# COURSE PORTFOLIO

| | | |
|---|---|---|
| Study Program | : | MATHEMATICS - S1 |
| Semester | : | ODD 2024/2025 |
| Course Code | : | 23H01131003 |
| Course Name | : | Optimization |
| Coordinator | : | Prof. Agustinus Ribal, S.Si.,M.Sc., Ph. D |
| 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 |
|---|---|---|---|---|
| Optimization | Prof. Dr. Aidawayati Rangkuti, MS. | : | 8 times | Number of students: 47 persons |
| | Prof. Agustinus Ribal, S.Si.,M.Sc., Ph. D | : | 8 times | Presence ≥ 80% : 46 persons (97.87 %) |
| | Total Meeting : 16 times. | | | Presence < 80% : 1 person (2.13 %) |

**Materials/practicum provided**

1. Dynamic and Probabilistic programs.
2. Game theory with zero-sum games.
3. Pure and mixed strategy games
4. Queuing theory
5. Network flow
6. Maximum flow algorithm
7. Feasible flows

**The learning methods implemented**

Meeting 1

Lecture: Group discussion (Small Group Discussion), Simulation (Role-Play & Simulation)

TM: 3x50

2-3 Meetings

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

TM: 2x3x50

4-5 Meetings

Other Forms: Based Learning Project (Project-based Learning)

TM: 2x3x50

6-7 Meetings

Lecture: Based Learning Project (Project-based Learning)

TM: 2x2x50

Other Forms: Based Learning Project (Project-based Learning)

TM: 1x1x50

8th Meeting

Midterm Exam

9-10th Meeting

Other Forms: Based Learning Project (Project-based Learning)

TM: 2x3x50

11-12 Meeting

Lecture: Collaborative learning (Collaborative Learning)

TM: 2x3x50

13-14 Meeting

Lecture: Group discussion (Small Group Discussion)

TM: 2x3x50

15 Meetings

Lecture: Group discussion (Small Group Discussion)

TM: 2x3x50

Meeting 16

Final Test

**The assessment method implemented**

1. Case Studies
2. Project Based
3. Mid Test
4. 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-1 | Mid Test | 25.00 % | 15.97 |
| KU1 | CLO-1 | Project Based | 30.00 % | 26.28 |
| KU2 | CLO-1 | Mid Test | 25.00 % | 15.97 |
| KU2 | CLO-1 | Project Based | 30.00 % | 26.28 |
| KU2 | CLO-2 | Mid Test | 25.00 % | 15.97 |
| KU2 | CLO-2 | Project Based | 30.00 % | 26.28 |
| KK2 | CLO-3 | Case Studies | 15.00 % | 12.08 |
| KK2 | CLO-3 | Case Studies | 10.00 % | 9.57 |
| KK2 | CLO-3 | Mid Test | 25.00 % | 15.97 |
| KK2 | CLO-3 | Project Based | 30.00 % | 26.28 |
| KK2 | CLO-3 | Final Test | 20.00 % | 12.77 |
| KK3 | CLO-4 | Case Studies | 15.00 % | 12.08 |
| KK3 | CLO-4 | Case Studies | 10.00 % | 9.57 |
| KK3 | CLO-4 | Mid Test | 25.00 % | 15.97 |
| KK3 | CLO-4 | Project Based | 30.00 % | 26.28 |
| KK3 | CLO-4 | Final Test | 20.00 % | 12.77 |

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 | 51.06% |
| CLO-2 | 51.06% |
| CLO-3 | 46.81% |
| CLO-4 | 51.06% |

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.
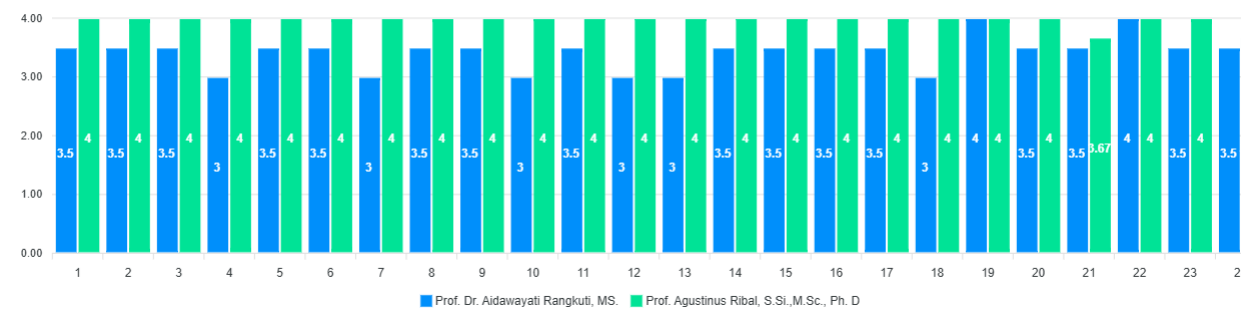
**Course Grade**

| Course Grade | Number and Percentage of Students |
|---|---|
| A | 11 (23.4%) |
| A- | 13 (27.7%) |
| B+ | 9 (19.1%) |
| B | 6 (12.8%) |
| B- | 6 (12.8%) |
| C+ | 0 (0.0%) |

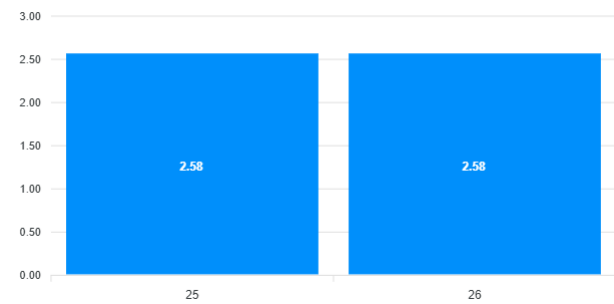| Course Grade | Number and Percentage of Students |
|---|---|
| C | 0 (0.0%) |
| D | 0 (0.0%) |
| E | 2 (4.3%) |

## 3. Learning evaluation (survey) results

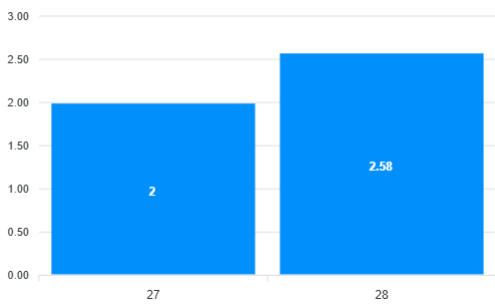*(data source: items / narratives of the results of the MK evaluation questionnaire by students)*

**Grafik Kuisioner Pembelajaran Matakuliah Optimasi**



Prof. Dr. Aidawayati Rangkuti, MS.   Prof Agustinus Ribal, S.Si.,M.Sc., Ph. D

**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
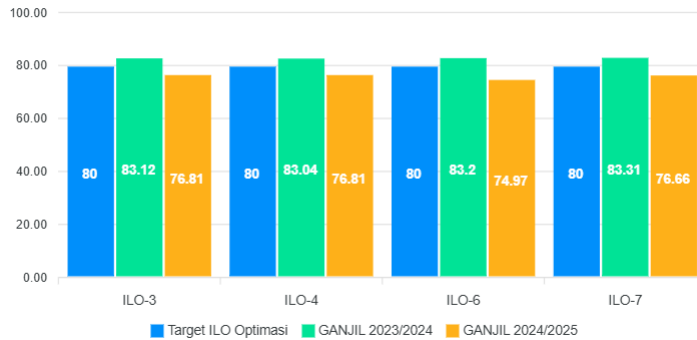- 2 : 60 menit < WE <=120 menit
- 1 : 1:WE <= 60 menit

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 Menyiapakan 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 pemahama 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 ditetapka

**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 ILO MK (Optimasi)



Hasil Pengukuran CPL MK Optimasi

**4. Analysis and Reflection**

By distribution course grades, from a total of 47 students:

- Majority students obtained high scores, with 23 students (48.9%) getting **A** or **A-** value.
- Grade **B+**, **B**, and **B-** included 21 students (44.7%), which indicates that the majority of students remain in the good score range.
- None students who get a grade of **C+**, **C**, or **D**, who indicates that there is insufficient or inadequate performance.
- Just **2 students (4.3%)** who obtained an **E**, shows that a small number of students do not achieve minimum competency.

**Reflection:**

- In general, Student learning outcomes are quite good and evenly distributed at the top level (A to B-).
- Absence A grade of C or D indicates that the student is able to follow the lecture quite well.
- Two students with a value of E should receive further attention. However, secondly The student never attended lectures or exams and task.

**5. Follow-up Plan**

The search results show that the two students who received an E grade were not actively attending lectures because they withdrew or were busy with work outside campus.

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

Based on the results of the evaluation in the previous semester (Odd 2023/2024), several corrective steps have been implemented to increase CPL course achievements, especially in the aspects of competency achievement and equitable distribution of student learning outcomes.

1. **Enhancement of Active Learning Strategies**

   Lecturers increase the application of project-based learning methods and case studies to encourage active student participation and increase conceptual understanding of the material. The results can be seen in an increase in the average CPL achievement which remains above the target (around 83).

2. **Formative Assessment Optimization**

   Formative assessments are expanded through weekly quizzes and individual assignments so that lecturers can monitor student progress on an ongoing basis. This helps students improve their understanding before the final exam, which contributes to the absence of students with C or D grades.

3. **Assistance for Low-Risk Students**

   Students who previously showed low performance receive additional guidance through consultation sessions and small study groups. Although there were still two students who received E grades, this was more due to absenteeism and not submitting assignments, rather than general academic difficulties.

4. **Improved Communication and Feedback**

   Feedback mechanisms between lecturers and students are strengthened, including regular discussions regarding learning difficulties and strategies for completing assignments. This supports increased student satisfaction and strengthens CPL achievements.

Overall, the follow-up to the previous semester's evaluation showed positive results, with student learning outcomes remaining in the high category and an even distribution of grades at levels A to B. This improvement effort will continue to reduce the number of students who do not reach the minimum competency.

Makassar, 15 Oktober 2025

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