COURSE PORTFOLIO

Study Program	:	MATHEMATICS - S1
Semester	:	ODD 2023/2024
Course Code	:	23H01131203
Course Name	:	Introduction to Functional Analysis
Coordinator	:	Naimah Aris, S.Si.,M.Math.
Lecturer Team Member	:	Naimah Aris, S.Si.,M.Math., Dr. Muhammad Zakir, 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
Introduction to Functional Analysis	Naimah Aris, S.Si.,M.Math.	: times	Number of students: 3 persons Presence ≥ 80% : Presence < 80% :
	Dr. Muhammad Zakir, M.Si.	: times	
	Total Meeting : times.		

Materials/practicum provided

1. Metric Space
2. Environment
3. Open Set
4. Close Set
5. Metric Space Completeness
6. Vector Space
7. Space Norm
8. Banach Space
9. Finite Dimensional Norm Space
10. Linear Functional.

The learning methods implemented

1. Case Study
2. Small Group Discussion
3. Self-Directed Learning

The assessment method implemented

1. Case Studies
2. Final Test
3. 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)
P2	CLO-1	Case Studies	14.00 %	85.36
P2	CLO-1	Case Studies	7.00 %	84.47
P2	CLO-1	Case Studies	10.00 %	86.41
P2	CLO-1	Case Studies	5.00 %	86.33
P2	CLO-1	Independent Assignment	10.00 %	82.32
P2	CLO-2	Case Studies	7.00 %	83.89
P2	CLO-2	Case Studies	10.00 %	82.17
P2	CLO-2	Final Test	10.00 %	83.68
KU2	CLO-3	Case Studies	10.00 %	82.77
KU2	CLO-3	Final Test	10.00 %	83.68
KK3	CLO-4	Case Studies	14.00 %	85.36
KK3	CLO-4	Case Studies	7.00 %	84.77
KK3	CLO-4	Independent Assignment	10.00 %	82.32
KK3	CLO-4	Final Test	10.00 %	83.68

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-2	100.00%

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

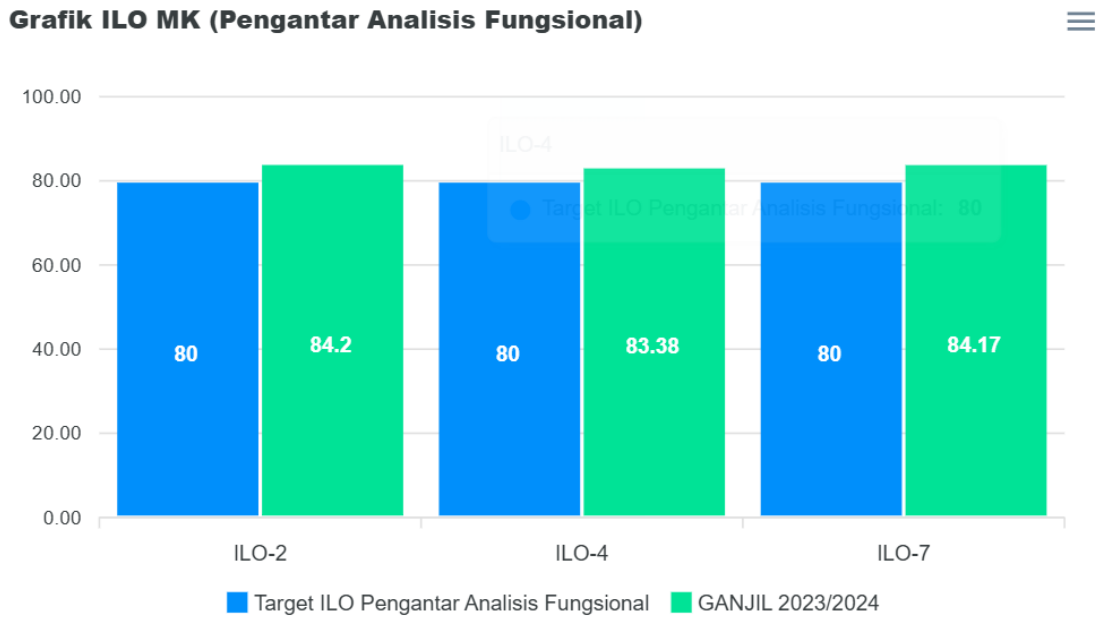
b: result criteria: very satisfactory if ≥80% of students score ≥80; satisfactory if 70%-79.9% of students score ≥80; less satisfactory if < 70% of students score ≥80.

Course Grade

Course Grade	Number and Percentage of Students
A	0 (0.0%)
A-	3 (100.0%)
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 Pengantar Analisis Fungsional

4. Analysis and Reflection

Analysis and Reflection

Analysis shows that the realization of all indicators consistently exceeds the target 80. The highest achievement was

at **ILO-2** at **84.2** and **ILO-7** as large as **84.17**, while **ILO-4** recording achievements **83.38**. All indicators show a surplus of achievements above 3 points from the target, which indicates that the learning and evaluation process of Introduction to Functional Analysis MK is very effective. Success in exceeding targets in all of these indicators shows that students have mastered the expected competencies, including conceptual understanding and analytical skills, beyond the minimum standards. The consistency of these achievements reflects the high quality of teaching and valid evaluation instruments.

5. Follow-up Plan

First, it is necessary to conduct **a comparative analysis** of the teaching and evaluation practices for **ILO-2 and ILO-7** which have the highest achievements, and document these practices as **standard reference** for this course. Second, even though the differences are small, it is necessary to carry out a micro-review to understand why the achievement of ILO-4 is slightly lower than the other two ILOs, and organize small interventions (for example additional materials or training) to encourage it to reach level 84. Third, to encourage continuous improvement (*continuous improvement*), **ILO targets** for the next period can be considered to be **increased** gradually, for example to 81 or 82, in order to motivate the teaching team to continue to innovate.

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

The realization of consistently exceeding the target of 80 on all indicators can be interpreted as **confirmation of the success of the improvement and follow-up efforts that have been implemented in the previous evaluation period**. This superior achievement shows that if in the previous semester there were unsatisfactory indicators, the interventions implemented (for example focusing on basic understanding of analysis or proof skills) have proven to be very effective. The results in Odd 2023/2024 are clear evidence of the success of the self-evaluation process and the teaching team's commitment to achieving quality that exceeds standards, especially for abstract courses such as Functional Analysis.

Makassar, 24 Oktober 2025

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