COURSE PORTFOLIO

Study Program	:	MATHEMATICS - S1
Semester	:	ODD 2023/2024
Course Code	:	23H01131403
Course Name	:	Biological Mathematics
Coordinator	:	Prof. Dr. Syamsuddin Toaha, M.Sc.
Lecturer Team Member	:	Prof. Dr. Syamsuddin Toaha, M.Sc., Prof. Dr. Kasbawati, 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
Biological Mathematics	Prof. Dr. Syamsuddin Toaha, M.Sc.	:	8 times	Number of students: 5 persons
	Prof. Dr. Kasbawati, S.Si., M.Si.	:	8 times	Presence ≥ 80% : 3 persons (60.00 %) Presence < 80% : 2 persons (40.00 %)
	Total Meeting : 16 times.			

Materials/practicum provided

1. Dimensional analysis in mathematical physiology (Dimensional analysis in mathematical physiology)
2. The mathematics of diffusion (The mathematics of diffusion)
3. Pharmacokinetics (Drug distribution in pharmacology)
4. Mathematical Models in Epidemiology (Mathematical modeling in epidemiology)
5. Harvesting (Mathematical Model of Harvesting)
6. Leslie Matrix: Age Structured Model (Mathematical Model with Age Structured: Leslie Matrix)
7. Harvesting with Age Structured (Mathematical Model of Harvesting with Age Structured)
8. Forest harvesting model

The learning methods implemented

Collaborative Learning, Case Study

The assessment method implemented

1. Quiz

2. Case Studies
3. Group task
4. Short Q&A
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)
KK1	CLO-1	Short Q&A	5.00 %	80.56
KK1	CLO-1	Independent Assignment	5.00 %	80.40
KK1	CLO-1	Quiz	5.00 %	80.12
KK1	CLO-1	Case Studies	10.00 %	79.28
KK1	CLO-1	Case Studies	8.00 %	79.44
KK1	CLO-1	Group task	5.00 %	80.88
KK1	CLO-1	Short Q&A	4.00 %	78.86
KK1	CLO-2	Case Studies	10.00 %	79.28
KK1	CLO-2	Independent Assignment	4.00 %	82.35
KK1	CLO-2	Quiz	5.00 %	81.26
KK1	CLO-2	Case Studies	8.00 %	81.35
KK1	CLO-2	Group task	5.00 %	80.25
KK1	CLO-3	Case Studies	8.00 %	82.03
KK1	CLO-3	Quiz	5.00 %	81.46
KK1	CLO-3	Independent Assignment	4.00 %	82.35
KK1	CLO-3	Group task	5.00 %	80.25
KK1	CLO-3	Case Studies	10.00 %	80.56
KK1	CLO-4	Group task	5.00 %	80.57
KK1	CLO-4	Quiz	5.00 %	81.46
KK1	CLO-4	Case Studies	8.00 %	81.35
KK1	CLO-4	Short Q&A	4.00 %	78.86

LOs that are charged to the Course	CLO	Assessment Form	Weight	Average student score (0-100)
KK1	CLO-4	Independent Assignment	4.00 %	82.35
KK1	CLO-4	Case Studies	10.00 %	80.13
KK1	CLO-5	Quiz	5.00 %	81.56
KK1	CLO-5	Case Studies	10.00 %	81.84
KK2	CLO-1	Short Q&A	5.00 %	80.56
KK2	CLO-1	Independent Assignment	5.00 %	80.40
KK2	CLO-1	Case Studies	10.00 %	79.28
KK2	CLO-1	Quiz	5.00 %	80.12
KK2	CLO-1	Case Studies	8.00 %	79.44
KK2	CLO-1	Group task	5.00 %	80.88
KK2	CLO-1	Short Q&A	4.00 %	78.86
KK2	CLO-2	Group task	5.00 %	80.25
KK2	CLO-2	Independent Assignment	4.00 %	82.35
KK2	CLO-2	Case Studies	8.00 %	81.35
KK2	CLO-2	Case Studies	10.00 %	79.28
KK2	CLO-2	Quiz	5.00 %	81.26
KK2	CLO-3	Quiz	5.00 %	81.46
KK2	CLO-3	Group task	5.00 %	80.25
KK2	CLO-3	Case Studies	8.00 %	82.03
KK2	CLO-3	Case Studies	10.00 %	80.56
KK2	CLO-3	Independent Assignment	4.00 %	82.35
KK2	CLO-4	Short Q&A	4.00 %	78.86
KK2	CLO-4	Quiz	5.00 %	81.46
KK2	CLO-4	Case Studies	10.00 %	80.13
KK2	CLO-4	Group task	5.00 %	80.57
KK2	CLO-4	Independent Assignment	4.00 %	82.35
KK2	CLO-4	Case Studies	8.00 %	81.35
KK2	CLO-5	Case Studies	10.00 %	81.84
KK2	CLO-5	Quiz	5.00 %	81.56

LOs that are charged to the Course	CLO	Assessment Form	Weight	Average student score (0-100)
KK3	CLO-4	Case Studies	10.00 %	80.13
KK3	CLO-4	Case Studies	8.00 %	81.35
KK3	CLO-4	Short Q&A	4.00 %	78.86
KK3	CLO-4	Independent Assignment	4.00 %	82.35
KK3	CLO-4	Quiz	5.00 %	81.46
KK3	CLO-4	Group task	5.00 %	80.57
KK3	CLO-5	Quiz	5.00 %	81.56
KK3	CLO-5	Case Studies	10.00 %	81.84

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	40.00%
CLO-2	80.00%
CLO-3	80.00%
CLO-4	80.00%
CLO-5	80.00%

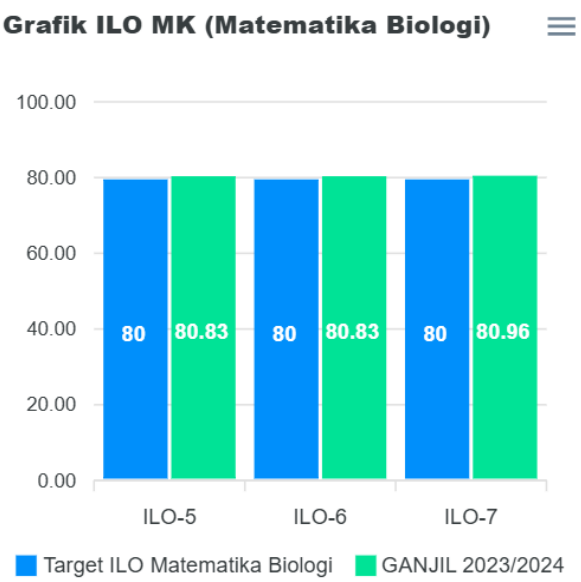
b: result criteria: very satisfactory if ≥80% of students score ≥80; satisfactory if 70%-79.9% of students score ≥80; less satisfactory if < 70% of students score ≥80.

Course Grade

Course Grade	Number and Percentage of Students
A	0 (0.0%)
A-	4 (80.0%)
B+	1 (20.0%)
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 Pengukuran CPL Mata Kuliah Matematika Biologi

4. Analysis and Reflection

Analysis and Reflection

Analysis

Analysis of the data shows that the performance in the Biology Mathematics Course is at a very good and satisfactory level. Learning outcomes in all measured aspects have consistently succeeded in meeting and even slightly exceeding the set targets. 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 Mathematics Biology Course, where all learning targets were successfully exceeded, the follow-up plan is not remedial, but focuses on standardization of good practices and quality sustainability. This step will include official documentation of teaching methods and evaluation systems that have been proven effective to serve as reference models, as well as ongoing monitoring to ensure these standards of excellence are maintained. The main goal is to maintain consistent high performance and make this course a model for others.

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

Following up on the findings of the previous semester's evaluation for the Biology Mathematics Course, which showed very superior performance, an action plan focusing on standardization of good practices and optimization has been implemented. The results for the most recent evaluation period show that this

superior performance has been consistently maintained, with all learning outcomes remaining stable at a very satisfactory level. This success confirms the status of this course as a pilot model, where 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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