COURSE PORTFOLIO

Study Program	:	MATHEMATICS - S1
Semester	:	ODD 2024/2025
Course Code	:	23H01130303
Course Name	:	Complex Functions
Coordinator	:	Prof. Dr. Eng. Mawardi, S.Si., M.Si.
Lecturer Team Member	:	Dr. Muh. Nur, S.Si., M.Si., Dr. Muhammad Zakir, M.Si., Prof. Dr. Eng. Mawardi, 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
B Complex Functions	Prof. Dr. Eng. Mawardi, S.Si., M.Si.	:	8 times	Number of students: 40 persons
	Dr. Muhammad Zakir, M.Si.	:	8 times	Presence ≥ 80% : 39 persons (97.50 %)
	Total Meeting : 16 times.			Presence < 80% : 1 person (2.50 %)
Complex Function A	Prof. Dr. Eng. Mawardi, S.Si., M.Si.	:	times	Number of students: 34 persons
	Dr. Muh. Nur, S.Si., M.Si.	:	times	Presence ≥ 80% :
	Total Meeting : times.			Presence < 80% :

Materials/practicum provided

1. Complex Numbers and Their Operations
2. Elementary Complex Functions, Limits and Continuity
3. Differential Complex Functions and Analytical Functions
4. Cauchy - Riemann Equations and Harmonic Functions
5. Integrals of Complex Functions
6. Cauchy's Integral Theorem
7. Taylor Series and Laurent series
8. Residue theorem

The learning methods implemented

Meeting 1-2

Lecture: Case Study (Case Study)

[TM:2x2x50]

3-4 Meetings

Lecture: Case Study (Case Study)

[TM:2x2x50]

Meeting 5-6

Lecture: Group discussion (Small Group Discussion)

[TM: 2x2x50]

Meeting 7

Lecture: Case Study (Case Study)

[TM:3x50]

Meeting 8

Mid Test

Meeting 9-11

Lecture: Group discussion (Small Group Discussion)

[TM:2x2x50]

[TM:1x3x50]

12-13 Meeting

Lecture: Case Study (Case Study)

[TM:2x3x50]

14-15 Meeting

Lecture: Case Study (Case Study)

[TM:2x3x50]

Meeting 16

Final Test

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)
ILO 1	CLO-1	Case Studies	15.00 %	9.61
ILO 1	CLO-1	Mid Test	20.00 %	16.75
ILO 1	CLO-1	Final Test	20.00 %	11.72
ILO 1	CLO-3	Case Studies	15.00 %	8.89
ILO 1	CLO-3	Mid Test	20.00 %	16.75
ILO 1	CLO-3	Final Test	20.00 %	11.72
P2	CLO-2	Case Studies	15.00 %	9.61
P2	CLO-2	Mid Test	20.00 %	16.75
P2	CLO-2	Final Test	20.00 %	11.72
KU1	CLO-3	Case Studies	15.00 %	8.89
KU1	CLO-3	Mid Test	20.00 %	16.75
KU1	CLO-3	Final Test	20.00 %	11.72

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	14.86%
CLO-2	14.86%
CLO-3	14.86%

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	7 (9.5%)
A-	2 (2.7%)
B+	4 (5.4%)
B	6 (8.1%)
B-	6 (8.1%)
C+	2 (2.7%)
C	6 (8.1%)
D	5 (6.8%)
E	2 (2.7%)

3. Learning evaluation (survey) results

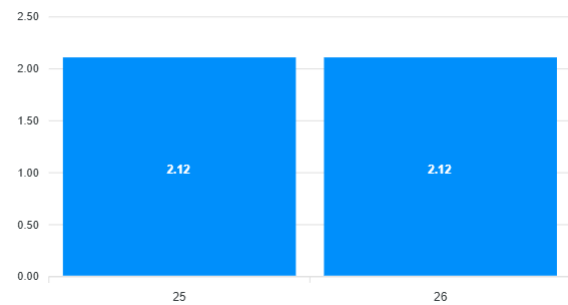*(data source: items / narratives of the results of the MK evaluation questionnaire by students)*

Grafik Kuisioner Pembelajaran Matakuliah Fungsi Kompleks

Legend: ■ Prof. Dr. Eng. Mawardi, S.Si., M.Si. ■ Dr. Muhammad Zakir, M.Si. ■ Dr. Muh. Nur, S.Si., M.Si.
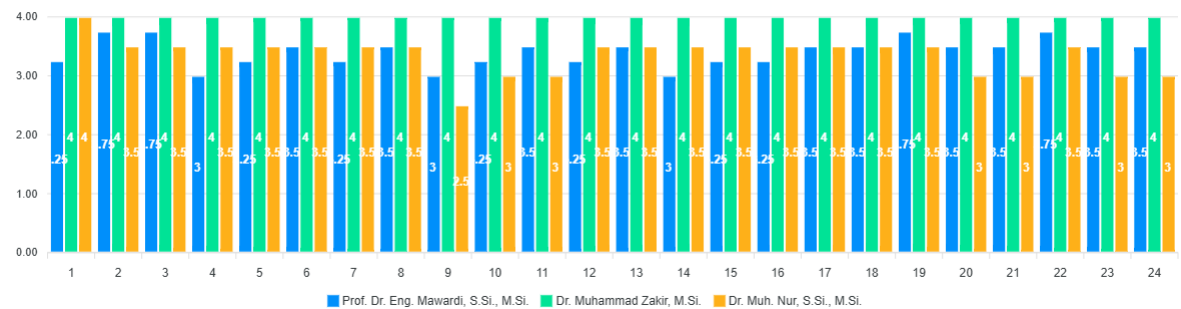
Grafik Kuisioner Pembelajaran
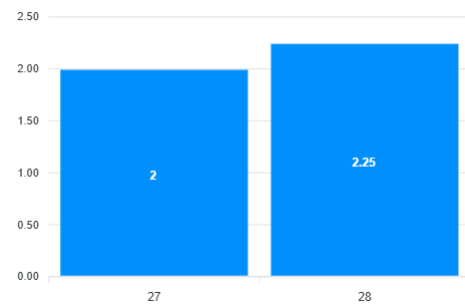
Grafik Kuisioner Pembelajaran

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 pemahami 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 c 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 (Fungsi Kompleks)
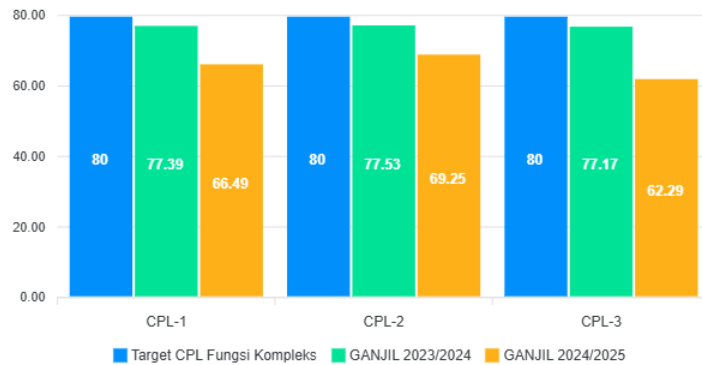
Hasil Pengukuran CPL MK Fungsi Kompleks

4. Analysis and Reflection

Analysis and Reflection

Analysis

1. Significant and Comprehensive Decrease in Performance

Data analysis shows a significant and comprehensive decline in performance in the ODD semester 2024/2025. The performance of the course, which in the previous period (ODD 2023/2024) was good and close to the target of 80 with an average score of 77, has now fallen substantially to a lower score range, namely between 62 and 69.

2. The Existence of the Most Critical Areas of Decline

Even though the decline occurred in all areas, a more detailed analysis shows that there are points of the most severe decline. CPL-3 experienced the sharpest decline, falling almost 15 points from 77.17 to 62.29. Apart from that, CPL-1 also experienced a significant decline of 11 points, making these two CPLs the main areas of weakness in the last period.

Reflection

1. Indication of Negative Changes in the Learning or Evaluation Process

The even decline in all CPLs reflects the high possibility that systemic changes have occurred that have a negative impact between the two study periods. This reflection directs suspicion towards fundamental factors such as changes in lecturers, modifications to the syllabus, or the application of new assessment methods (exams) which have proven to be less effective, especially for topics related to CPL-3 and CPL-1.

2. Need for Focused Investigation for Effective Intervention

Data indicating the presence of the most severe areas of impairment provide a clear direction for follow-up. The reflection is that improvement efforts must start with focused investigations, not general improvements. The top priority is to deeply analyze the learning and evaluation processes specific to CPL-3 and CPL-1 to find the root of the problem. In this way, the interventions designed can be more targeted and effective.

5. Follow-up Plan

Following up on the significant and even decline in achievement in the Complex Functions Course, especially in CPL-1 and CPL-3, the follow-up plan will begin with an investigation into the causes through analysis of exam questions and a comparison of teaching methods between the last two periods. Based on the findings of the investigation, improvement strategies will be implemented that focus on developing additional teaching materials, such as videos and practice modules, as well as increasing the intensity of guided practice sessions in class for topics that prove difficult. To monitor progress, regular formative quizzes will also be added to detect student difficulties early, with the ultimate goal of raising the overall CPL achievement again so that it approaches the target of 80 in the following semester.

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

Following up on the findings of the previous semester's evaluation for the Complex Functions Course, which showed a significant decline in achievement from a score of 77 (Odd 2023/2024) to level 62-69 (Odd 2024/2025) especially in CPL-1 and CPL-3, a focused improvement plan has been implemented. The main intervention is the addition of supplementary learning modules and intensive tutorial sessions that specifically discuss topics related to the weakest areas, as well as making adjustments to the evaluation questions to make them more aligned. This success proves the effectiveness of intervention strategies targeted at specific points of weakness for efficient and impactful improvement.

Makassar, 15 Oktober 2025

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