PORTFOLIO
Department of Agrotechnology
Faculty of Agriculture
University of Islam Malang

Subject	Soil Fertility and Health
Module Level, if available	Undergraduate Study Program of Agrotechnology
Subject Code	MKW 60621
Type of course	Applied Science
Credits	3 credits/ 5.1 ECTS
Semester	4
Prerequisite	Basic Soil Science
Parallel Class	A and B
Module Description	This course provides students with an in-depth understanding of the theoretical concepts of soil fertility and health, essential nutrients and their management, soil management to improve soil fertility and health, assessment and evaluation of soil fertility, health and quality in supporting sustainable agricultural productivity. Learning activities are in the form of lectures and independent assignments, reviewing journals, research in the fields of fertility, soil quality and health as well as field and laboratory practicums to assess soil quality and health.
Learning Outcomes	**Course Learning Outcomes (CLO)** CLO 1: Being able to study the relationship between soil and plants and acidity and alkalinity problem in an effort to overcome the problem of soil fertility in the agricultural land CLO 2 : Being able to manage nutrient to improve soil fertility in the field for certain landuse CLO 3: Being able to manage organic matter by utilizing local potential to maintain soil quality CLO 4 : Being able to assess soil quality and properly recommend the soil management to improve soil quality
Learning Content	After completing this subject students are able to: 1. master the theoretical concepts of fertility, soil quality and health and acidity and alkalinity problem 2. find problems which related to the availability of nutrients in the soil and find solutions to increase the availability of nutrients in the soil 3. assess soil fertility, quality and health using standard methods and formulate problems related to soil fertility, health and quality 4. evaluate the impact of agricultural practices on fertility, health and soil quality and recommend appropriate soil management strategies.
Aims	Students have competence in determining management treatments of soil fertility and health on various soil properties on agricultural land so as to facilitate their role if they work in agricultural companies or become agricultural entrepreneurs
Teaching Methods	Several methods applied in this course consist of lecturing, assignment, and group presentation. All these methods are applied on 2 parallel classes
Participant	• Class A: 40 students in total; 3th semester = 36 students; 5th

	semester = 1 student, 7th semester = 1 student; 9th =2 students • Class B: 40 students in total; 3 th semester = 39 students, 5th semester = 1 student
Teaching Attendance	14 meetings were completely held (100%) by lecturer (Class A and B) From 40 students, 1 student were below 100% of attendance (Class A) From 40 students, 2 student were below 100% of attendance (Class B)
Evaluation System	Component of assessment on this course consist of regular assignment, presentation and discussion, midle semester test and final semester test, presence and practice. All these component are then combined to obtain final score. Scoring matrices and question samples are available in Appendix 1 and Appendix 2
Learning Result	• Achievement CLO in Class A CLO 1 = 85.00 (Excellent) CLO 2 = 80.00 (Excellent) CLO 3 = 85.00 (Excellent) CLO 4 = 87.50 (Excellent) • Achievement ILO in B Class CLO 1 = 90.00 (Excellent), CLO 2 = 87.50 (Excellent), CLO 3 = 87.50 (Excellent CLO 4 = 85.00 (Excellent Complete achievement on average CLO can be seen on Appendix 3
Statistical Distribution	• Class A, score distribution: A = 9 students (22.50%), B = 28 students (82.5%), C = 2 student (5.00%) and Failed = 1 students (2.5%) • Class B, score distribution: A = 10 students (25.00%), B = 27 students (67.50%), C = 1student (2.50%) and Failed = 2 students (5.00%) Complete achievement on each per student can be seen on Appendix 4
Teaching Observation	Materials were delivered in Indonesian. The student could understand the materials well. In Class A: there were 5 students medium on CLO 1, 7 students medium on CLO 2, 3 students medium and 1 student low on CLO 3, and 3students medium and 1 student low on CLO 4, 1 of them was inactive/failed In Class B: there were 3 students medium on CLO 1, 3 students medium and 1 student low on CLO 2, 3 students medium and 1 student low on CLO 3 and 4 students and 1 student low on CLO 4, one of them was inactive

Learning Constraints	Class A and B: Almost all students have a good understanding of how to evaluate soil fertility, health and quality. However, further practice is needed for cases of agricultural land with different land uses and conditions
Recommendation	Class A: Students who have low competence in CLO 3 and 4, need to be trained for case studies evaluating soil fertility and health in certain fields Class B: Students who have low competence in CLO 2, 3 and 4, need to practice basic theory of soil fertility and be trained for case studies evaluating soil fertility and health in certain lands.

Appendix 1. Scoring Matrix

Nomenclature	**Weight**	**Final Score**	
		Letter Mark	**Score average**
Assignment	20%	A	80 – 100
Presentation and discussion	10%	B	70 - <80
Midle semester test	20%	C	55 - <70
Final semester test	20%	D	50 - < 55
Practice	20%	E	0 - <50
Presence	10%		

Appendix 2. Question samples

1. To overcome the problem of soil acidity can be done by liming. If a clay soil with CEC = 30 meq/100 g and initial soil pH = 5.5 (Base Saturation = 60%). The soil will be raised to pH = 6.5 (Base Saturation = 80%). Calculate the need for lime (CaCO3) per hectare? (Molecular Weight of CaCO3 = 100) (to echieve CLO 1)
2. a. Nitrogen is a mobile nutrient in the soil. Nitrogen loss often occurs in some agricultural lands. What is the N management strategy in paddy fields?
   b. Some soil types in agricultural land have high P fixation capacity. This condition will reduce the availability of phosphorus in the soil. What is the P management strategy, especially in soils with high P fixation capacity?
   c. In the rainy season the availability of potassium decreases. How to solve the problem of availability of K in the soil in the rainy season?
   (to echieve CLO 2)
3. Conventional soil management for food crop cultivation has an impact on decreasing soil organic matter content. Explain how the strategy for managing organic matter on agricultural land is to maintain soil fertility and quality (to echieve CLO 3)
4. a. Explain several ways to evaluate soil fertility and how to interpret based on the results of soil fertility evaluation.
   b. The results of the soil quality assessment based on the minimum data set method and the scoring function showed that the land use of maize and horticultural land had a lower soil quality index than that of citrus plantations. Explain why this happened and how to improve soil quality in maize and horticulture fields? (to echieve CLO 4)

Appendix 3. Achievement of CLO

A Class

Meetings	CLO 1 (%)	CLO 2 (%)	CLO 3 (%)	CLO 4 (%)
1-3	87			
4-5	83			
6		80		
7		75		
8		85		
9		80		
10			85	
11				87.5
12				92.5
13-14				82.5
Average	85	80	85	87.5
Predicate	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT

B Class

Meetings	CLO 1 (%)	CLO 2 (%)	CLO 3 (%)	CLO 4 (%)
1-3	92.5			
4-5	87.5			
6		85		
7		85		
8		90		
9		90		
10			87.5	
11				85
12				87.5
13-14				82.5
Average	90	87.5	87.5	85
Predicate	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT

Standard

Std num-based AI			**Weighted avg LO based AI**	
70 <= AI	HIGH		70 <= AI	EXCELLENT
60 <= AI < 70	MEDIUM		60 <= AI < 70	SATISFACTORY
50 <= AI < 60	LOW		50 <= AI < 60	DEVELOPING
AI < 50	VERY LOW		AI < 50	UNSATISFACTORY

Appendix 4. Achievement on each per student
Class A

No.	Nomor Induk Mahasiswa	Nama Mahasiswa	SUB-CPMK/BOBOT (NILAI HARIAN)																NILAI HARIAN (Assignment)		Midle Test (20%)	Final Test (20%)	Presence (10%)	Presentation and Discussion (FGD) (10%)	Practice (20%)	NILAI AKHIR	
			1		2		3		4		5		6		7		8									ANGKA	HURUF
				10%		5%		20%		20%		5%		20%		10%		10%	Skala 4	Skala 100							
1	21601031030	FARIDH ADE MAIZAKUSUMA	60	6.00	60	3.00	60	12.00	54	10.80	56	2.80	67	13.40	60	6.00	60	6.00	2.40	60.00	68	70	100	60	70	70.40	B
2	21601031054	ULFATUZ ZAHROH	75	7.50	70	3.50	70	14.00	73	14.60	74	3.70	69.5	13.90	72.7	7.27	72	7.20	2.87	71.67	65	68	100	74	65	71.33	B
3	21701031046	MUHAMMAD ZAHIR ALWITRI	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0.00	0	0	0	0	0	0.00	E
4	21801031063	MUAZIM	50	5.00	65	3.25	70	14.00	62	12.40	65	3.25	65	13.00	62	6.20	64	6.40	2.54	63.50	60	60	100	76	70	68.30	C
5	21901031001	WINDI TRI WAHYUNI	75	7.50	78	3.90	80	16.00	80	16.00	75	3.75	76	15.20	77.5	7.75	73	7.30	3.08	77.00	70	70	100	75	75	75.90	B
6	21901031002	VICKY PRADANA PUTRA	75	7.50	78	3.90	76	15.20	66	13.20	60	3.00	85.4	17.08	78.5	7.85	84.5	8.45	3.05	76.18	75	72	100	74	70	77.64	B
7	21901031004	HAYATUN NUFUS	78	7.80	78	3.90	80	16.00	80	16.00	78	3.90	77.5	15.50	77	7.70	76	7.60	3.12	78.00	78	78	100	76	80	80.40	A
8	21901031005	BAGAS ADITYA SYAHPUTRA	75	7.50	72	3.60	76	15.20	74	14.80	70	3.50	73.5	14.70	76	7.60	74.3	7.43	2.97	74.33	70	70	100	70	75	75.67	B
9	21901031006	M. NADHIM ARDIANSYAH	75	7.50	76	3.80	75	15.00	74.5	14.90	75.5	3.78	76	15.20	74	7.40	77.5	7.75	3.01	75.33	73	76	100	76	75	77.47	B
10	21901031007	IMRA`TULHASANAH	75	7.50	72	3.60	75	15.00	74	14.80	70	3.50	73	14.60	76	7.60	74	7.40	2.96	74.00	77	76	100	78	75	78.20	B
11	21901031008	ALIFIYAH FIRANDA PUTRI	78	7.80	78	3.90	78	15.60	77.5	15.50	78	3.90	80	16.00	77	7.70	76	7.60	3.12	78.00	78	85	100	78	80	82.00	A
12	21901031009	NADYA VIOLITTA ANANDA	78	7.80	78	3.90	80	16.00	80	16.00	78	3.90	80	16.00	77.7	7.77	78	7.80	3.17	79.17	78	76	100	78	78	80.03	A
13	21901031010	VIVIN HAFIDATUR ROFI`A	78	7.80	78	3.90	78	15.60	80	16.00	78	3.90	77.5	15.50	77	7.70	76	7.60	3.12	78.00	78	80	100	76	80	80.80	A
14	21901031011	BONA SIROIS	78	7.80	76	3.80	76	15.20	77	15.40	79	3.95	76	15.20	78.5	7.85	74.7	7.47	3.07	76.67	78	80	100	80	82	81.33	A
15	21901031012	DODIK PRAMUDIA	75	7.50	75	3.75	74	14.80	64	12.80	66.3	3.32	83.5	16.70	86	8.60	77	7.70	3.01	75.17	74	72	100	74	72	76.03	B
16	21901031013	ALIFIA WILDA AMALIA PU	76	7.60	75	3.75	75	15.00	64.5	12.90	75	3.75	66	13.20	84	8.40	87.3	8.73	2.93	73.33	70	70	100	78	76	75.67	B
17	21901031014	MOHAMMAD SHOLEHUDDIN	65	6.50	65	3.25	75	15.00	64.5	12.90	75.5	3.78	86	17.20	84	8.40	87.5	8.75	3.03	75.78	73	70	100	74	78	76.76	B
18	21901031015	VIRA YUNIA H. SANI	76	7.60	78	3.90	78	15.60	80	16.00	74	3.70	78	15.60	76	7.60	73.3	7.33	3.09	77.33	78	76	100	80	82	80.67	A
19	21901031017	DIPO DWITANTO AMIR PUT	72	7.20	72	3.60	75	15.00	72	14.40	70	3.50	73.5	14.70	73	7.30	73	7.30	2.92	73.00	70	70	100	75	75	75.10	B
20	21901031018	SUCI RAMADHANI	72	7.20	78	3.90	74	14.80	74	14.80	73.3	3.67	75	15.00	76	7.60	77	7.70	2.99	74.67	73	65	100	76	76	75.33	B
21	21901031019	NAVILA FIRDIANI INANDA	78	7.80	80	4.00	78	15.60	80	16.00	80	4.00	78	15.60	79	7.90	77.7	7.77	3.15	78.67	84	82	100	78	80	82.73	A
22	21901031020	ELISA OKTA ARGARENZA	76	7.60	76	3.80	74	14.80	74.5	14.90	75.5	3.78	76	15.20	74	7.40	78.5	7.85	3.01	75.33	78	74	100	76	76	78.27	B
23	21901031022	MOHAMMAT MAS`UT KHAKIM	75	7.50	76	3.80	78	15.60	74.5	14.90	75.5	3.78	76	15.20	78	7.80	77.5	7.75	3.05	76.33	76	76	100	78	75	78.47	B
24	21901031023	MOCH DIMAS FITROH ROHM	78	7.80	76	3.80	78	15.60	80	16.00	74	3.70	78	15.60	76	7.60	72.3	7.23	3.09	77.33	78	70	100	76	78	78.27	B
25	21901031024	FIRZANAH NAHWAH	76	7.60	76	3.80	75	15.00	74.5	14.90	75.4	3.77	76	15.20	77	7.70	77	7.70	3.03	75.67	73	72	100	74	75	76.53	B
26	21901031025	AMUKSA BHIYANG SAETO	76	7.60	75	3.75	73	14.60	74	14.80	76.3	3.82	73.5	14.70	76	7.60	77	7.70	2.98	74.57	74	72	100	73	75	76.41	B
27	21901031026	AMANDA REHA ZAHRAN	76	7.60	75	3.75	74	14.80	74.5	14.90	75.5	3.78	76	15.20	75	7.50	74.7	7.47	3.00	75.00	74	73	100	78	76	77.40	B
28	21901031027	AINUN NISA PUSPITASARI	75	7.50	78	3.90	78	15.60	80	16.00	75	3.75	77	15.40	76	7.60	72.5	7.25	3.08	77.00	73	74	100	74	75	77.20	B
29	21901031028	EKO WAHYU WIDIANTO	75	7.50	74	3.70	74	14.80	74	14.80	72.5	3.63	74.5	14.90	76	7.60	74	7.40	2.97	74.33	70	74	100	76	75	76.27	B
30	21901031029	FAIDDATUN NISA	78	7.80	76	3.80	78	15.60	80	16.00	74	3.70	78	15.60	76	7.60	72.3	7.23	3.09	77.33	78	80	100	78	80	80.47	A
31	21901031030	HADHARATI MAR`I ROHMIT	75	7.50	78	3.90	75	15.00	77	15.40	75	3.75	76	15.20	74	7.40	78.5	7.85	3.04	76.00	73	77	100	76	76	78.00	B
32	21901031033	MUHAMMAD MAHDINOOR	75	7.50	74	3.70	74	14.80	74	14.80	73	3.65	74	14.80	76	7.60	74.8	7.48	2.97	74.33	76	78	100	75	78	78.77	B
33	21901031036	FUSTHATUL QONITAH	76	7.60	80	4.00	76	15.20	80	16.00	74	3.70	78	15.60	78.7	7.87	73.6	7.36	3.09	77.33	80	86	100	76	83	82.87	A
34	21901031041	AHMAD DWI FAKHRUDIN ZU	76	7.60	76	3.80	74	14.80	75	15.00	76	3.80	76	15.20	76	7.60	75.3	7.53	3.01	75.33	74	68	100	76	74	75.87	B
35	21901031045	ACHMAD YOGA NUR SIFAUD	76	7.60	72	3.60	75	15.00	74	14.80	73	3.65	74	14.80	75.8	7.58	73	7.30	2.97	74.33	76	74	100	73	74	76.97	B
36	21901031060	ALEK PERDANA PUTRA	75	7.50	72	3.60	76	15.20	74	14.80	73	3.65	74	14.80	74.8	7.48	73	7.30	2.97	74.33	74	65	100	75	76	75.37	B
37	21901031063	HAFIZH NAUFALAL MUTAWA	65	6.50	68	3.40	74	14.80	66	13.20	68	3.40	70	14.00	69	6.90	68	6.80	2.76	69.00	70	68	100	76	70	73.00	B
38	21901031066	MAULIDIAH CHOIRUNNISA`	76	7.60	77	3.85	74	14.80	75.1	15.02	76	3.80	76	15.20	77	7.70	77	7.70	3.03	75.67	72	78	100	75	70	76.63	B
39	21901031068	NICOLA ZAKIA CORDOVA	60	6.00	60	3.00	60	12.00	64	12.80	56	2.80	57	11.40	60	6.00	60	6.00	2.40	60.00	70	70	100	60	68	69.60	C
40	21901031079	WILUJENG PUTRI JANUART	70	7.00	72	3.60	75	15.00	73	14.60	74	3.70	70	14.00	72.3	7.23	72	7.20	2.89	72.33	72	73	100	75	70	74.97	B
	Rata-rata		71.83	7.18	72.33	3.62	72.85	14.57	71.73	14.35	71.06	3.55	73.16	14.63	73.49	7.35	72.85	7.28									
	konversi skala 4		2.87	0.29	2.89	0.14	2.91	0.58	2.87	0.57	2.84	0.14	2.93	0.59	2.94	0.29	2.91	0.29									

% Mahasiswa tidak lulus	2.5%
% Mahasiswa nilai A	22.5%
% Mahasiswa nilai B	70.0%
% Mahasiswa nilai C	5.0%

No.	NPM	Nama mahasiswa	CLO-1	CLO-2	CLO-3	CLO-4
1	21601031030	FARIDH ADE MAIZAKUSUMA	60.00	54.00	56.00	64.67
2	21601031054	ULFATUZ ZAHROH	71.67	73.00	74.00	71.40
3	21701031046	MUHAMMAD ZAHIR ALWITRI	0.00	0.00	0.00	0.00
4	21801031063	MUAZIM	61.67	62.00	65.00	63.67
5	21901031001	WINDI TRI WAHYUNI	77.00	80.00	75.00	75.50
6	21901031002	VICKY PRADANA PUTRA	76.33	80.00	75.00	77.17
7	21901031004	HAYATUN NUFUS	78.00	80.00	78.00	76.83
8	21901031005	BAGAS ADITYA SYAHPUTRA	74.33	74.00	70.00	74.60
9	21901031006	M. NADHIM ARDIANSYAH	75.33	74.50	75.50	75.83
10	21901031007	IMRA`TULHASANAH	74.00	74.00	70.00	74.33
11	21901031008	ALIFIYAH FIRANDA PUTRI	78.00	77.50	78.00	77.67
12	21901031009	NADYA VIOLITTA ANANDA	78.67	80.00	78.00	78.57
13	21901031010	VIVIN HAFIDATUR ROFI`A	78.00	80.00	78.00	76.83
14	21901031011	BONA SIROIS	76.67	77.00	79.00	76.40
15	21901031012	DODIK PRAMUDIA	74.67	64.00	66.30	82.17
16	21901031013	ALIFIA WILDA AMALIA PU	75.33	64.50	75.00	79.10
17	21901031014	MOHAMMAD SHOLEHUDDIN	68.33	64.50	75.50	85.83
18	21901031015	VIRA YUNIA H. SANI	77.33	80.00	74.00	75.77
19	21901031017	DIPO DWITANTO AMIR PUT	73.00	72.00	70.00	73.17
20	21901031018	SUCI RAMADHANI	74.67	74.00	73.30	76.00
21	21901031019	NAVILA FIRDIANI INANDA	78.67	80.00	80.00	78.23
22	21901031020	ELISA OKTA ARGARENZA	75.33	74.50	75.50	76.17
23	21901031022	MOHAMMAT MAS`UT KHAKIM	76.33	74.50	75.50	77.17
24	21901031023	MOCH DIMAS FITROH ROHM	77.33	80.00	74.00	75.43
25	21901031024	FIRZANAH NAHWAH	75.67	74.50	75.40	76.67
26	21901031025	AMUKSA BHIYANG SAETO	74.67	74.00	76.30	75.50
27	21901031026	AMANDA REHA ZAHRAN	75.00	74.50	75.50	75.23
28	21901031027	AINUN NISA PUSPITASARI	77.00	80.00	75.00	75.17
29	21901031028	EKO WAHYU WIDIANTO	74.33	74.00	72.50	74.83
30	21901031029	FAIDDATUN NISA	77.33	80.00	74.00	75.43
31	21901031030	HADHARATI MAR`I ROHMIT	76.00	77.00	75.00	76.17
32	21901031033	MUHAMMAD MAHDINOOR	74.33	74.00	73.00	74.93
33	21901031036	FUSTHATUL QONITAH	77.33	80.00	74.00	76.77
34	21901031041	AHMAD DWI FAKHRUDIN ZU	75.33	75.00	76.00	75.77
35	21901031045	ACHMAD YOGA NUR SIFAUD	74.33	74.00	73.00	74.27
36	21901031060	ALEK PERDANA PUTRA	74.33	74.00	73.00	73.93
37	21901031063	HAFIZH NAUFALAL MUTAWA	69.00	66.00	68.00	69.00
38	21901031066	MAULIDIAH CHOIRUNNISA`	75.67	75.10	76.00	76.67
39	21901031068	NICOLA ZAKIA CORDOVA	60.00	64.00	56.00	59.00
40	21901031079	WILUJENG PUTRI JANUART	72.33	73.00	74.00	71.43
			85	80	85	87.5

Class B

No.	Nomor Induk Mahasiswa	Nama Mahasiswa	SUB-CPMK/BOBOT (NILAI HARIAN)														NILAI HARIAN (Assignment)		Midle Test (20%)	Final Test (20%)	Presence (10%)	Presentation and Discussion (FGD)	Practice (20%)	NILAI AKHIR	
			1		2		3		4		5		6		7		8									ANGKA	HURUF
				10%		5%		20%		20%		5%		20%		10%		10%	Skala 4	Skala 100							
1	21701031020	FAISAL TAMIN	75	7.50	74	3.70	76	15.20	73	14.60	75.6	3.78	76.6	15.32	74	7.40	75	7.50	3.00	75.00	70	72	100	76	75	76.00	B
2	21901031031	NOVAN RIZKI PRATAMA	75	7.50	77	3.85	74	14.80	74.5	14.90	75.5	3.78	77	15.40	74	7.40	77	7.70	3.01	75.33	75	76	100	78	73	77.67	B
3	21901031032	AHMAD FIRDAUS	60	6.00	60	3.00	60	12.00	64	12.80	56	2.80	57	11.40	60	6.00	60	6.00	2.40	60.00	67	76	100	60	75	71.60	B
4	21901031034	NADYAH BIRRIKIE IFFADA	76	7.60	78	3.90	78	15.60	77	15.40	78.5	3.93	77.5	15.50	77	7.70	77	7.70	3.09	77.33	78	80	100	75	78	80.17	A
5	21901031037	MEGA AYU KARTIKA	78	7.80	78	3.90	80	16.00	80	16.00	80	4.00	77	15.40	78.7	7.87	77	7.70	3.15	78.67	78	78	100	76	80	80.53	A
6	21901031038	FATMI OKTAVIA	75	7.50	76	3.80	78	15.60	77	15.40	75	3.75	74.9	14.98	78.5	7.85	74.5	7.45	3.05	76.33	76	75	100	75	78	78.57	B
7	21901031039	CICI NUR HIDAYATI	75	7.50	78	3.90	78	15.60	80	16.00	78	3.90	75	15.00	76	7.60	75	7.50	3.08	77.00	76	75	100	78	80	79.40	B
8	21901031040	DESYA ANASTASYA RAMADH	78	7.80	78	3.90	76	15.20	80	16.00	78	3.90	76	15.20	76	7.60	77.3	7.73	3.09	77.33	80	82	100	76	80	81.47	A
9	21901031042	NURMA	73	7.30	75	3.75	75	15.00	70	14.00	76	3.80	76	15.20	75.3	7.53	77.5	7.75	2.97	74.33	78	72	100	78	78	78.27	B
10	21901031043	BINTANG AULIA	75	7.50	65	3.25	75	15.00	64	12.80	61	3.05	55	11.00	66	6.60	58	5.80	2.60	65.00	72	70	100	68	74	73.00	B
11	21901031044	ALAA NURROHMAN ATAABIK	80	8.00	72	3.60	80	16.00	80.6	16.12	71	3.55	56	11.20	60	6.00	62	6.20	2.83	70.67	70	72	100	73	78	75.43	B
12	21901031046	JAKA ALIEF BAGASKARA	65	6.50	65	3.25	58	11.60	54.5	10.90	57	2.85	75	15.00	76	7.60	78	7.80	2.62	65.50	78	78	100	78	78	77.70	B
13	21901031047	ABDULLOH KAFABIHI	70	7.00	78	3.90	72	14.40	80	16.00	76	3.80	60.5	12.10	58	5.80	60	6.00	2.76	69.00	72	70	100	78	73	74.60	B
14	21901031048	YOFI SUTANTO	80	8.00	78	3.90	80	16.00	80	16.00	80	4.00	79	15.80	79	7.90	77.3	7.73	3.17	79.33	82	80	100	80	85	83.27	A
15	21901031049	MUHAMMAD FAHRI FABIANS	72	7.20	73	3.65	72	14.40	70	14.00	73.7	3.69	74	14.80	73	7.30	72.9	7.29	2.89	72.33	73	76	100	74	78	77.27	B
16	21901031051	AHMAD TRI SUPRIYANTO	76	7.60	78	3.90	74	14.80	78	15.60	76	3.80	75	15.00	75	7.50	78	7.80	3.04	76.00	72	72	100	75	76	76.70	B
17	21901031052	DINDA FATIKASARI	78	7.80	75	3.75	75	15.00	78	15.60	75	3.75	77	15.40	74	7.40	73	7.30	3.04	76.00	76	78	100	72	75	78.20	B
18	21901031053	DINDA DARA JOFITA	76	7.60	73	3.65	73	14.60	75	15.00	74	3.70	74	14.80	74	7.40	72.5	7.25	2.96	74.00	75	70	100	78	75	76.60	B
19	21901031054	IMTIYAZ KAMILAH NURUL	78	7.80	78	3.90	76	15.20	80	16.00	78	3.90	76	15.20	78	7.80	75.3	7.53	3.09	77.33	80	78	100	74	80	80.47	A
20	21901031055	MUHAMMAD AGAM YOGASWARA	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0.00	0	0	100	0	0	10.00	E
21	21901031056	RAMDAN HARIS	72	7.20	76	3.80	78	15.60	74	14.80	76.5	3.83	75	15.00	75.5	7.55	75.5	7.55	3.01	75.33	72	76	100	76	76	77.47	B
22	21901031057	MOH. SHOHIBUL BURHAN	78	7.80	78	3.90	78	15.60	78	15.60	80	4.00	76.5	15.30	80	8.00	78	7.80	3.12	78.00	78	80	100	78	78	80.60	A
23	21901031058	AGUNG FAUZAN	75	7.50	76	3.80	76	15.20	74	14.80	75	3.75	76	15.20	78	7.80	76.2	7.62	3.03	75.67	75	70	100	74	76	76.73	B
24	21901031059	WAHYU DIAN PRAMANA	76	7.60	70	3.50	75	15.00	73	14.60	74	3.70	73	14.60	74	7.40	72.7	7.27	2.95	73.67	70	72	100	72	78	75.93	B
25	21901031064	PUTRI ARIANI	76	7.60	75	3.75	78	15.60	74.5	14.90	76	3.80	76	15.20	77.8	7.78	77	7.70	3.05	76.33	70	75	100	76	78	77.47	B
26	21901031065	SRI RIZKIATUN	73	7.30	76	3.80	74	14.80	73	14.60	76.5	3.83	73.5	14.70	76	7.60	77	7.70	2.97	74.33	74	72	100	76	80	77.67	B
27	21901031067	MOCHAMAD NUR NUGROHO	78	7.80	78	3.90	75	15.00	77	15.40	78	3.90	79	15.80	74	7.40	78	7.80	3.08	77.00	78	78	100	76	78	78.00	B
28	21901031069	AZIZA RIFKI FIRDAUS	78	7.80	78	3.90	80	16.00	80	16.00	75.3	3.77	78	15.60	79	7.90	77	7.70	3.15	78.67	80	85	100	80	80	82.73	A
29	21901031070	RISHA SALSA BILA	78	7.80	78	3.90	76	15.20	74	14.80	77	3.85	80	16.00	80	8.00	77.8	7.78	3.09	77.33	80	80	100	78	78	80.07	A
30	21901031071	MUHAMMAD AWALLUDIN	76	7.60	78	3.90	78	15.60	80	16.00	74	3.70	78	15.60	76	7.60	73.3	7.33	3.09	77.33	80	78	100	78	80	80.07	A
31	21901031072	MOH TRYAN HIDAYAT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0.00	0	0	100	0	0	10.00	E
32	21901031073	IBROHIM KHOLILI	65	6.50	65	3.25	68	13.60	62	12.40	65	3.25	66	13.20	70	7.00	68	6.80	2.64	66.00	66	65	100	68	65	69.20	C
33	21901031074	FEBRIQA NURJAHRATUL HA	76	7.60	76	3.80	75	15.00	76	15.20	74	3.70	75	15.00	78	7.80	75.7	7.57	3.03	75.67	75	73	100	78	77	77.93	B
34	21901031076	AHMAD SAYFUDDIN	84	8.40	84	4.20	76	15.20	85	17.00	76	3.80	63	12.60	64	6.40	65.7	6.57	2.97	74.17	76	78	100	72	70	76.83	B
35	21901031077	PRISCA AULIYA BANAFSAH	78	7.80	85	4.25	85	17.00	82	16.40	85	4.25	83	16.60	78.7	7.87	85	8.50	3.31	82.67	82	80	100	80	80	82.93	A
36	21901031078	FATIMATUZ ZAHRO	83	8.30	82	4.10	70	14.00	80	16.00	71.8	3.59	63	12.60	62.8	6.28	63	6.30	2.85	71.17	76	78	100	74	76	77.63	B
37	21901031082	ISNA KHOFIFAH ASYFA	75	7.50	76	3.80	73	14.60	78	15.60	77	3.85	70	14.00	76	7.60	77.2	7.72	2.99	74.67	76	78	100	75	78	78.03	B
38	21901031083	DENY KHOIRUL ABDILLAH	75	7.50	75	3.75	76	15.20	74	14.80	76.5	3.83	76	15.20	75.5	7.55	75	7.50	3.01	75.33	75	78	100	76	76	76.47	B
39	21901031084	MOHAMMAD ABDULLAH HASB	70	7.00	70	3.50	72	14.40	70	14.00	71.8	3.59	70.4	14.08	73	7.30	68	6.80	2.83	70.67	73	68	100	70	70	73.33	B
40	21901031086	SHINTA DWI CAHYA	78	7.80	78	3.90	76	15.20	79	15.80	77	3.85	77	15.40	76	7.60	77.8	7.78	3.09	77.33	75	75	100	75	78	78.57	B
	Rata-rata		71.48	7.15	71.58	3.58	71.23	14.25	71.48	14.30	70.77	3.54	69.42	13.88	70.17	7.02	69.88	6.99									
	konversirskala4		2.86	0.29	2.86	0.14	2.85	0.57	2.86	0.57	2.83	0.14	2.78	0.56	2.81	0.28	2.80	0.28									

%Mahasiswa tidak lulus	5.0%
%Mahasiswa nilai A	25.0%
%Mahasiswa nilai B	67.5%
%Mahasiswa nilai C	2.5%

No.	NPM	Nama	CLO-1 score	CLO-2 score	CLO-3 score	CLO-4 score
1	21701031020	FAISAL TAMIN	75.00	73.00	75.60	75.20
2	21901031031	NOVAN RIZKI PRATAMA	75.33	74.50	75.50	76.00
3	21901031032	AHMAD FIRDAUS	60.00	64.00	56.00	59.00
4	21901031034	NADYAH BIRRIKIE IFFADA	77.33	77.00	78.50	77.17
5	21901031037	MEGA AYU KARTIKA	78.67	80.00	80.00	77.57
6	21901031038	FATMI OKTAVIA	76.33	77.00	75.00	75.97
7	21901031039	CICI NUR HIDAYATI	77.00	80.00	78.00	75.33
8	21901031040	DESYA ANASTASYA RAMADH	77.33	80.00	78.00	76.43
9	21901031042	NURMA	74.33	70.00	76.00	76.27
10	21901031043	BINTANG AULIA	71.67	64.00	61.00	59.67
11	21901031044	ALAA NURROHMAN ATAABIK	77.33	80.60	71.00	59.33
12	21901031046	JAKA ALIEF BAGASKARA	62.67	54.50	57.00	76.33
13	21901031047	ABDULLOH KAFABIHI	73.33	80.00	76.00	59.50
14	21901031048	YOFI SUTANTO	79.33	80.00	80.00	78.43
15	21901031049	MUHAMMAD FAHRI FABIANS	72.33	70.00	73.70	73.30
16	21901031051	AHMAD TRI SUPRIYANTO	76.00	78.00	76.00	76.00
17	21901031052	DINDA FATIKASARI	76.00	78.00	75.00	74.67
18	21901031053	DINDA DARA JOFITA	74.00	75.00	74.00	73.50
19	21901031054	IMTIYAZ KAMILAH NURUL	77.33	80.00	78.00	76.43
20	21901031055	MUHAMMAD AGAM YOGASWARA	0.00	0.00	0.00	0.00
21	21901031056	RAMDAN HARIS	75.33	74.00	76.50	75.33
22	21901031057	MOH. SHOHIBUL BURHAN	78.00	78.00	80.00	78.17
23	21901031058	AGUNG FAUZAN	75.67	74.00	75.00	76.73
24	21901031059	WAHYU DIAN PRAMANA	73.67	73.00	74.00	73.23
25	21901031064	PUTRI ARIANI	76.33	74.50	76.00	76.93
26	21901031065	SRI RIZKIATUN	74.33	73.00	76.50	75.50
27	21901031067	MOCHAMAD NUR NUGROHO	77.00	77.00	78.00	77.00
28	21901031069	AZIZA RIFKI FIRDAUS	78.67	80.00	75.30	78.00
29	21901031070	RISHA SALSA BILA	77.33	74.00	77.00	79.27
30	21901031071	MUHAMMAD AWALLUDIN	77.33	80.00	74.00	75.77
31	21901031072	MOH TRYAN HIDAYAT	0.00	0.00	0.00	0.00
32	21901031073	IBROHIM KHOLILI	66.00	62.00	65.00	68.00
33	21901031074	FEBRIQA NURJAHRATUL HA	75.67	76.00	74.00	76.23
34	21901031076	AHMAD SAYFUDDIN	81.33	75.00	76.00	64.23
35	21901031077	PRISCA AULIYA BANAFSAH	82.67	82.00	85.00	82.23
36	21901031078	FATIMATUZ ZAHRO	78.33	70.00	71.80	62.93
37	21901031082	ISNA KHOFIFAH ASYFA	74.67	78.00	77.00	74.40
38	21901031083	DENY KHOIRUL ABDILLAH	75.33	74.00	76.50	75.50
39	21901031084	MOHAMMAD ABDULLAH HASB	70.67	70.00	71.80	70.47
40	21901031086	SHINTA DWI CAHYA	77.33	79.00	77.00	76.93
			90	87.5	87.5	85