COURSE PORTFOLIO

Study Program	:	MATHEMATICS - S1
Semester	:	ODD 2024/2025
Course Code	:	23H01130203
Course Name	:	Stochastic Processes
Coordinator	:	Jusmawati Massalesse, S.Si.,M.Si.
Lecturer Team Member	:	Dr. Firman, S.Si.,M.Si., Jusmawati Massalesse, 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
Stochastic Process B	Jusmawati Massalesse, S.Si.,M.Si. Dr. Firman, S.Si.,M.Si. Total Meeting : 16 times.	: :	8 times 8 times	Number of students: 39 persons Presence ≥ 80% : 37 persons (94.87 %) Presence < 80% : 2 persons (5.13 %)
Stochastic Process A	Jusmawati Massalesse, S.Si.,M.Si. Dr. Firman, S.Si.,M.Si. Total Meeting : 16 times.	: :	8 times 8 times	Number of students: 29 persons Presence ≥ 80% : 28 persons (96.55 %) Presence < 80% : 1 person (3.45 %)

Materials/practicum provided

1. Introduction to Stochastic Processes and relationships with Random Variables and Probability (Introduction to Stochastic Processes and related with Random Variables and Probability)
2. Probability and Joint Distribution in Stochastic Processes
3. Conditional probabilities and events (Conditional Distribution and Moments)
4. Markov Chain (Markov Chain)
5. Poisson Process (Poisson Processes)
6. Markov Process (Markov Processes)
7. Pure Birth and Death Processes (Pure Birth and Death Processes)
8. Renewal process (Renewal Processes)

The learning methods implemented

Meeting 1

Lecture: Other methods

[TM:1x3x50]

Meeting 2

Lecture: Self-Directed Learning Students listen material and work related independent tasks with Chain material Markov

[TM:1x3x50]

3-4 Meetings

Lecture: Self-Directed Learning, Case Studies (Case Study)

[TM:1x3x50]

Lectures: Self-Directed Learning, Learning cooperative (Cooperative learning),Learning collaborative (Collaborative Learning)

[TM:2x3x50]

Meeting 5

Lecture: Cooperative learning (Cooperative learning),Learning Problem Based (Problem-based Learning)

[TM:1x3x50]

Meeting 6-7

Seminar: Case Study (Case Study) Case title: " Analysis Deep Markov chains Displacement Context State". Students search for data which will be modeled and work together in group for complete the project. At the final stage, each group presenting the model each in class attended by all participants subject.

[TM:2x3x50]

Meeting 8

Other Forms: Discovery Learning

[TM:2x3x50]

Meeting 9

Lecture: Cooperative learning (Cooperative learning)

[TM:1x3x50]

10th meeting

Lecture: Cooperative learning (Cooperative learning)

[TM:1x3x50]

Meeting 11

Lecture: Collaborative learning (Collaborative Learning)

[TM:1x3x50]

12th Meeting

Lecture: Collaborative learning (Collaborative Learning)

[TM:1x3x50]

Meeting 13

Lecture: Group discussion (Small Group Discussion), Method others

[TM:1x2x50]

14-16 Meeting

Seminar: Case Study (Case Study) Students choose case that associated with following topics: 1. Process Analysis Poisson in Context Random Event Events (Task A) 2. Process Analysis Markov in Context State Change (Task B)

[TM:3x3x50]

The assessment method implemented

1. Quiz
2. Case Studies
3. Short Q&A
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)
KU2	CLO-1	Independent Assignment	5.00 %	63.46
KU2	CLO-1	Short Q&A	35.00 %	87.70
KU2	CLO-1	Short Q&A	3.00 %	87.13
KU2	CLO-1	Short Q&A	5.00 %	77.79
KU2	CLO-1	Quiz	10.00 %	69.58
KU2	CLO-1	Mid Test	20.00 %	48.90
KU2	CLO-2	Case Studies	5.00 %	87.35
KU2	CLO-2	Short Q&A	35.00 %	87.70
KU2	CLO-2	Quiz	10.00 %	69.58
KU2	CLO-2	Mid Test	20.00 %	48.90
KU2	CLO-2	Short Q&A	5.00 %	77.79
KU2	CLO-2	Case Studies	35.00 %	73.59
KU2	CLO-2	Quiz	7.00 %	74.78
KK1	CLO-2	Case Studies	5.00 %	87.35
KK1	CLO-2	Mid Test	20.00 %	48.90
KK1	CLO-2	Short Q&A	35.00 %	87.70

LOs that are charged to the Course	CLO	Assessment Form	Weight	Average student score (0-100)
KK1	CLO-2	Short Q&A	5.00 %	77.79
KK1	CLO-2	Quiz	10.00 %	69.58
KK1	CLO-2	Quiz	7.00 %	74.78
KK1	CLO-2	Case Studies	35.00 %	73.59
KK1	CLO-3	Case Studies	35.00 %	73.59
KK1	CLO-3	Case Studies	5.00 %	87.35
KK1	CLO-3	Case Studies	15.00 %	89.71
KK3	CLO-2	Quiz	10.00 %	69.58
KK3	CLO-2	Mid Test	20.00 %	48.90
KK3	CLO-2	Short Q&A	35.00 %	87.70
KK3	CLO-2	Case Studies	5.00 %	87.35
KK3	CLO-2	Quiz	7.00 %	74.78
KK3	CLO-2	Short Q&A	5.00 %	77.79
KK3	CLO-2	Case Studies	35.00 %	73.59
KK3	CLO-3	Case Studies	15.00 %	89.71
KK3	CLO-3	Case Studies	5.00 %	87.35
KK3	CLO-3	Case Studies	35.00 %	73.59
S1	CLO-1	Short Q&A	5.00 %	77.79
S1	CLO-1	Short Q&A	35.00 %	87.70
S1	CLO-1	Quiz	10.00 %	69.58
S1	CLO-1	Mid Test	20.00 %	48.90
S1	CLO-1	Short Q&A	3.00 %	87.13
S1	CLO-1	Independent Assignment	5.00 %	63.46
S2	CLO-3	Case Studies	5.00 %	87.35
S2	CLO-3	Case Studies	35.00 %	73.59
S2	CLO-3	Case Studies	15.00 %	89.71

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	10.29%
CLO-2	13.24%
CLO-3	92.65%

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.

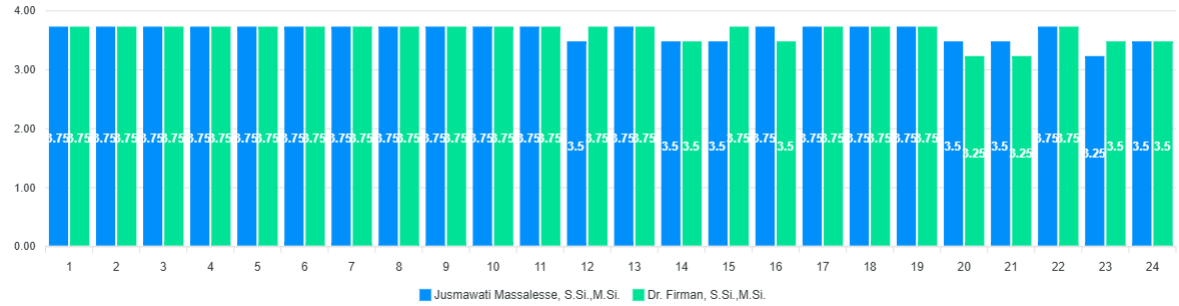
Course Grade

Course Grade	Number and Percentage of Students
A	6 (8.8%)
A-	24 (35.3%)
B+	21 (30.9%)
B	8 (11.8%)
B-	1 (1.5%)
C+	2 (2.9%)
C	1 (1.5%)
D	1 (1.5%)
E	4 (5.9%)

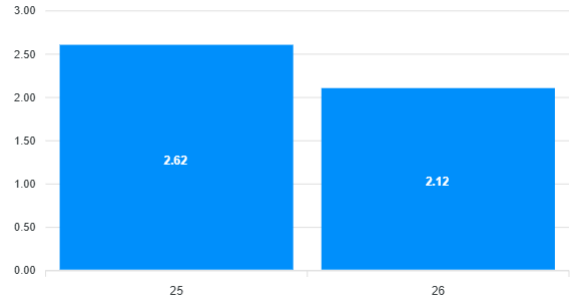
3. Learning evaluation (survey) results

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

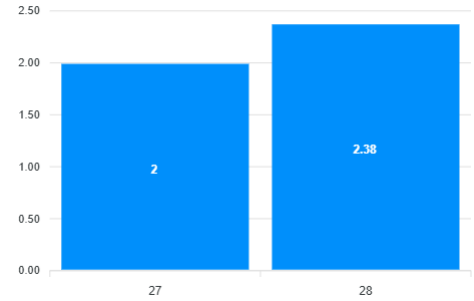
Grafik Kuisioner Pembelajaran Matakuliah Proses Stokastik



Grafik Kuisioner Pembelajaran



Grafik Kuisioner Pembelajaran



Keterangan Nilai

Pertanyaan 1-24:

- 4 : Sangat Setuju/ Sangat Baik
- 3 : Setuju / Baik
- 2 : Ragu-ragu / Cukup
- 1 : Tidak Setuju / Kurang

Pertanyaan 25 dan 26: (WE = Waktu Efektif)

- 5 : WE > 200 menit
- 4 : 180 menit < WE <=200 menit
- 3 : 120 menit < WE <=180 menit
- 2 : 60 menit < WE <=120 menit
- 1 : 1:WE <= 60 menit

Pertanyaan 27:

- 3 : Lebih Banyak
- 2 : Sama
- 1 : Lebih Sedikit

Pertanyaan 28:

- 3 : Sama
- 2 : Cukup Sesuai
- 1 : Kurang Sesuai

Informasi Pertanyaan Kuisioner

1. Dosen Menyampaikan Rancangan Pembelajaran Semester (RPS) dan Kontrak Perkuliahan di awal Perkuliahan dengan Jelas

2. Dosen Menjalankan Proses Pembelajaran yang berpusat pada mahasiswa (Student Centered Learning)

3. Dosen Menyiapkan materi Pemebelajaran dan sumber daya pensukung pwmbelajaran (diktat, slide, kasus, tugas, bahan ujian, dsb)

4. Dosen menjelaskan materi dengan baik dan jelas

5. Dosen memberikan materi setiap minggu sesuai dengan Rancangan Pembelajaran Semester (RPS) matakuliah

6. Dosen mempunyai kepedulian dan membantu mahasiswa dalam pemaham penguasaan suatu materi

7. Dosen Memberikan Penilaian dengan jelas dan sesuai dengn kontrak perkuliahan yang telah disepakati

8. Dosen memberikan umpan balik dengan memberikan komentar secara lengkap

9. Saya memahami materi kuliah setelah menyelesaikan perkuliahan ini

10. Matakuliah yang diberikan menstimulasi kemampuan intelektual saya

11. Tingkat kehadiran saya dalam matakuliah ini sangat tinggi (lebih dari 80% pertemuan)

12. Dosen menggunakan lebih dari satu metode penilaian (Assessment Metho

13. Jadwal matakuliah telah diinformasikan di SIM secara jelas sebelum perkuliahan dimulai

14. Dosen memberikan kuliah sesuai dengan jadwal kuliah yang telah ditetapkan

15. Dosen hadir tepat waktu sesuai dengan jadwal kuliah yang telah ditetapk

16. Dosen menyelesaikan perkuliahan tepat waktu sesuai dengan jadwal kuliah yang telah ditetapkan

17. Tersedia buku acuan/modul/ringkasan materi/slide matakuliah untuk semua materi yang diberikan

18. Buku acuan/modul/ringkasan materi/slide matakuliah yang diberikan berr dan uptodate dangan perkembangan yang ada

19. Selama Kualiah daring, fasilitas perkuliahan cukup memadai

20. Saya menggunakan SIKOLA sebagai wadah pembelajaran

21. Layanan Perpustakaan Prodi/Departemen/Fakultas/Universitas sangat me dalam proses pembelajaran

22. Beban sks matakuliah ini sudah sesuai dengan kompetensi yang akan dicapai (Catatan : 1 sks setara dngan 170 menit kegiatan belajar setiap pekan per semester)

23. Saya menggunakan SIKOLA sebagai wadah pembelajaran

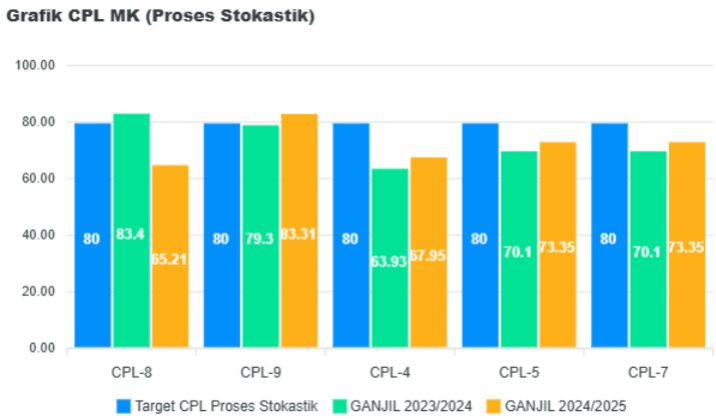
24. Layanan Perpustakaan Prodi/Departemen,Universitas sangat membantu proses pembelajaran

25. Rata-rata Waktu Efektif (dalam menit) yang anda habiskan dalam seminggu (di luar jam perkuliahan)untuk menyelesaikan tugas terstrukturpada matakuliah ini

26. Rata-rata Waktu Efektif (dalam menit) yang anda habiskan dalam seminggu (di luar jam perkuliahan) unuk belajar mandiri pada matakuliah ini

27. Dibandingkan dengan matakuliah yang lainnya, jumlah waktu yang anda h khusus untuk matakuliah ini

28. Alokasi waktu yang digunakan untuk menyelesaikan tugas yang diberikan matakuliah ini



Hasil Pengukuran CPL MK Proses Stokastik

4. Analysis and Reflection

Analysis and reflection

Analysis

1. Highly Volatile Performance with Opposite Trends

Data analysis shows a very unstable and volatile performance with opposite trends between the two periods. On the one hand, CPL-9 experienced a significant increase in performance, rising from 79.3 to 83.31 (exceeding target). However, on the other hand, CPL-8, which previously performed superiorly (83.4), actually experienced a drastic decline of 18 points to the level of 65.21.

2. Persistent Chronic Weakness In the midst of this volatility, the analysis also identified chronic and persistent weakness in CPL-4. In both periods measured, CPL-4 was consistently one of the lowest achieving CPLs (scores 63.93 and 67.95), indicating the existence of fundamental and unresolved learning difficulties in this area.

Reflection

1. The Need for Multiple Investigations: Regression and Progression

These starkly contrasting results reflect that there may have been specific changes in teaching or evaluation methods that had very different impacts. Follow-up should be a double investigation: first, urgently find out the cause of the regression (setback) in CPL-8. Second, simultaneously analyze the progression factors (progress) on CPL-9 to document as good practice (best practice).

2. Fundamental Problems on Certain Topics that Have Not Been Resolved

CPL-4 performance which is consistently the lowest reflects the existence of fundamental problems on that topic that have not been touched by improvement efforts. Even though other areas changed (some went up, some went down), CPL-4 remained stagnant at the lower level. This indicates the need for a more structural and in-depth intervention specifically for CPL-4, because the current approach has proven to be ineffective in improving its achievements.

5. Follow-up Plan

Based on the very inconsistent results of the Stochastic Process CPL, showing a drastic decline, significant increase and stagnation simultaneously, the follow-up plan will implement a focused diagnostic approach. The top priority is to conduct an in-depth investigation into the causes of the sharp decline in CPL-8 as well as a fundamental overhaul of the teaching and evaluation strategy for the chronically underperforming CPL-4. Simultaneously, it will analyze the success factors that drove rapid progress on CPL-9 to document as replicable best practices. The goal of this multi-focus strategy is to stabilize performance, address the most critical weaknesses, and spread good practices to achieve more even and higher performance across all CPLs in order to consistently approach the target of 80.

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

Following up on the results of previous evaluations in the Stochastic Processes Course which showed highly inconsistent performance, with sharp regression in CPL-8, significant progress in CPL-9, and chronic weakness in CPL-4, a focused diagnostic action plan has been implemented. A diagnostic approach that is able to address various types of problems simultaneously to achieve comprehensive quality improvement and needs continuous improvement.

Makassar, 24 Oktober 2025

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