COURSE PORTFOLIO

Study Program	:	MATHEMATICS - S1
Semester	:	ODD 2023/2024
Course Code	:	23H01130803
Course Name	:	Control Theory
Coordinator	:	Dr. Firman, S.Si.,M.Si.
Lecturer Team Member	:	Dr. Firman, S.Si.,M.Si.

Implementation of Learning

Description of the implementation of the lecture, the suitability of what was planned in the RPS with what was done:

Number and percentage of lecturer and student attendance
(data source: monitoring the attendance of lecturers and students)

	Lecturer Attendance		Student Attendance
Control Theory	Dr. Firman, S.Si.,M.Si. : 16 times Total Meeting : 16 times.		Number of students: 4 persons Presence ≥ 80% : 3 persons (75.00 %) Presence < 80% : 1 person (25.00 %)

Materials/practicum provided

1. State space representation of a scalar differential equation (A state space representation of a scalar differential equation)

2. Transformation of state space equations into scalar differential equations

3. Solution of the state space equation

4. Control and observation of the linear control system (Control and observation of the linear control system)

5. Stability analysis of linear and nonlinear systems (Stability analysis of linear and nonlinear systems)

6. input-output linearization in nonlinear control systems (input-output linearization in nonlinear control systems)

7. optimal control based on the calculus of variations (optimal control based on the calculus of variations)

8. Pontryagin Principle (The Pontryagin Principle)

The learning methods implemented

Project-based Learning, Case Study, Cooperative Learning

The assessment method implemented

1. Case Studies

2. Presentation
3. Final Test
4. Mid Test
5. Independent Assignment

Supplementary information (if available)

None

2. Learning Outcomes

Measurement results of CLO

Assessment and Evaluation of Student Achievement of CLO[a]

LOs that are charged to the Course	CLO	Assessment Form	Weight	Average student score (0-100)
ILO 1	CLO-1	Independent Assignment	10.00 %	84.00
ILO 1	CLO-1	Case Studies	10.00 %	85.75
ILO 1	CLO-1	Case Studies	10.00 %	85.75
ILO 1	CLO-1	Independent Assignment	10.00 %	84.00
ILO 1	CLO-2	Case Studies	10.00 %	85.81
ILO 1	CLO-2	Case Studies	15.00 %	84.50
ILO 1	CLO-2	Case Studies	10.00 %	85.81
ILO 1	CLO-2	Case Studies	15.00 %	84.50
ILO 1	CLO-2	Presentation	5.00 %	85.50
ILO 1	CLO-2	Final Test	15.00 %	84.50
ILO 1	CLO-2	Presentation	5.00 %	85.50
ILO 1	CLO-2	Mid Test	15.00 %	82.25
P2	CLO-2	Final Test	15.00 %	84.50
P2	CLO-2	Case Studies	15.00 %	84.50
P2	CLO-2	Case Studies	15.00 %	84.50
P2	CLO-2	Mid Test	15.00 %	82.25
P2	CLO-2	Presentation	5.00 %	85.50
P2	CLO-2	Case Studies	10.00 %	85.81
P2	CLO-2	Presentation	5.00 %	85.50
P2	CLO-2	Case Studies	10.00 %	85.81
P2	CLO-3	Case Studies	10.00 %	87.25

LOs that are charged to the Course	CLO	Assessment Form	Weight	Average student score (0-100)
P2	CLO-3	Case Studies	15.00 %	84.50
P2	CLO-3	Case Studies	15.00 %	84.50
P2	CLO-3	Case Studies	10.00 %	87.25
P2	CLO-3	Final Test	15.00 %	84.50
KU1	CLO-2	Case Studies	10.00 %	85.81
KU1	CLO-2	Final Test	15.00 %	84.50
KU1	CLO-2	Case Studies	15.00 %	84.50
KU1	CLO-2	Case Studies	10.00 %	85.81
KU1	CLO-2	Presentation	5.00 %	85.50
KU1	CLO-2	Case Studies	15.00 %	84.50
KU1	CLO-2	Presentation	5.00 %	85.50
KU1	CLO-2	Mid Test	15.00 %	82.25
KU1	CLO-4	Case Studies	15.00 %	84.50
KU1	CLO-4	Case Studies	15.00 %	84.50
KU1	CLO-4	Case Studies	10.00 %	87.25
KU1	CLO-4	Case Studies	10.00 %	87.25
KU1	CLO-4	Final Test	15.00 %	84.50
KK2	CLO-3	Final Test	15.00 %	84.50
KK2	CLO-3	Case Studies	10.00 %	87.25
KK2	CLO-3	Case Studies	15.00 %	84.50
KK2	CLO-3	Case Studies	15.00 %	84.50
KK2	CLO-3	Case Studies	10.00 %	87.25
KK2	CLO-4	Case Studies	15.00 %	84.50
KK2	CLO-4	Case Studies	15.00 %	84.50
KK2	CLO-4	Case Studies	10.00 %	87.25
KK2	CLO-4	Case Studies	10.00 %	87.25
KK2	CLO-4	Final Test	15.00 %	84.50

a: result criteria: very satisfactory if the average score is ≥ 80; satisfactory if the average score is 70 - 79.9; unsatisfactory if the average score is < 70.

Percentage of students who achieved a very satisfactory CLO score [b]

(data source: student scores per assessment according to CLOs)

CLO	% of students who achieved a CLO score of at least 80
CLO-1	100.00%

CLO	% of students who achieved a CLO score of at least 80
CLO-2	100.00%
CLO-3	100.00%
CLO-4	100.00%
CLO-1	100.00%
CLO-2	100.00%
CLO-3	100.00%
CLO-4	100.00%
CLO-1	0.00%
CLO-2	0.00%
CLO-3	0.00%
CLO-4	0.00%

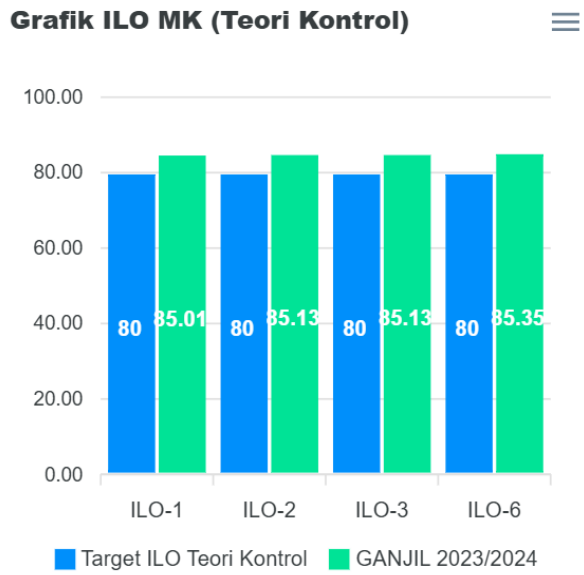
b: result criteria: very satisfactory if ≥80% of students score ≥80; satisfactory if 70%-79.9% of students score ≥80; less satisfactory if < 70% of students score ≥80.

Course Grade

Course Grade	Number and Percentage of Students
A	1 (25.0%)
A-	3 (75.0%)
B+	0 (0.0%)
B	0 (0.0%)
B-	0 (0.0%)
C+	0 (0.0%)
C	0 (0.0%)
D	0 (0.0%)
E	0 (0.0%)

3. Learning evaluation (survey) results

(data source: items / narratives of the results of the MK evaluation questionnaire by students)



Hasil Perhitungan CPL Mata Kuliah Teori Kontrol

4. Analysis and Reflection

Analysis and Reflection

Analysis

Analysis of the data shows that the performance in the Control Theory Course is at a very good and satisfactory level. Learning outcomes in all measured aspects have consistently succeeded in meeting and even exceeding the targets set. In addition, the performance shown is very even and stable across all learning outcomes, without any significant gaps between one area and another, which indicates the success of the comprehensive learning process in that period.

Reflection

This superior and consistent performance reflects that the course design and implementation has been very effective. There is strong alignment between the teaching process, the material provided, and the evaluation system, so that students are able to achieve learning goals very well. Therefore, follow-up for this course is no longer corrective, but focuses on efforts to maintain existing standards of excellence. The reflection is the importance of documenting existing good practices and continuing to carry out continuous optimization to maintain consistent quality in the future.

5. Follow-up Plan

In response to the excellent and consistent achievements in the Control Theory Course, where all learning targets were successfully exceeded, the follow-up plan is not remedial in nature, but focuses on standardization of good practices and quality sustainability. This step will include official documentation of teaching methods, case studies, and evaluation systems that have been proven effective to serve as reference models. The aim is to maintain consistent high performance in future course implementation and make it a model for other relevant courses.

6. Follow-up results on the previous semester's evaluation

Following up on the findings of the previous semester's evaluation for the Control Theory Course, which showed very superior performance and consistently exceeding targets, an action plan focusing on standardization of good practices and optimization has been implemented. The future focus is to maintain

quality stability and carry out continuous innovation to maintain the standards of excellence that have been achieved.

Makassar, 24 Oktober 2025

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