SEMESTER LEARNING PLAN

SPECIAL TOPICS IN ALGEBRA COURSES
(23H01131603)

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

Course Learning Outcomes (CLO)

CPMK-1: Students are able to recognize and understand the meanings and examples of material on Algebra Topic 1 and Algebra Topic 2. (CPL1)

CPMK-2: Students are able to interpret the meaning and properties contained in the material on Algebra Topic 1 and Algebra Topic 2 (CPL3)

CPMK-3: Students are able to construct and prove the properties contained in the material on Algebra Topic 1 and Algebra Topic 2 (CPL2)

Sub-CLO

Sub CPMK-1: Students are able to recognize and interpret the meaning and properties of introductory material on Algebra 1 topics (CPMK-1 dan CPMK-2)

Sub CPMK-2: Project 1: How students are able to prove several properties and construction examples from algebra 1 topic material (CPMK-3)

Sub CPMK-3: Mid semester evaluation: Students are able to reflect on the understanding and properties of the Algebra 1 topic learning material (CPMK-1, CPMK-2 dan CPMK-3)

Sub CPMK-4: Students are able to recognize and interpret the meaning and properties of introductory material on algebra 2 topics (CPMK-2 dan CPMK-3)

Sub CPMK-5: Project 2: How students are able to prove several properties and construction examples from algebra 2 topic material (CPMK-3)

Sub CPMK-6: End of semester evaluation: Students are able to reflect on the understanding and properties of the Algebra 2 topic learning material (CPMK-2)

Learning Analytics

Algebra Special Topics

↑

End of semester evaluation: Students are able to reflect on the understanding and properties of the Algebra 2 topic learning material (CPMK-2)

↑

Project 2: How students are able to prove several properties and construction examples from algebra 2 topic material (CPMK-3)

↑

Students are able to recognize and interpret the meaning and properties of introductory material on algebra 2 topics (CPMK-3 dan CPMK-2)

↑

Mid semester evaluation: Students are able to reflect on the understanding and properties of the Algebra 1 topic learning material (CPMK-1, CPMK-2 dan CPMK-3)

↑

Project 1: How students are able to prove several properties and construction examples from algebra 1 topic material (CPMK-3)

↑

Students are able to recognize and interpret the meaning and properties of introductory material on Algebra 1 topics (CPMK-1 dan CPMK-2)

Have passed the course Linear Algebra II and Algebraic Structures

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

Course	Code	Cource Group	Credits	SEMESTER	Compilation Date
Algebra Special Topics	23H01131603	Basic Science	3	5	10 Agustus 2025

AUTHORITY	SLP Developer Lecturer	Coordinator	Head of Study Program
	Prof. Dr. Budi Nurwahyu, MS., Prof. Dr. Amir Kamal Amir, M.Sc., Dra. Nur Erawati, M.Si., 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:	Mahasiswa 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 ⇒ Course Learning Outcomes	
	After completing this course, it is expected:	
	SLO-1	**CLO-1:** Students are able to recognize and understand the meanings and examples of material on Algebra Topic 1 and Algebra Topic 2.
	SLO-3	**CLO-2:** Students are able to interpret the meaning and properties contained in the material on Algebra Topic 1 and Algebra Topic 2
	SLO-2	**CLO-3:** Students are able to construct and prove the properties contained in the material on Algebra Topic 1 and Algebra Topic 2
	CLO ⇒ Sub-CLO	
	CLO-1	**Sub-CLO-1:**Students are able to recognize and interpret the meaning and properties of introductory material on Algebra 1 topics
		Sub-CLO-3: Mid semester evaluation: Students are able to reflect on the understanding and properties of the Algebra 1 topic learning material
	CLO-2	**Sub-CLO-1:**Students are able to recognize and interpret the meaning and properties of introductory material on Algebra 1 topics
		Sub-CLO-3: Mid semester evaluation: Students are able to reflect on the understanding and properties of the Algebra 1 topic learning material
		Sub-CLO-4: Students are able to recognize and interpret the meaning and properties of introductory material on algebra 2 topics
		Sub-CLO-6: End of semester evaluation: Students are able to reflect on the understanding and properties of the Algebra 2 topic learning material
		Sub-CLO-2: Project 1: How students are able to prove several properties and construction examples from algebra 1 topic material

	CLO-3	**Sub-CLO-3:**Mid semester evaluation: Students are able to reflect on the understanding and properties of the Algebra 1 topic learning material
		Sub-CLO-4: Students are able to recognize and interpret the meaning and properties of introductory material on algebra 2 topics
		Sub-CLO-5: Project 2: How students are able to prove several properties and construction examples from algebra 2 topic material
	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	Case Studies	Written Exam			
SLO-3	CLO-2	SUB-CLO-1	Punctuality	10	0	0	10		
SLO-2	CLO-3	SUB-CLO-2	Activeness in the project	0	25	0	25		
SLO-2	CLO-3	SUB-CLO-3	independence	0	0	20	20		
SLO-3	CLO-2	SUB-CLO-4	Punctuality	10	0	0	10		
SLO-2	CLO-3	SUB-CLO-5	Activeness in projects and independence	10	25	0	35		
				30	50	20	100		

Course Description	This course may change topics each semester, depending on the availability of topics and the readiness of the lecturers, but in one semester there are only 2 algebra topics, namely algebra topic 1 and algebra topic 2
Learning Materials/Subjects	1. Introduction to Algebra 1 topics 2. Characteristics and examples of Algebra 1 topics 3. Evidence of the nature of Algebra 1 topics 4. Introduction to Algebra 2 topics 5. Characteristics and examples of Algebra topics 2 6. Evidence nature of algebra 2 topics
Reference	**Main References**
	1. Books/journals/learning modules from algebra topic 1 2. Books/journals/learning modules from algebra topic 2
	Additional References

	1. Books/journals/learning modules from algebra topic 1 2. Books/journals/learning modules from algebra topic 2
Teaching Team	Prof. Dr. Amir Kamal Amir, M.Sc., Dra. Nur Erawati, M.Si., Dr. Andi Muhammad Anwar, S.Si., M.Si
Course requirement	Linear Algebra II, Algebraic Structures

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 are able to recognize and interpret the meaning and properties of introductory material on Algebra 1 topics (CPMK-1, CPMK-2)	**Formative:** Students are able to show a disciplined attitude **Sumative:** Students are able to explain, describe and give examples in understanding and properties of material Introduction to the topic algebra 1	**Formative Criteria:** Punctuality dinilai dengan rubrik 04 **Sumative Criteria:** Independent Assignment (10) dinilai dengan rubrik 01 **Assessment Technique:** Test and Non-Test	**Studying:** Cooperative learning (Cooperative learning), Collaborative Learning (Collaborative Learning) Combined learning methods 90 Minutes		Introduction to algebra Topics 1	10
3-7	Project 1: How students are able to prove several properties and construction examples from algebra 1 topic material (CPMK-3)	**Formative:** Students are able to show activeness in discussions. **Sumative:** Students are able to plan, carry out processes, make group project reports and presentations individual project reports.	**Formative Criteria:** Activeness in the project dinilai dengan rubrik 04 **Sumative Criteria:** Case Studies (25) dinilai dengan rubrik 01 **Assessment Technique:** Test and Non-Test	**Research, Design, or Development:** Group discussion (Small Group Discussion) Learning methods can be added 5 X 50 minutes	**Studying:** Problem-Based Learning (Problem-based Learning) The online method is carried out between times 2 X 50 minutes	Material part 1 of the algebra topic 1	25

8	Mid semester evaluation: Students are able to reflect on the understanding and properties of the Algebra 1 topic learning material (CPMK-1, CPMK-2, CPMK-3)	**Formative:** Students are able to show independence in finding solutions. **Sumative:** Students are able to explain and interpret understanding and properties of algebra 1 topic learning material	**Formative Criteria:** independence dinilai dengan rubrik 04 **Sumative Criteria:** Written Exam (20) dinilai dengan rubrik 01 **Assessment Technique:** Test and Non-Test	**Studying:** Case Study (Case Study) 2 X 50 minutes		Algebra 1 Topics	20
9-10	Students are able to recognize and interpret the meaning and properties of introductory material on algebra 2 topics (CPMK-3, CPMK-2)	**Formative:** Students are able to show discipline. **Sumative:** Students are able to explain, describe and give examples in understanding and properties of material Introduction to the topic algebra 2	**Formative Criteria:** Punctuality dinilai dengan rubrik 04 **Sumative Criteria:** Independent Assignment (10) dinilai dengan rubrik 01 **Assessment Technique:** Test and Non-Test	**Studying:** Cooperative learning (Cooperative learning), Collaborative Learning (Collaborative Learning) 2 X 50 minutes **Studying:** Cooperative learning (Cooperative learning), Collaborative Learning (Collaborative Learning) 4 X 50 minutes		Introduction to algebra Topics 2	10

11-15	Project 2: How students are able to prove several properties and construction examples from algebra 2 topic material (CPMK-3)	**Formative:** Students are able to show activeness in discussions. **Sumative:** Students are able to plan, implement projects, create report project 2 in groups and presenting project reports individually individual.	**Formative Criteria:** Activeness in the project dinilai dengan rubrik 04 **Sumative Criteria:** Case Studies (25) dinilai dengan rubrik 01 **Assessment Technique:** Test and Non-Test	**Studying:** Group discussion (Small Group Discussion) 5 X 50 minutes		Algebra topics 2	25
16	Project 2: How students are able to prove several properties and construction examples from algebra 2 topic material (CPMK-3)	**Formative:** Students are able to demonstrate independence in finding solutions. **Sumative:** Students are able to explain and interpret understanding and properties of algebra 2 topic learning material	**Formative Criteria:** independence dinilai dengan rubrik 01 **Sumative Criteria:** Independent Assignment (10) dinilai dengan rubrik 01 **Assessment Technique:** Test and Non-Test	**Studying:** Case Study (Case Study) 2 X 50 minutes		Algebra Topics 2	10
							100

Matrix of SLO, CLO, and Assessment Method

SLO / CLO	CLO-1	CLO-2	CLO-3
CPL-1 (ILO 1)	Independent Assignment (Weight 10%) Written Exam (Weight 20%)		
CPL-2 (P2)			Case Studies (Weight 25%) Written Exam (Weight 20%) Independent Assignment (Weight 10%) Case Studies (Weight 25%) Independent Assignment (Weight 10%)
CPL-3 (KU1)		Independent Assignment (Weight 10%) Written Exam (Weight 20%) Independent Assignment (Weight 10%)	

Evaluation Type and Assessment Weight

Type	Assessment Weight
Independent Assignment	30
Case Studies	50
Written Exam	20
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	Case Studies	Written Exam			
SLO-3	CLO-2	SUB-CLO-1	Punctuality	10	0	0	10		
SLO-2	CLO-3	SUB-CLO-2	Activeness in the project	0	25	0	25		
SLO-2	CLO-3	SUB-CLO-3	independence	0	0	20	20		
SLO-3	CLO-2	SUB-CLO-4	Punctuality	10	0	0	10		
SLO-2	CLO-3	SUB-CLO-5	Activeness in projects and independence	10	25	0	35		
				30	50	20	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