



PORTFOLIO
Department of Agrotechnology
Faculty of Agriculture
University of Islam Malang

Subject	Physiology and Technology of Postharvest
Module Level, if available	Undergraduate Study Program of Agrotechnology
Subject Code	MKW 60623
Type of course	Applied Science
Credits	3 credits
Semester	5
Prerequisite	Plant Biochemistry
Parallel Class	A, B and C
Module Description	<p>This three-credit course examines the principles and applications of physiology and technology to the post-harvest handling of agricultural products. Its primary objective is to develop various strategies for extending the shelf life of the product from harvest to consumer. The subject of study is post-harvest technology for agricultural products, namely the employment of various ways for extending the shelf life of fresh food and converting agricultural products into new products with a high economic value. Additionally, we learned about various innovations in the fields of packaging, pre- and post-harvest treatment, cold storage technology, controlled and modified room storage, and the use of preservatives and flavour enhancers, which are all areas that have been extensively researched over the last decade of agricultural product development. Agricultural products are often classified as horticulture, food, or industrial crops. Post-harvest technology is product-specific. Horticulture is a broad term that encompasses a range of fruit, vegetable, and floral goods. Cereals, tubers, and legumes are examples of food crops. Coconut and oil palm, drinks, sources of sweets, spices, medications, and essential oils, fibre crops, energy crops, and rubber plants are all examples of industrial plants.</p>
Learning Outcomes	<p>Course Learning Outcomes (CLO)</p> <p>CLO 1: Capable of studying, identifying, and comprehending Post-Harvest Physiology and Agricultural Product Technology principles</p> <p>CLO 2 : Capable of planning, resolving problems, and managing post-harvest systems for both fresh and processed agricultural products</p> <p>CLO 3 : Capable of utilising tools, methods, and processes to address a variety of agricultural field challenges based on physiology and agricultural product technology</p>
Learning Content	<p>After completing this course students are able to:</p> <ol style="list-style-type: none"> 1. Study agricultural disciplines properly and thoroughly, especially Agricultural Product Physiology and Technology. 2. study multidisciplinary science in relation to post-harvest handling and agricultural product technology through experimentation and testing. 3. recognise and formulate problems in agriculture using

	<p>the disciplines of physiology and agricultural product technology</p> <ol style="list-style-type: none"> 4. Planning, problem-solving, and managing post-harvest management processes for both fresh and refined agricultural products. 5. using physiology and agricultural technology to solve different agricultural field problems <p>The topics include:</p> <ol style="list-style-type: none"> 1. Introduction 2. Physiological Characteristics of Post-Harvest Horticultural Products 3. Chemical and Physical Changes In Horticulture Products After Harvesting 4. Fresh Handling Technology Of Fruit, Vegetable And Cut Flower Products 5. Fruit And Vegetable Processed Technology 6. Freshhandling of Flowers 7. GMP AND HACCP in Post-Harvest Agricultural Products 8. Post-Harvest Plant Physiology And Physiology Of Serealia 9. Post-Harvest Physiology And Technology Of Ubi, Umbi And Nuts 10. Post Harvest And Processing Technology Of Coconut And Palm Oil 11. Post-Harvest And Processing Technology Of Beverages, Sources Of Hearings, Spres, Essentials And Drugs 12. Post-Harvest And Processing Technology For Fiber, Bioufuel And Rubber Plants 13. Green Technolgy In The Field Of Post-Harvest Agricultural Product Technology 14. Presentation of short internship assignments in the industry for handling fresh or processed agricultural products
Aims	Students can employ post-harvest technology and agricultural product processing in plant production systems.
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	<ul style="list-style-type: none"> • A class: 39 students in total • B class: 27 students in total • C class 28 students in total
Teaching Attendance	<p>14 meetings were completely held (100%) by lecturer (A, B and C classes)</p> <p>From 39 students, 21 student were below 100% of attendance (A class)</p> <p>From 27 students, 8 student were below 100% of attendance (B class)</p> <p>From 28 students, 14 student were below 100% of attendance (C class)</p>
Evaluation System	Component of assessment on this course consist of regular assignment, midle semester test and final semester test, presence. 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	<ul style="list-style-type: none"> • Achievement CLO in A Class CLO 1 = 70.88 (Excellent) CLO 2 = 70.73 (Excellent) CLO 3 = 61.23 (Excellent) • Achievement ILO in B Class CLO 1 = 76.28 (Excellent), CLO 2 = 75.52 (Excellent), CLO 3 = 74.17 (Excellent) • Achievement ILO in C Class CLO 1 = 82.12 (Excellent), CLO 2 = 79.65 (Excellent), CLO 3 = 73.42 (Excellent) <p>Complete achievement on average CLO can be seen on Appendix 3</p>
Statistical Distribution	<ul style="list-style-type: none"> • A Class, score distribution: A = 2 students (6.25%), B = 7 students (21.88%), C = 8 student (25%%) and Failed = 6 students (18.75%) • B Class, score distribution: A = 2 students (6.90%), B = 18 students (56.25%) and C =5 students (17.24%) Failed = 1 students (3.45%) • C Class, score distribution: A = 1 students (3.70%), B = 14 students (51.85%), C = 11 student (40.74%) and Failed = 0 students <p>Complete achievement on each per student can be seen on Appendix 4</p>
Teaching Observation	<p>Materials were delivered in Indonesia. The student could understand the materials well.</p> <p>In A Class: there were 10 students poor on both CLO 1, 2, 3, dan 1 students poor on both CLO 2</p> <p>In B Class: there were 5 students poor on CLO 1 and CLO 3, 2 students poor on CLO 2 and CLO 3, 2 students poor on CLO 1, CLO 2,CLO 3,</p> <p>In C Class: there were 3 students poor on CLO 1, 1 students poor on CLO 2, CLO 3, 5 students poor on CLO 1, CLO 2,CLO 3</p>
Learning Constraints	A, Class: Students are slow in doing assignments
Recommendation	A, B and C Class: Paying more attention for students who hardly understand the materials and doing assiment

Appendix 1. Scoring Matrix

Nomenclature	Weight	Final Score	
		Letter Mark	Score average
Assignment	20%	A	80 – 100
Midle semester test	20%	B	70 - <80
Final semester test	20%	C	55 - <70
Practice	30%	D	50 - < 55
Presence	10%	E	0 - <50

Appendix 2. Question samples

1. Explain the meaning of agriculture, farmers and farming? (to echieve CLO 1)
2. Explain about agricultural resources from the aspect of soil physical properties? (to echieve CLO 2)
3. Explain the problems and challenges of Indonesian agriculture! (to echieve CLO 3)
4. Explain the steps of planning a farming business! (to echieve CLO 4)
5. Explain how to harvest and post-harvest handling. (to echieve CLO 5)

Appendix 3. Achievement of CLO

Meetings	CLO 1 (%)	CLO 2 (%)	CLO 3 (%)
1,	75.24		
2,	68.98		
3,	70.89		
4,		70.85	
5,		72.80	
6,		72.20	
7,			60..5
8,		67.9	

9,		67.9	
10,		67.9	
11,		69.9	
12,		70.10	
13,	70.43		
14,			61.56
Average	70.89	70.73	61.23
Predicate	EXCELLENT	EXCELLENT	SATISFACTORY

B Class

Meetings	CLO 1 (%)	CLO 2 (%)	CLO 3 (%)
1,	80.25		
2,	75.10		
3,	73.00		
4,		73.50	
5,		73.25	
6,		70.80	
7,			75.80
8,		74.25	
9,		74.25	
10,		85.75	
11,		85.73	
12,		85.74	
13,	76.75		
14,			72.54
	76.28	75.52	74.17
Predicate	EXCELLENT	EXCELLENT	EXCELLENT

C Class

Meetings	CLO 1 (%)	CLO 2 (%)	CLO 3 (%)
1,	85.89		
2,	79.50		
3,	82.50		
4,		80.25	
5,		77.68	
6,		74.10	
7,			75.18
8,		80.51	
9,		80.49	

10,		85.74	
11,		85.76	
12,		85.72	
13,	80.55		
14,			71.66
Average	82.11	79.65	73.42
Predicate	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 A Class

No	NPM	Nama	1	2	3	4	5	6	7	8	9	10	11	12	13	14	UTS	UAS
			CLO1	CLO1	CLO1	CLO2	CLO2	CLO2	CLO3	CLO2	CLO2	CLO2	CLO2	CLO2	CLO1	CLO3		
1	21401031056	M. ULWANUN NAFT	50	65	55	55	60	45	60	45	55	55	45	55	55	45	0	0
2	21501031005	NOVA ARDIANSAH	65	55	65	60	60	45	60	45	65	60	45	65	60	45	0	0
3	21501031019	BRILIAN TO CANDRAYOGA	65	40	40	45	45	45	45	45	40	45	45	40	45	45	0	0
4	21501031023	AHMAD BASIR	56	50	56	65	65	40	65	40	56	65	40	56	65	40	0	0
5	21501031025	AHMAD	40	50	40	50	50	40	50	40	40	50	40	40	50	40	35	50
6	21601031016	NURALIAH	75	75	75	75	80	70	80	70	75	75	70	75	75	70	20	48
7	21601031018	ABDUL HARIS	40	65	55	65	65	40	65	40	55	65	40	55	65	40	58	60
8	21601031037	FATQUR ROHMAN AFANDI	40	40	40	65	65	40	65	40	40	65	40	40	65	40	0	0
9	21601031042	MUHAMMAD YUSRIL IN'AM	40	40	60	40	40	40	40	40	60	40	40	60	40	40	0	0
10	21601031090	FARSI ANTONI	40	55	40	55	55	40	55	40	40	55	40	40	55	40	48	50
11	21701031001	SEKAR KINANTI	80	80	75	80	80	75	80	75	75	80	75	75	80	75	50	62
12	21701031002	FAJAR KHOIRUNNISA	80	85	79	82	82	83	82	83	79	82	83	79	82	83	86	57
13	21701031003	SEPTIAN WIDHIARTO	70	60	70	75	75	70	75	70	70	75	70	70	75	70	39	26
14	21701031004	RENDY PRAWIRA NEGARA P	80	80	80	70	70	70	70	70	80	70	70	80	70	70	25	26
15	21701031005	DODI ADITIAN ALFAYIT	80	80	70	80	80	75	80	75	70	80	75	70	80	75	42	27
16	21701031007	HAMDAN	40	60	40	60	60	60	60	60	40	60	60	40	60	60	20	20
17	21701031008	BAKIR	70	70	65	60	60	60	60	60	65	60	60	65	60	60	39	56
18	21701031009	MELASANTY ADITIYA SAGI	80	80	80	80	80	80	80	80	80	80	80	80	80	80	83	72
19	21701031010	INTAN NUR FATIMAH	80	80	80	75	75	75	75	75	80	75	75	80	75	75	80	61
20	21701031011	FENTY SRI BINTANG KHUI	80	80	75	79	79	79	79	79	75	79	79	75	79	79	22	42
21	21701031012	MARISA NUR INDAH SARI	82	80	82	83	83	83	83	83	82	83	83	82	83	83	84	71
22	21701031013	SAIFUL ARI F ZAIN	82	82	83	80	80	80	80	80	83	80	80	83	80	80	25	40
23	21701031014	CHARUNNISA VANDARISM	80	82	84	82	82	82	82	82	84	82	82	84	82	82	41	59
24	21701031015	MUHAMMAD RIZKY HARYAD	80	80	75	75	75	75	75	75	75	75	75	75	75	75	49	45
25	21701031016	MUHAMMAD FAJAR	80	80	75	80	80	80	80	80	75	80	80	75	80	80	16	0
26	21701031017	AHMAD FEBRI FIRMANSYA	70	65	70	65	65	65	65	65	70	65	65	70	65	65	55	56
27	21701031018	JUWITA MAYANG SARI	82	82	80	82	82	82	82	82	80	82	80	82	80	82	54	50
28	21701031019	IRFAN SIDIQ	80	70	75	70	70	70	70	70	75	70	70	75	70	70	68	55
29	21701031020	FAISAL TAMIN	40	50	65	50	50	50	50	50	65	50	50	65	50	50	20	31
30	21701031021	ALASRI	70	70	65	70	70	70	70	70	65	70	70	65	70	70	20	42
31	21701031022	ANGSY TWOESTRIA CAHAY	80	82	80	82	82	82	82	82	80	82	82	80	82	82	58	58
32	21701031023	NZAR NUFKHA DWI MAUL	80	80	75	80	80	80	80	80	75	80	80	75	80	80	74	49

No	NPM	Nama	CLO 1	CLO 2	CLO 3
1	21401031056	M. ULWANUN NAFT	0	0	0
2	21501031005	NOVA ARDIANSAH	0	0	0
3	21501031019	BRILIAN TO CANDRAYOGA	0	0	0
4	21501031023	AHMAD BASIR	0	0	0
5	21501031025	AHMAD	40	40	60
6	21601031016	NURALIAH	75	75	45
7	21601031018	ABDUL HARIS	40	40	40
8	21601031037	FATQUR ROHMAN AFANDI	0	0	0
9	21601031042	MUHAMMAD YUSRIL IN'AM	0	0	0
10	21601031090	FARSI ANTONI	40	40	42
11	21701031001	SEKAR KINANTI	80	80	72
12	21701031002	FAJAR KHOIRUNNISA	80	80	74
13	21701031003	SEPTIAN WIDHIARTO	70	70	73
14	21701031004	RENDY PRAWIRA NEGARA P	80	80	50
15	21701031005	DODI ADITIAN ALFAYIT	80	80	65
16	21701031007	HAMDAN	40	40	40
17	21701031008	BAKIR	70	70	49
18	21701031009	MELASANTY ADITIYA SAGI	80	80	77

19	21701031010	INTAN NUR FATIMAH	80	80	74
20	21701031011	FENTY SRI BINTANG KHOI	80	80	75
21	21701031012	MARISA NUR INDAH SARI	82	80	76
22	21701031013	SAIFUL ARIF ZAIN	82	82	43
23	21701031014	CHAIRUNNISA VANIDARISM	82	80	80
24	21701031015	MOCHAMMAD RIZKY HARYAD	80	80	57
25	21701031016	MOCHAMMAD FAJAR	80	80	30
26	21701031017	ACHMAD FEBRI FIRMANSYA	70	70	73
27	21701031018	JUWITA MAYANG SARI	82	82	78
28	21701031019	IRFAN SIDIQ	80	80	71
29	21701031020	FAISAL TAMIN	40	40	30
30	21701031021	ALASRI	70	70	70
31	21701031022	ANGGY TWODESTRIA CAHAY	80	80	74
32	21701031023	NIZAR NUFIKHA DWI MAUL	80	80	74

B Class

No	NPM	Nama	1	2	3	4	5	6	7	8	9	10	11	12	13	14	UTS	UAS
			CLO1	CLO1	CLO1	CLO2	CLO2	CLO2	CLO3	CLO2	CLO2	CLO2	CLO2	CLO2	CLO1	CLO3		
1	21601031043	HENDRA ADI SAPUTRA	50	65	55	55	60	45	60	45	55	55	45	55	55	45	40	37
2	21601031050	ESTI NURITASARI	65	55	65	60	60	45	60	45	65	60	45	65	60	45	40	28
3	21601031056	INDRA Hidayatullah	65	40	40	45	45	45	45	45	40	45	45	40	45	45	48	56
4	21601031082	BRASTANGKORO GALIH SET	56	50	56	65	65	40	65	40	56	65	40	56	65	40	40	40
5	21601031087	EKO IRWAN SAPUTRA	40	50	40	50	50	40	50	40	40	50	40	40	50	40	40	40
6	21701031033	MUHAMMAD ILHAM ARROFIQ	75	75	75	75	80	70	80	70	75	75	70	75	75	70	40	60
7	21701031034	HERDIAN IRWAN SYAH	40	65	55	65	65	40	65	40	55	65	40	55	65	40	40	59
8	21701031035	APRILIA DWI NASTITI	40	40	40	65	65	40	65	40	40	65	40	40	65	40	40	81
9	21701031036	EDDRIN WAHYU FEBBILIAN	40	40	60	40	40	40	40	40	60	40	40	60	40	40	40	92
10	21701031038	IDA USWATUN HASANAH	40	55	40	55	55	40	55	40	40	55	40	40	55	40	40	74
11	21701031039	RIZALDI AL AYUBI	80	80	75	80	80	75	80	75	75	80	75	75	80	75	85	76
12	21701031040	OKTAVIA MAULANI	80	85	79	82	82	83	82	83	79	82	83	79	82	83	40	65
13	21701031041	NURUL AINI	70	60	70	75	75	70	75	70	70	75	70	70	75	70	40	57
14	21701031042	ZAINAL ABIDIN	80	80	80	70	70	70	70	70	80	70	70	80	70	70	50	45
15	21701031043	ANGGRI FRI AGUNG SAPUT	80	80	70	80	80	75	80	75	70	80	75	70	80	75	40	64
16	21701031044	IRFAN NAWAWI	40	60	40	60	60	60	60	60	40	60	60	40	60	60	51	45
17	21701031045	MAMLUATUL AZIZAH	70	70	65	60	60	60	60	60	65	60	60	65	60	60	53	76
18	21701031047	DIANA YUSUF ADI PRASTY	80	80	80	80	80	80	80	80	80	80	80	80	80	80	38	45
19	21701031048	MUHAMMAD ALFAN YUSUF	80	80	80	75	75	75	75	75	80	75	75	80	75	75	40	47
20	21701031049	LALATUL FAZIRAH	80	80	75	79	79	79	79	79	75	79	79	75	79	79	40	60
21	21701031050	ANGGI HANDA SUWANDI	82	80	82	83	83	83	83	83	82	83	83	82	83	83	40	69
22	21701031052	MOH. ILHAM HANAFI	82	82	83	80	80	80	80	80	83	80	80	83	80	80	61	55
23	21701031053	FRISQILAYANTI	80	82	84	82	82	82	82	82	84	82	82	84	82	82	40	73
24	21701031054	DENNY FEBRIYANTO	80	80	75	75	75	75	75	75	75	75	75	75	75	75	77	75
25	21701031057	NINDYA FEBRI SETYO UTA	80	80	75	80	80	80	80	80	75	80	80	75	80	80	40	66
26	21701031059	ACHMAD SIDIQ SYAFI	70	65	70	65	65	65	65	65	70	65	65	70	65	65	40	66
27	21701031060	RIFDHA HASNA ROHADATU	82	82	80	82	82	82	82	82	80	82	82	80	82	82	73	54
28	21701031061	NOVIYANTI EKA MAUDINA	80	70	75	70	70	70	70	70	75	70	70	75	70	70	40	71
29	21701031073	AYU AZHARIAH	40	50	65	50	50	50	50	50	65	50	50	65	50	50	40	62

No	NPM	Nama	CLO 1	CLO 2	CLO 3
1	21601031043	HENDRA ADI SAPUTRA	40	40	0
2	21601031050	ESTI NURTITASARI	80	80	59
3	21601031056	INDRA HIDAYATULLAH	40	40	45
4	21601031082	BRASTANGKORO GALIH SET	40	40	46
5	21601031087	EKO IRWAN SAPUTRA	45	45	46
6	21701031033	MUHAMMAD ILHAM ARROFIQ	80	80	84
7	21701031034	HERDIAN IRWANSYAH	82	80	80
8	21701031035	APRILIA DWI NASTITI	80	80	87
9	21701031036	EDDRIN WAHYU FEBBILIAN	80	80	88
10	21701031038	IDA USWATUN HASANAH	80	80	87
11	21701031039	RIZALDI AL AYUBI	80	80	75
12	21701031040	OKTAVIA MAULANI	80	80	83
13	21701031041	NURUL AINI	80	80	78
14	21701031042	ZAINAL ABIDIN	85	85	80
15	21701031043	ANGGRI FRI AGUNG SAPUT	80	80	81
16	21701031044	IRFAN NAWAWI	80	80	77
17	21701031045	MAMLUATUL AZIZAH	85	85	80
18	21701031047	DIANA YUSUF ADI PRASTY	80	80	78
19	21701031048	MUHAMMAD ALFAN YUSUF	80	80	70
20	21701031049	LAILATUL FAZIRAH	80	80	81
21	21701031050	ANGGI HANDA SUWANDI	80	80	87
22	21701031052	MOH. ILHAM HANAFI	85	85	75
23	21701031053	FRISQILAYANTI	85	85	80
24	21701031054	DENNY FEBRIYANTO	85	85	80
25	21701031057	NINDYA FEBRI SETYO UTA	85	80	82
26	21701031059	ACHMAD SIDIQ SYAFI'I	85	80	86
27	21701031060	RIFDHA HASNA' ROHADATU	80	80	83
28	21701031061	NOVIYANTI EKA MAUDINA	85	80	87
29	21701031073	AYU AZHARIAH	85	80	86
			76,2758621	75,517241	74,172414

C Class

No	NPM	Nama	1	2	3	4	5	6	7	8	9	10	11	12	13	14	UTS	UAS
			CLO1	CLO1	CLO1	CLO2	CLO2	CLO2	CLO3	CLO2	CLO2	CLO2	CLO2	CLO2	CLO1	CLO3		
1	21501031004	IRFAN RIFANI	50	65	55	55	60	45	60	45	55	55	45	55	55	45	30	55
2	21501031026	SITI MASITA ADAM	65	55	65	60	60	45	60	45	65	60	45	65	60	45	20	41
3	21601031083	IGAMAWARNI	65	40	40	45	45	45	45	45	40	45	45	40	45	45	80	54
4	21701031063	MUCHTAR ABDUL LATIF	56	50	56	65	65	40	65	40	56	65	40	56	65	40	62	49
5	21701031064	M. IQBAL NASRULLAH	40	50	40	50	50	40	50	40	40	50	40	40	50	40	38	24
6	21701031065	EKKA RIZKI FAJAR ANAM	75	75	75	75	80	70	80	70	75	75	70	75	75	70	42	72
7	21701031066	MAESAROH	40	65	55	65	65	40	65	40	55	65	40	55	65	40	41	51
8	21701031067	DHURROTUL ROAIDHA	40	40	40	65	65	40	65	40	40	65	40	40	65	40	60	73
9	21701031068	ADDELIA SHAKILLA	40	40	60	40	40	40	40	40	60	40	40	60	40	40	60	62
10	21701031069	MUHAMAT IKHSAN	40	55	40	55	55	40	55	40	40	55	40	40	55	40	30	50
11	21701031070	FERNANDITO PUTRA KHAIR	80	80	75	80	80	75	80	75	75	80	75	75	80	75	84	65
12	21701031071	MUHAMMAD ALI PRAWIRA	80	85	79	82	82	83	82	83	79	82	83	79	82	83	37	56
13	21701031072	ALAN DWI SETIAWAN	70	60	70	75	75	70	75	70	70	75	70	70	75	70	60	51
14	21701031075	MAHMUD FAJAR PRYANTO	80	80	80	70	70	70	70	70	80	70	70	80	70	70	42	58
15	21701031076	MUHAMMAD ALWI HASAN	80	80	70	80	80	75	80	75	70	80	75	70	80	75	71	16
16	21701031078	YUNI AULIA AGUSTIN	40	60	40	60	60	60	60	60	40	60	60	40	60	60	84	63
17	21701031079	RIZKY WAHYUDI BATU BAR	70	70	65	60	60	60	60	60	65	60	60	65	60	60	85	47
18	21701031080	KHUSNAH MUNAWAROH	80	80	80	80	80	80	80	80	80	80	80	80	80	80	60	66
19	21701031081	GABRILLA FERGIAWAN LIS	80	80	80	75	75	75	75	75	80	75	75	80	75	75	48	49
20	21701031082	DHEA ALIEF RAHMASARI	80	80	75	79	79	79	79	79	75	79	79	75	79	79	67	56
21	21701031084	NADA KUTSUMA VACHA	82	80	82	83	83	83	83	83	82	83	83	82	83	83	73	67
22	21701031085	ULIL ALBAB NASRULLOH	82	82	83	80	80	80	80	80	83	80	80	83	80	80	47	53
23	21701031087	AGUNG DWI ARNANTO	80	82	84	82	82	82	82	82	84	82	82	84	82	82	70	53
24	21701031088	SANTINUR ANI	80	80	75	75	75	75	75	75	75	75	75	75	75	75	87	49
25	21701031090	INTAN PUSPA KARTIKA	80	80	75	80	80	80	80	80	75	80	80	75	80	80	0	0
26	21701031091	ZUFANID ZAMARUDAH	70	65	70	65	65	65	65	65	70	65	65	70	65	65	80	54
27	21701031092	ROSITA SHOFI	82	82	80	82	82	82	82	82	80	82	82	80	82	82	66	65

No	NPM	Nama	CLO 1	CLO 2	CLO 3
1	21501031004	IRFAN RIFANI	80	80	64
2	21501031026	SITI MASITA ADAM	80	80	63
3	21601031083	IGAMAWARNI	85	80	62
4	21701031063	MUCHTAR ABDUL LATIF	80	80	58
5	21701031064	M. IQBAL NASRULLAH	85	80	64
6	21701031065	EKKA RIZKI FAJAR ANAM	80	80	79
7	21701031066	MAESAROH	85	86	85
8	21701031067	DHURROTUL ROAIDHA	80	80	85
9	21701031068	ADDELIA SHAKILLA	90	80	83
10	21701031069	MUHAMAT IKHSAN	90	80	64
11	21701031070	FERNANDITO PUTRA KHAIR	80	75	78

12	21701031071	MUHAMMAD ALI PRAWIRA	80	80	57
13	21701031072	ALAN DWI SETIAWAN	80	80	59
14	21701031075	MAHMUD FAJAR PRIYANTO	80	80	75
15	21701031076	MUHAMMAD ALWI HASAN	80	80	75
16	21701031078	YUNI AULIA AGUSTIN	80	80	83
17	21701031079	RIZKY WAHYUDI BATU BAR	85	80	76
18	21701031080	KHUSNAH MUNAWAROH	80	80	83
19	21701031081	GABRILLA FERGIWAN LIS	80	80	60
20	21701031082	DHEA ALIEF RAHMASARI	80	80	83
21	21701031084	NADA KUTSUMA VACHA	80	80	80
22	21701031085	ULIL ALBAB NASRULLOH	80	75	77
23	21701031087	AGUNG DWI ARNANTO	80	80	67
24	21701031088	SANTI NUR AINI	80	75	85
25	21701031090	INTAN PUSPA KARTIKA			
26	21701031091	ZUHANID ZAMARUDAH	90	80	82
27	21701031092	ROSITA SHOFI	85	80	82

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