02 **Assessment Technique:** Test and Non-Test	**Studying:** Case Study, Cooperative learning 2 x 3x50		An Explanation of Modern Symmetric Cryptography	15
8	Written Exam						15
9	Students are able to explain the DES block password encryption and decryption algorithm (CPMK-1)	**Formative:** Gagal diterjemahkan **Sumative:** Students are able to simulate the encryption and decryption process with the DES block password.	**Formative Criteria:** **Sumative Criteria:** Case Studies (10) dinilai dengan rubrik 03 **Assessment Technique:** Test and Non-Test	**Studying:** Case Study, Cooperative learning 3 x 50		An Explanation of Modern Symmetric Cryptography	10

10-11	Students are able to recall the concepts of prime numbers, Fermat's and Euler's theorems, factorization, exponentials and discrete logarithms (CPMK-1)	**Formative:** Gagal diterjemahkan **Sumative:** Able to answer simple questions related to mathematical concepts used in public key cryptography.	**Formative Criteria:** **Sumative Criteria:** Quiz (10) dinilai dengan rubrik 01 **Assessment Technique:** Test	**Studying:** Other methods Lecture 2 x 3x50		Reviewing number theory concepts about Public Key Cryptography	10
12-13	• Students understand the concept of public keys• Students know several public key cryptography methods• Students understand the RSA cryptography system• Students know the security of the RSA cryptographic system. (CPMK-1)	**Formative:** Gagal diterjemahkan **Sumative:** Students can explain key public concepts. Students can mention some public key cryptography Students can simulate the encryption and decryption process using RSA.	**Formative Criteria:** **Sumative Criteria:** Case Studies (10) dinilai dengan rubrik 03 **Assessment Technique:** Test and Non-Test	**Studying:** Group discussion (Small Group Discussion), Case Study (Case Study), Cooperative learning (Cooperative learning) 2x3x50		Explain about Public Key Cryptography	10

14	• Students know the benefits of hashing functions in cryptography.• Students can explain the types of hashing functions• Students can explain the Random Oracle Model (CPMK-1, CPMK-2)	**Formative:** Gagal diterjemahkan **Sumative:** Students are able to explain several uses of hashing functions in cryptography. Students can simulate the hashing process using the Random Oracle Model	**Formative Criteria:** **Sumative Criteria:** **Assessment Technique:** Gagal diterjemahkan	**Studying:** Other methods Lecture 3 x 50		Explain the Hasing Function for Cryptography	0
15	• Students can explain the challenges of digital signature services• Students can explain digital signature schemes using RSA (CPMK-2)	**Formative:** Gagal diterjemahkan **Sumative:** Students are able to simulate digital signatures using RSA	**Formative Criteria:** **Sumative Criteria:** Case Studies (5) dinilai dengan rubrik 02 **Assessment Technique:** Test and Non-Test	**Studying:** Group discussion (Small Group Discussion), Case Study (Case Study) 3 x 50		Explain about digital signatures	5
16	Written Exam						15
							100

Matrix of SLO, CLO, and Assessment Method

SLO / CLO	CLO-1	CLO-2	CLO-3
CPL-1 (ILO 1)	Quiz (Weight 10%) Case Studies (Weight 15%) Case Studies (Weight 10%) Quiz (Weight 10%) Case Studies (Weight 10%)		
CPL-2 (P2)	Quiz (Weight 10%) Case Studies (Weight 15%) Case Studies (Weight 10%) Quiz (Weight 10%) Case Studies (Weight 10%)	Case Studies (Weight 10%) Quiz (Weight 10%) Case Studies (Weight 15%) Case Studies (Weight 5%)	
CPL-3 (KU1)			
CPL-6 (KK2)		Case Studies (Weight 10%) Quiz (Weight 10%) Case Studies (Weight 15%) Case Studies (Weight 5%)	

Evaluation Type and Assessment Weight

Type	Assessment Weight
Case Studies	50
Quiz	20
Written Exam	15
Written Exam	15
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						
				Case Studies	Quiz	Written Exam	Written Exam			
SLO-6	CLO-2	SUB-CLO-2		10	0	4.29	0	14.29		
SLO-6	CLO-2	SUB-CLO-3		0	10	4.29	0	14.29		
SLO-6	CLO-2	SUB-CLO-5		15	0	6.43	0	21.43		
SLO-2	CLO-1	SUB-CLO-6		10	0	0	4.29	14.29		
SLO-2	CLO-1	SUB-CLO-7		0	10	0	4.29	14.29		
SLO-2	CLO-1	SUB-CLO-8		10	0	0	4.29	14.29		
SLO-6	CLO-2	SUB-CLO-10		5	0	0	2.14	7.14		
				50	20	15	15	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/ kuantitaBtif (*) 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 menguas
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 mate dengan tidak sistem
Suara dan Ekspresi	Mahasiswa menjelaskan dengan suara yang sangat jelas, volume yang sangatsesuai, pengucapan istilah sangat tepat	Mahasiswa menjelaskan dengan suara yang jelas, volume yang sesuai, pengucapan istilah tepat	Mahasiswa menjelaskan dengan suara yang cukupjelas, volume yang cukup sesuai, pengucapan istilah cukup tepat	Mahasiswa menjelaskan dengan suara yang kurangjelas, volume yang kurangsesuai, pengucapan istilah kurang tepat	Mahasiswa menjelaskan de yang tidakjelas, volume yang pengucapan istilah tida
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 d tidak semangat, tidak dapat menular semangat dan antusiasme pada pendengar, tidak ada *eye con* peserta (*audience*
Kemampuanmenjawab	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 cukuptepat, cukup mendalam, dan cukup tajam	Mahasiswa mampu menjawab semua pertanyaan dengan kurangtepat, kurang mendalam, dan kurang tajam	Mahasiswa menjawab semua dengan tidak tepat, tidakmenda tajam
Kepemimpinan presentasi kelompok)	Mahasiwa sangat mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya presentasi	Mahasiwa mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya presentasi	Mahasiwa cukup mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya presentasi	Mahasiwa kurang mampu menginisiasi, menggerakkan, mengarahkan, mengorganisir jalannya presentasi	Mahasiwa tidak mampu me menggerakkan, mengar mengorganisir jalannya p

Lampiran Rubrik 03 | ASSESMENT MAKALAH

Kriteria Penilaian	Bobot/Skor Penilaian				
	5	4	3	2	1
Sistematika dan kelengkapanpenulisan	Mahasiswa menyusun laporan dengan sistematika yang sangat sesuai dengan format yang diberikan dan sangat lengkap	Mahasiswa menyusun laporan dengan sistematika yang sesuai dengan format yang diberikan dan lengkap	Mahasiswa menyusun laporan dengan sistematika yang cukupsesuai dengan format yang diberikan dan cukuplengkap	Mahasiswa menyusun laporan dengan sistematika yang kurang sesuai dengan format yang diberikan dan kurang lengkap	Mahasiswa menyusun laporan dengan sistematika yang tidak sesuai dengan format yang diberikan dan tidak lengkap
Kebenaran konsep ide yang dipaparkan	Mahasiswa menyusun makalah dengan konsep/ide yang dipaparkan dengan sangat tepat (sesuai dengan teori)	Mahasiswa menyusun makalah dengan konsep/ide yang dipaparkan dengan tepat	Mahasiswa menyusun makalah dengan konsep/ide yang dipaparkan dengan cukuptepat	Mahasiswa menyusun makalah dengan konsep/ide yang dipaparkan dengan kurang tepat	Mahasiswa menyusun makalah dengan konsep/ide yang dipaparkan dengan tidak tepat
Interpretasi metode dengan permasalahan yang dikaji	Mahasiswa sangat mampu mengidentifikasi relevansi metode dengan permasalahan yang dikaji	Mahasiswa mampu mengidentifikasi relevansi metode dengan permasalahan yang dikaji	Mahasiswa cukup mampu mengidentifikasi relevansi metode dengan permasalahan yang dikaji	Mahasiswa kurang mampu mengidentifikasi relevansi metode dengan permasalahan yang dikaji	Mahasiswa tidak mampu mengidentifikasi relevansi metode dengan permasalahan yang dikaji
Validitas Referensi – VR	Mahasiswa menggunakan referensi yang sangat *up to date* dan sangat relevan	Mahasiswa menggunakan referensi yang *up to date* danrelevan	Mahasiswa menggunakan referensi yang cukup *up to date* dan cukup relevan	Mahasiswa menggunakan referensi yang kurang *up to date*dan kurang relevan	Mahasiswa menggunakan referensi yang tidak *up to date* dan tidak relevan
Ketepatan waktu	Mahasiswa mengumpulkan makalah tepat waktu atau sebelum batas waktu yang ditentukan.	Mahasiswa mengumpulkan makalah lewat 1 hari dari batas waktu yang ditentukan.	Mahasiswa mengumpulkan makalah lewat 2 hari dari batas waktu yang ditentukan.	Mahasiswa mengumpulkan makalah lewat 3 hari dari batas waktu yang ditentukan.	Mahasiswa mengumpulkan makalah lewat 4 hari atau lebih dari batas waktu yang ditentukan.