COURSE PORTFOLIO

Study Program	:	MATHEMATICS - S1
Semester	:	EVEN 2023/2024
Course Code	:	23H01121103
Course Name	:	Operations Research
Coordinator	:	Prof. Dr. Aidawayati Rangkuti, MS.
Lecturer Team Member	:	Prof. Agustinus Ribal, S.Si.,M.Sc., Ph. D, Prof. Dr. Aidawayati Rangkuti, MS.

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
Operations Research A	Prof. Dr. Aidawayati Rangkuti, MS. Prof. Agustinus Ribal, S.Si.,M.Sc., Ph. D Total Meeting : 16 times.	: :	8 times 8 times	Number of students: 35 persons Presence ≥ 80% : 33 persons (94.29 %) Presence < 80% : 2 persons (5.71 %)
Operations Research B	Prof. Dr. Aidawayati Rangkuti, MS. Prof. Agustinus Ribal, S.Si.,M.Sc., Ph. D Total Meeting : 16 times.	: :	8 times 8 times	Number of students: 34 persons Presence ≥ 80% : 33 persons (97.06 %) Presence < 80% : 1 person (2.94 %)

Materials/practicum provided

1. Convex set and formulation of linear programming problems (convex set and formulation of Linear Programming problems)
2. Solving linear programming problems using the graphical method (Graphical method for solving linear programming problems)
3. Solving linear programming problems using the simplex method (Simplex method for solving linear programming problems)
4. Types of solutions to linear programming problems (Special cases of the linear programming solution)
5. Duality and its properties
6. Formulation of transportation problems and the VAM method (Formulation of linear programming problems and Vogel's approximation method)
7. Stepping stone method and MODI (Stepping stone method and Modified distribution)
8. Project management
9. PERT (Program evaluation and review technique)

The learning methods implemented

Meeting 1

Lecture: Other methods

TM:1X3X50

2-3 Meetings

Lecture: Group discussion (Small Group Discussion)

TM:2X3X50

4-5 Meetings

Lecture: Group discussion (Small Group Discussion), Learning collaborative (Collaborative Learning)

TM:2X3X50

Meetings 6-7

Lecture: Collaborative learning (Collaborative Learning) 2X3X50

Meeting 8

UTS

Meeting 9-10

Lecture: Collaborative learning (Collaborative Learning), Other methods

TM:3X3X50

11-12 Meeting

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

TM:2X3X50

13-15 Meeting

Lecture: Group discussion (Small Group Discussion), Learning collaborative (Collaborative Learning)

TM:3X3X50

Meeting 16

UAS

The assessment method implemented

1. Case Studies
2. Mid Test
3. Final Test

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)
KU1	CLO-2	Case Studies	5.00 %	85.72
KU1	CLO-2	Final Test	25.00 %	77.09
KU1	CLO-2	Case Studies	10.00 %	57.25
KU1	CLO-2	Mid Test	25.00 %	63.08
KU1	CLO-2	Case Studies	7.50 %	68.69
KU1	CLO-2	Case Studies	15.00 %	63.08
KU1	CLO-3	Case Studies	15.00 %	63.08
KU1	CLO-3	Mid Test	25.00 %	63.08
KU1	CLO-4	Mid Test	25.00 %	63.08
KU1	CLO-4	Case Studies	5.00 %	95.29
KU1	CLO-4	Case Studies	15.00 %	63.08
KU1	CLO-4	Case Studies	7.50 %	71.48
KU1	CLO-4	Final Test	25.00 %	77.09
KU2	CLO-1	Mid Test	25.00 %	63.08
KU2	CLO-1	Case Studies	5.00 %	76.16
KU2	CLO-1	Case Studies	10.00 %	57.25
KU2	CLO-1	Case Studies	15.00 %	63.08
KU2	CLO-1	Case Studies	7.50 %	67.29
KU2	CLO-1	Final Test	25.00 %	77.09
KU2	CLO-2	Final Test	25.00 %	77.09
KU2	CLO-2	Case Studies	5.00 %	85.72
KU2	CLO-2	Case Studies	15.00 %	63.08
KU2	CLO-2	Case Studies	7.50 %	68.69
KU2	CLO-2	Mid Test	25.00 %	63.08
KU2	CLO-2	Case Studies	10.00 %	57.25
KU2	CLO-3	Mid Test	25.00 %	63.08
KU2	CLO-3	Case Studies	15.00 %	63.08
KU2	CLO-4	Case Studies	7.50 %	71.48
KU2	CLO-4	Case Studies	15.00 %	63.08
KU2	CLO-4	Case Studies	5.00 %	95.29
KU2	CLO-4	Mid Test	25.00 %	63.08
KU2	CLO-4	Final Test	25.00 %	77.09
KK2	CLO-2	Final Test	25.00 %	77.09

LOs that are charged to the Course	CLO	Assessment Form	Weight	Average student score (0-100)
KK2	CLO-2	Case Studies	10.00 %	57.25
KK2	CLO-2	Case Studies	5.00 %	85.72
KK2	CLO-2	Case Studies	15.00 %	63.08
KK2	CLO-2	Mid Test	25.00 %	63.08
KK2	CLO-2	Case Studies	7.50 %	68.69
KK2	CLO-3	Mid Test	25.00 %	63.08
KK2	CLO-3	Case Studies	15.00 %	63.08
KK3	CLO-3	Mid Test	25.00 %	63.08
KK3	CLO-3	Case Studies	15.00 %	63.08
KK3	CLO-4	Case Studies	5.00 %	95.29
KK3	CLO-4	Mid Test	25.00 %	63.08
KK3	CLO-4	Final Test	25.00 %	77.09
KK3	CLO-4	Case Studies	7.50 %	71.48
KK3	CLO-4	Case Studies	15.00 %	63.08

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	11.59%
CLO-2	18.84%
CLO-3	13.04%
CLO-4	18.84%

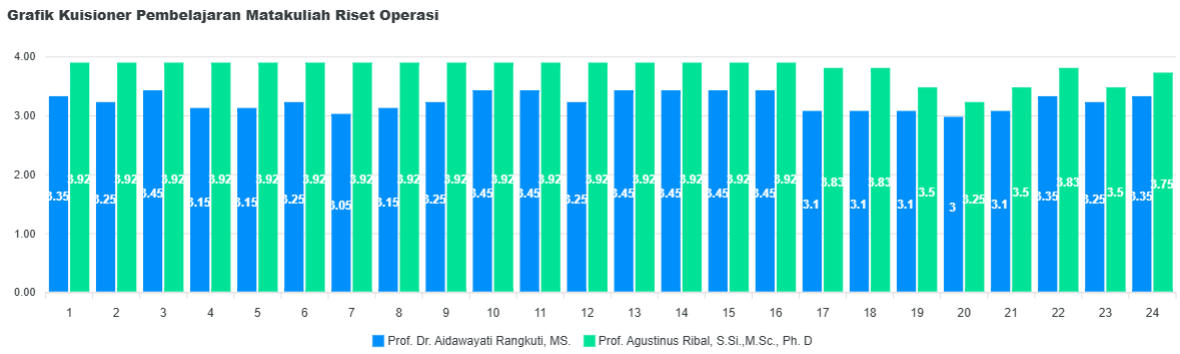
b: result criteria: very satisfactory if ≥80% of students score ≥80; satisfactory if 70%-79.9% of students score ≥80; less satisfactory if < 70% of students score ≥80.

Course Grade

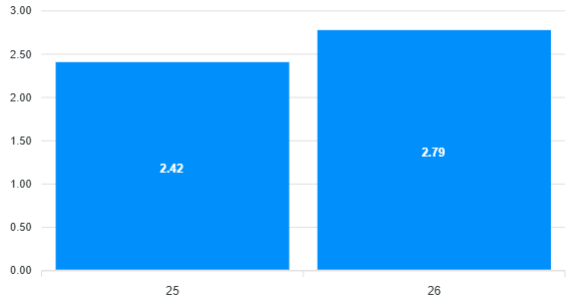
Course Grade	Number and Percentage of Students
A	6 (8.7%)
A-	8 (11.6%)
B+	12 (17.4%)
B	11 (15.9%)
B-	14 (20.3%)
C+	6 (8.7%)
C	7 (10.1%)
D	3 (4.3%)
E	2 (2.9%)

3. Learning evaluation (survey) results

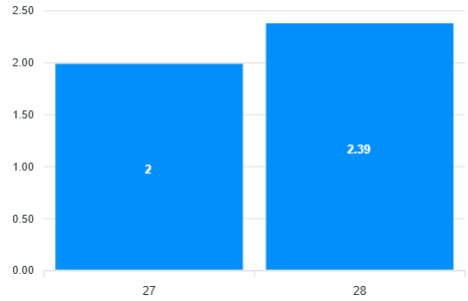
(data source: items / narratives of the results of the MK evaluation questionnaire by students)



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

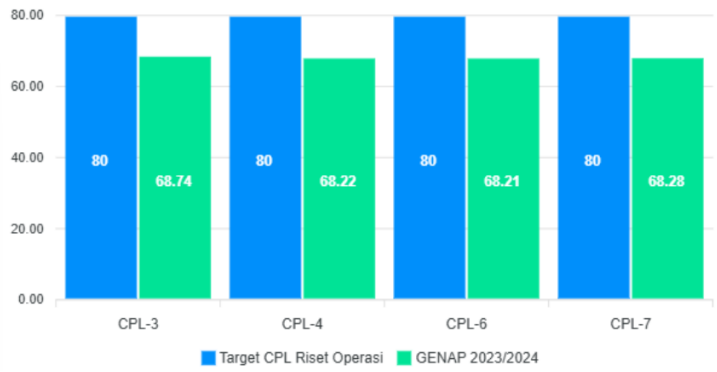
Pertanyaan 28:

- 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

Grafik CPL MK (Riset Operasi)



Hasil Pengukuran CPL MK Riset Operasi

4. Analysis and Reflection

Analysis and reflection

Analysis

Analysis of the data shows that the performance of the Operations Research Course is at a low level and consistently fails to achieve the expected targets. Learning achievements in all aspects measured are far below the established standards. In addition, this pattern of low performance is very uniform and evenly distributed across all learning outcomes, with no areas that stand out or are better than others, which indicates that the challenges faced are comprehensive in this course.

Reflection

This very uniform low performance reflects the possibility of a fundamental problem in the design or pedagogical approach of the course, rather than simply difficulty on certain topics. There is a potential for misalignment between the complexity of the material, the teaching methods used, and students' initial ability to apply theoretical concepts to practical case studies. Therefore, the follow-up that is needed is not partial improvement, but rather a comprehensive structural review of the entire syllabus, teaching methods and evaluation system to fundamentally improve achievements.

5. Follow-up Plan

In response to learning outcomes that are consistently far below targets in the Operations Research Course, the follow-up plan will focus on improving the RPS. This step will include a fundamental review of the syllabus, as well as the introduction of intensive tutorial or practical sessions to strengthen students' ability to apply theoretical concepts to practical problem solving. The aim is to systematically raise the foundation of students' understanding and skills so that achievements can be improved significantly in the next evaluation period.

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

Following up on the findings of the previous semester's evaluation for the Operations Research Course, which identified low performance, a structural intervention focused on strengthening practical aspects through the addition of tutorial sessions and revamped case studies has been implemented. An applied approach is very crucial, so it is recommended that this new supportive framework be established as a permanent standard to maintain consistent quality in the future.

Makassar, 21 Oktober 2025

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