


Lecture Portfolio

	SRIWIJAYA UNIVERSITY		
	FACULTY OF AGRICULTURE DEPARTMENT OF SOIL SCIENCE SOIL SCIENCE STUDY PROGRAM		
Subject : Soil Chemistry	Code: PTN 2 3215	Semester : 3	Credits : 3 (2-1)
Lecturer	Dr. Ir. Marsi, M.Sc. (MS) Dr. Ir. Agus Hermawan, MT (AH)		

Introduction

This course is a basic skill course for students of the Soil Science Study Program, Faculty of Agriculture, Sriwijaya University. After completing this course, students understand the basic aspects of Soil Chemistry through understanding Basic Chemistry aspects. This course provides students with provisions on: 1) Application of solution chemistry in aspects of nutrient solution in soil; 2) Application of acid-base principles in the aspect of soil reactions; 3) Application of the principles of Oxidation and Reduction in oxidation-reduction reactions in soil; 4) Soil colloids in relation to the surface area and load of the soil; 5) The basic principle of ion exchange; 6) Metals and their interactions with soil components; and 7) Specific soil chemical properties. Soil Chemistry learning uses lecture and discussion methods, case studies, as well as independent and group work. Students are evaluated by quizzes, exams, assignments and practicums.

Intended Learning Outcomes - ILO

This course is taught to support the following Intended Learning Outcomes (ILO):

- ILO-1: Able to apply logical, critical, systematic, and innovative thinking in the context of the development or implementation of science and technology that pays attention to and applies humanities values in accordance with their field of expertise (KU-1)
- ILO-2: Able to be responsible for the achievement of group work results and supervise and evaluate the completion of work assigned to workers under their responsibility (KU-7)
- ILO-3: Mastering knowledge about soil formation processes and soil morphology (P-1)
- ILO-4: Mastering knowledge about quality and sustainable use of land and land (P-3)

Course Learning Outcome - CLO

The Course Learning Outcome (CLO) of Soil Chemistry are:

- CLO-1: Be able to explain the scope of soil chemistry and aspects of solution chemistry in relationship with nutrient solution in soil
- CLO-2: Be able to explain the definition and characteristics of soil colloids
- CLO-3 : Able to explain the principle of Oxidation and Reduction in the oxidation-reduction reaction at soil
- CLO-4 : Able to explain the principle of acid-base in the aspect of soil acid-base reactions
- CLO-5 : Able to explain the basic principles of adsorption and ion exchange
- CLO-6 : Able to explain about Metals and their interactions with earth components h
- CLO-7 : Able to explain specific soil chemical properties and reactions

Each Course Learning Outcomes (CLO) provide support for the Study Program Learning Outcomes (ILO) with a certain percentage, the details of which can be seen in the relationship

matrix between the CLO course of Soil Chemistry and the ILO, which is presented in Table 1.

Table 1. Relationship Matrix between CLO and ILO MK Soil Chemistry

CLO	Intended Learning Outcome - ILO			
	ILO-1	ILO-2	ILO-3	ILO-4
CLO1	0.33	0.33	0.33	0
CLO2	0.25	0.25	0.25	0.25
CLO3	0.25	0.25	0.25	0.25
CLO4	0.25	0.25	0.25	0.25
CLO5	0.25	0.25	0.25	0.25
CLO6	0.33	0.33	0.33	0
CLO7	0.33	0.33	0.33	0

Learning strategies

This course presents theoretical and practical material with the following learning strategies :

- Provide access to pre-lecture materials (in pdf/ppt files and in E-learning).
- Presenting material in detail
- Asking for input from students during the material presentation session regarding whether or not the lecturer needs to re-explain or slow down the speed in explaining.
- Re-explain the parts that are not understood at the next meeting.
- Accustoming students to comment or express opinions politely to their colleagues in discussion forums.
- Practicum is carried out after 3 or 4 lecture meetings. The practicum is intended to increase students' understanding and skills in understanding the phenomenon of changes in soil chemical characteristics that have been given in lectures
- Provide case exercises that are similar to the examples that have been explained by the lecturer.
- Giving assignments according to the lecture material by referring to relevant articles/journals, and being done independently.

Lecture Management

Soil Chemistry Course has a weight of 3 credits , with 2 credits of lectures and 1 credit of practicum . Lecture meetings are scheduled once a week (2 times 50 minutes) for 14 weeks and practicum once a week (2 times 70 minutes) for 10 weeks. UTS is held on week 8 , while UAS is on week 16 .

Lectures:

- Schedule: Meetings are scheduled every Tuesday, 11.10 – 12.50 WIB.
At each meeting the lecturer presents the material and at 15 until 20 minutes before the end of the lecture is used by students for practice and discussion.
- Questions from students are made at the time of the lecturer's explanation or during discussions and students are free to ask questions and discuss.
- Each meeting has specific learning outcomes according to the material presented. To measure its achievement, quizzes and assignments have been designed. The results of these quizzes and assignments are used as evaluation material, to repeat the parts that are deemed necessary at the next meeting. As designed in the RPS, for this course several assessments are given with the material and weight of each assessment on the final score as presented in Table 2. All forms of assessment above must be done independently or in

groups by students.

Course Content

1. Definition and scope of soil chemistry
2. Periodic List and important elements in soil and plants
3. Soil Solution and Solution Chemistry
4. Inorganic colloids and their characteristics
5. Organic colloids and their characteristics
6. Basic Principles of Oxidation-Reduction Reactions, Oxidation-Reduction Reactions in Soil
7. Pyrite Oxidation and its impact on soil
8. Basic principles of acid-base chemistry
9. Aspects of Soil Acid-Base Reactions and their influence on soil chemical characteristics
10. The basic principle of ion adsorption
11. The basic principle of ion exchange
12. Metals and the Formation of Complexes between metals and soil components
13. Chemical reactions in mineral weathering and soil formation
14. Characteristics and Chemical Reactions in soil affected by salt

The suitability of the lecture material designed in the curriculum with the practice can be seen in **Appendix 1**.

Lecturer

This course is a mandatory course for students of the Bachelor of Soil Science Study Program, Faculty of Agriculture, Sriwijaya University, who is entering the 3rd semester, and some who have entered the 5th semester who for one reason or another cannot take this elective course at the time.

Attendance Percentage

Lecturer attendance is 100% while student attendance is 98 % on average

Evaluation System

- Evaluate some materials through Quizzes and/or assignments that are used to measure understanding from 3 or 4 meetings.
- Evaluation of material up to the middle of the semester through the midterm exam (UTS), which held on the 8th week / 8th meeting.
- Evaluation of material after the middle of the semester to the end of the semester is carried out through the final semester exam (UAS), which is held on the 16th week / 16th meeting.
- The evaluation results in the form of assignments/quizzes have a proportion of 20% which will be combined with the UTS or UAS scores of 80%
- Practicum in the laboratory is carried out on the 3rd week after the lecture, which consists of 5 practicum materials carried out for 10 practicums. Evaluation of practicum material consists of attendance, mastery of practicum material which is reflected in quiz scores and practicum reports. The proportion of practicum scores includes: 10% attendance, 10% quizzes, 40% practicum exams and 40% practicum reports
- In the final grade, the proportion of Practicum scores is 30%, UTS 35%, and UAS 35%
- The material evaluated for each assessment and its weight can be seen in Table 2.

Table 2. Ass es s men ts and materials to be measured, as well as the weighting of each assessment on the final grades and Learning Outcomes (CLO) Soil Chemistry

Assessment	Subject	Weight to Final Score	Course Learning Outcome – CLO						
			CLO 1	CLO 2	CLO 3	CLO 4	CLO 5	CLO 6	CLO 7
Practice		0.30	0.2	0.2	0.2	0.2	0.2		
Evaluation I	Material 1 -7 (Midterm exam, Assignments, Quiz)	0.35	0.33	0.33	0.33				
Evaluation II	Material 9 -15 (Final exam, Assignments, Quiz)	0.35				0.25	0.25	0.25	0.25

Learning outcomes

The learning outcomes of each student are reflected in the scores in each assessment. Values each with their respective weights is processed into the final value, which will later be in accordance with the conversion rules, converted into a letter value printed on KHS/Transcript student. In addition to being processed into final scores, the scores in each assessment, taking into account the percentage of CLO's contribution to each ILO (Table 1) and the weight of each assessment to the CLO (Table 2), are processed using excel , so that each student will have a score in each CLO and ILO. .

The description of the value of each CLO can be seen in Table 3, which presents the average achievement index of students in each CLO , and the percentage of students with achievement scores above 85.9 . In accordance with the achievement categories presented in Table 4, the following conclusions can be drawn:

- All CLOs on average achieved excellent and satisfactory scores , with an average of 82.6 to 86.09 .
- All CLOs are in the high percentage category (HIGH) , more than 80% of students have an achievement value above 71 .

Table 3. Description of Achievement Values and Categories for Each CLO MK Soil Chemistry

	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7
Average	86.09	86.09	86.09	85.13	85.13	82.60	82.60
Achievement Category	Excellent	Excellent	Excellent	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Number of students with CLO>71	42	42	42	40	40	35	37
Percentage of students with CLO>71	97.67	97.67	97.67	93.02	93.02	81.4	86.05
Category Percentage	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH

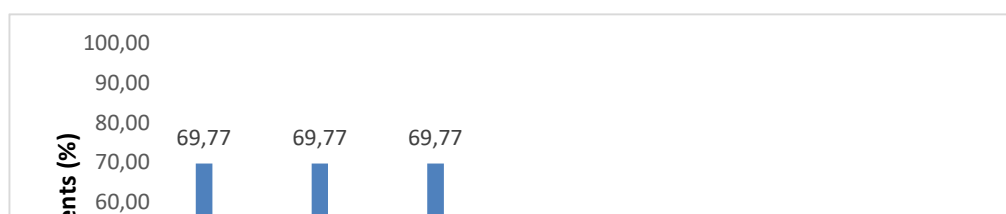


Figure 1. Graphics achievement category in each CLO at course Soil Chemistry

Table 4. Category of CLO/ILO scores, and Category of Percentage of Students who achieved CLO/ILO > 71

CLO/ILO Value Category		Percentage category of students with CLO/ILO >71	
Score \geq 86	EXCELLENT	\geq 80	HIGH
71 Score < 85.99	SATISFACTORY	60 - < 79	MEDIUM
56 Score < 70.99	DEVELOPING	50 - < 59	LOW
Score < 55.99	UNSATISFACTORY	< 50	VERY LOW

In addition to the value for course learning achievement (CLO), it can also be analyzed the value of each ILO supported by this course. A description of the ILO's achievements from this course is presented in Table 5, and Figure 2. presents the percentage of students with an achievement score above 85.9 .

Several things can be concluded from the support of this course to the Learning Outcomes of the Study Program (ILO):

- All ILO's are in the *Satisfactory achievement category* , namely: approx . 85 % of students have an achievement score above 85.9 for all ILO.

Table 5. Description of Achievement Values and Categories for Each ILO supported by Soil Chemistry Course

	ILO1	ILO2	ILO3	ILO4
Weighted average	85.10	85.10	85.10	85.60
Achievement Category	Satisfactory	Satisfactory	Satisfactory	Satisfactory
The number of students with ILO>71	41	41	41	42
Percentage	95.35	95.35	95.35	97.67
Category	HIGH	HIGH	HIGH	HIGH

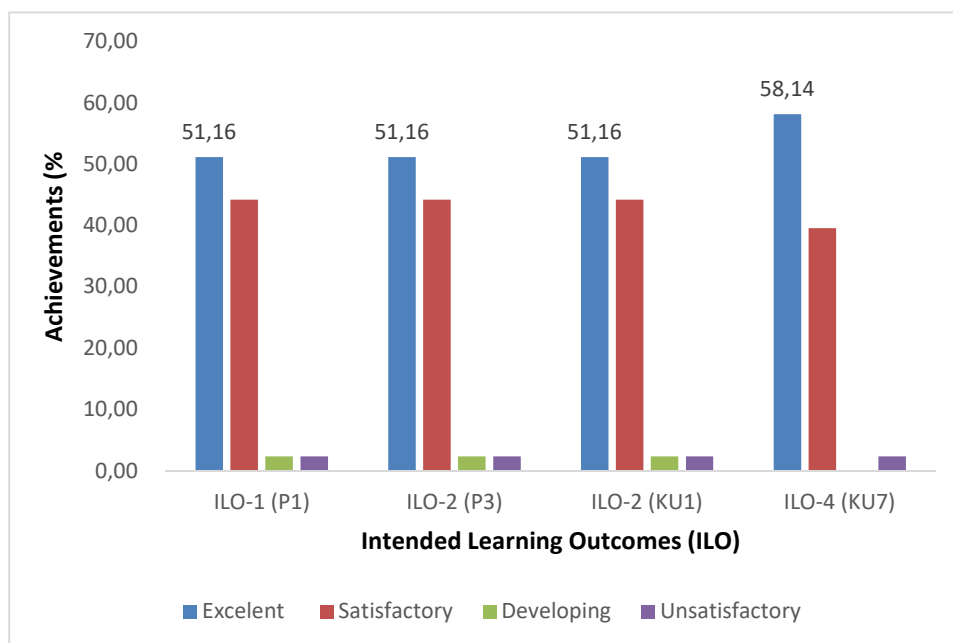


Figure 2. Graph of achievement index in each ILO supported by the course of Soil Chemistry

Constraint

- Students' ability/understanding of course material is still not evenly distributed among all students
- The reluctance of students to ask questions, discuss, and provide suggestions for lecturers and fellow students is felt to be lacking. It seems that students are not optimal for this.

Value Distribution

The final score is obtained from the weighting of all assessment components as presented in column three in Table 2 and the conversion standard of assessment is presented in Table 6. While descriptive statistics of the final score are presented in Table 7

Table 6. Benchmarks for Scoring

No.	Range of Score	Grade	Description
1	86.00 - 100.00	A	Excellent
2	71.00 – 85.99	B	good
3	56.00 – 70.99	C	Fair
4	40.00 – 55.99	D	Bad
5	<40.00	E	Worst

Table 7 . Final Grade Descriptive Statistics

mean	84.77
median	86.23
Standard Deviation	8.55
Min	56.16
Max	94.91

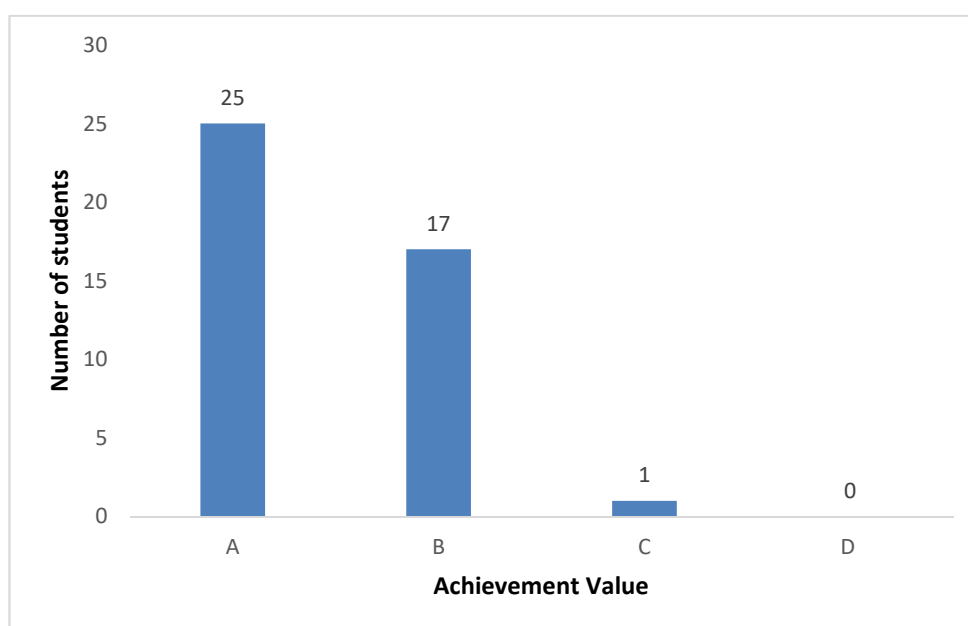


Figure 3. Distribution of final grades for Soil Chemistry

After being converted into letter values according to the assessment conversion standard (Table 6) , the distribution of letter values can be seen in Figure 3. The figure shows that there are more than half students have grades above A, even the largest percentage is in grades A and B. There is one student who gets a C grade, because he often does not attend lectures and practicums and does not take quizzes.

Conclusion

With all the obstacles and basic abilities of students, the final score obtained still reflects that the strategies and learning methods can be well received by most students.

Repair Recommendations

- The need to encourage students to be more and more daring in express opinion
- Habituation of students to discuss and work in teams

Appendix 1

Week	CLO	Sub-CLO	Subject	Learning methods and time	Assignment	Assessment	Weight (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	1. Be able to explain the scope of soil chemistry and aspects of solution chemistry in relation to nutrient solutions in soil	1.1. Explain the meaning and scope of soil chemistry	Definition and scope of soil chemistry	TM Lecture/Discussion (2x50'') Practicum (per preparation) (2x60'')	Looking for references and summarizing the meaning and scope of soil chemistry (3x60'')	Accuracy in explaining the definition and scope of soil chemistry	
2		1.2. Explain the important elements in soil and plants	Periodic List and important elements in soil and plants	TM Lecture/Discussion (2x50'') Practicum: Practical Material Assistance (2x60'')	Looking for references and summarizing about Hara and soil solution (3x60'')	Accuracy in Describing important elements in soil and plants	
3		1.3. Explain the Chemistry of Soil Solutions and Soil Solutions	Soil Solution and Solution Chemistry	TM lecture/discussion (2x50'') Practicum: Soil and Water Sampling (2x60'')	Looking for references related to the Practicum Report (3x60'')	Accuracy in Explaining the Chemistry of Soil Solutions and Soil Solutions	
4	2. Be able to explain about the definition and characteristics of soil colloids	2.1. Explaining the definition and characteristics of inorganic colloids	Inorganic colloids and their characteristics	TM Lecture/Discussion (2x50'') Practicum: Soil and Material Preparation (2x60'')	Looking for references related to the Practicum Report (3x60'')	Accuracy in Explaining the Definition and characteristics of inorganic colloids.	
5		2.2. Explaining the definition and characteristics of organic colloids	Organic colloids and their characteristics	TM Lecture/Discussion (2x50'') Practicum: Material A	Looking for references related to the Practicum Report (3x60'')	Accuracy in Explaining the Definition and characteristics of organic colloids.	

				(2x60'')			
6	3. Be able to explain the principles of oxidation and reduction in oxidation-reduction reactions in soil	3.1. Explain the basic principles of oxidation-reduction reactions, and determine oxidation-reduction reactions in soil	Basic Principles of Oxidation-Reduction Reactions, Oxidation-Reduction Reactions in Soil	TM Lecture/Discussion (2x50'') Practicum: Material B (2x60'')	Looking for references related to the Practicum Report (3x60'')	Accuracy in explaining the basic principles of oxidation-reduction reactions, and determining oxidation-reduction reactions	
7		3.2. Explain Pyrite Oxidation and its impact on soil	Pyrite Oxidation and its impact on soil	TM Lecture/Discussion (2x50'') Practicum: Material C (2x60'')	Looking for references related to the Practicum Report (3x60'')	Accuracy in Explaining Pyrite Oxidation and its impact on soil	
8	UTS (2x50'') Practicum: D . Material (2x60'')						
9	4. Be able to explain the principle of acid-base in the aspect of acid-base reactions of soil	4.1. Explain the basic principles of acid-base chemistry	Basic principles of acid-base chemistry	TM Lecture/Discussion (2x50'') Practicum: Material E (2x60'')	Looking for references related to the Practicum Report (3x60'')	Accuracy in explaining the basic principles of acid-base chemistry	
10		4.2. Explaining the Acid-Base Reaction Aspects of Soil and its influence on the chemical characteristics of the soil	Aspects of Soil Acid-Base Reactions and their effects on soil chemical characteristics	TM Lecture/Discussion (2x50'') Practicum: Materials E and F (2x60'')	Looking for references related to the Practicum Report (3x60'')	Accuracy in Explaining Aspects of Soil Acid-Base Reactions and their effects on soil chemical characteristics	
11	5. Be able to explain the basic principles of adsorption and ion exchange	5.1. Explain the basic principle of ion adsorption	The basic principle of ion adsorption	TM Lecture/Discussion (2x50'') Practicum: Materials E and G (2x60'')	Looking for references related to the Practicum Report (3x60'')	Accuracy in Explaining the Basic Principles of Ion Adsorption	
12		5.2. Explain the basic principles of ion exchange	The basic principle of ion exchange	TM Lecture/Discussion (2x50'')	Looking for references related to the Practicum Report	Accuracy in explaining the basic	

				Practicum: Materials E and H (2x60")	(3x60")	principles of ion exchange		
13	6. Able to explain about metal and its interactions with soil components	6.1. Explain the characteristics of metals, and the formation of complexes between metals and soil components	Metals and the Formation of Complexes between metals and soil components	TM Lecture/Discussion (2x50") Practicum: Final Report Assistance (2x60")	Looking for references related to the Practicum Report (3x60")	Accuracy in explaining the characteristics of metals, and the formation of complexes between soil components		
14	7. Be able to explain the properties and chemical reactions of specific soils	7.1. Explain the chemical reactions in mineral weathering and soil formation	Chemical reactions in mineral weathering and soil formation	TM Lecture/Discussion (2x50") Practicum: Final Report (2x60")	Looking for references related to the Practicum Report (3x60")	Accuracy in Explaining Chemical Reactions in Mineral Weathering		
15		7.2. Describe the characteristics and chemical reactions of salt-affected soils.	Characteristics and Chemical Reactions in soil affected by salt.	TM Lecture/Discussion (2x50") Practicum: Final Report (2x60")	Look for references and make a summary of Chemical processes and reactions Soil affected by salt (3x60")	Accuracy in explaining the characteristics and chemical reactions of soil affected by salt		
16	UAS (2x50")							
		Total percentage for the lecture (Assignment (5%), Quiz (5%), Ev-1 (30%) and Ev-2 (30%))						70
		Percentage for Lab Practical						30
		Grand Total						100

Appendix 2. List of Value Details

STUDY PROGRAM : SOIL SCIENCE
 ACADEMIC YEAR : 2021/2022 (SEMESTER GANJIL)
 COURSE NAME : SOIL CHEMISTRY (3 SKS)
 RUANG : R.KELAS A
 LECTURE: IR. H. MARSI, M.SC., PH.D. / DR. IR. AGUS HERMAWAN, M.T
 SCHEDULE : SELASA (11:10 - 12:50 WIB)

NO	NIM	NAMA	PRACTICUM (30%)	EV-1 (35%)	EV-2 (35%)	NILAI ANGKA	NILAI HURUF
1	05101182025001	HADINA FADHILAH	88,8	95,1	100,0	94,9	A
2	05101182025002	PUTRI RAHAYU	85,4	87,8	62,0	78,0	B
3	05101182025003	DILA ANDINI	90,8	93,4	100,0	94,9	A
4	05101182025005	JESIKA PUTRI KURNIANI	88,4	88,9	98,0	91,9	A
5	05101182025008	MEYLA FERLIANA	86,6	91,2	82,0	86,6	A
6	05101182025009	INE AMALIA PUTRI	89,0	84,4	96,0	89,8	A
7	05101182025010	NESSA REGITHA MAGHZARINI	85,8	94,4	100,0	93,8	A
8	05101182025011	SEFTA ADI SAPUTRA	89,6	92,6	100,0	94,3	A
9	05101182025012	SILVA AYUNITA	89,8	93,8	100,0	94,8	A
10	05101182025015	SEPTI ULAN DARI	82,0	85,6	60,0	75,6	B
11	05101182025016	LILI	87,8	88,0	84,0	86,5	A
12	05101281722018	HENDRA WIJAYA	61,5	57,8	50,0	56,2	C
13	05101282025019	SAFIRA ZAHRA APRIANTI	88,8	91,9	100,0	93,8	A
14	05101282025020	FRANSISKA	88,8	89,2	74,0	83,8	B
15	05101282025021	RAHMAT APRIANSYAH	77,4	81,2	82,0	80,3	B
16	05101282025023	MUHAMAD YAZID	89,4	85,8	84,0	86,2	A
17	05101282025024	ERWIN VALENTIN	91,6	75,6	60,0	74,9	B
18	05101282025026	TRESIA NATASYAH	90,2	92,3	92,0	91,6	A
19	05101282025028	DWI AULIA HERNANDA	88,4	71,8	60,0	72,6	B
20	05101282025029	RAMDAN FIRMANSYAH	88,4	87,5	100,0	92,1	A

PRACTICUM	EV-1	EV-2	Overall Achievement of CLO per student
achieved	achieved	achieved	achieved
achieved	achieved	not achieved	not achieved
achieved	achieved	achieved	achieved
achieved	achieved	achieved	achieved
achieved	achieved	achieved	achieved
achieved	achieved	achieved	achieved
achieved	achieved	achieved	achieved
achieved	achieved	achieved	achieved
achieved	achieved	not achieved	not achieved
achieved	achieved	achieved	achieved
not achieved	not achieved	not achieved	not achieved
achieved	achieved	achieved	achieved
achieved	achieved	not achieved	achieved
not achieved	achieved	achieved	achieved
achieved	achieved	achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	achieved	achieved

21	05101282025030	AAN NUGGROHO	87,4	77,7	80,0	81,4	B
22	05101282025032	RINDA LESTIANI	88,0	86,9	74,0	82,7	B
23	05101282025033	BAHENSKI SALMAIKA	92,6	91,6	100,0	94,8	A
24	05101282025034	FADHLAN AL DHAFIN	89,6	85,8	100,0	91,9	A
25	05101282025035	NABILA UL'YA WULANDARI	89,4	62,8	82,0	77,5	B
26	05101282025038	ANINDYA PRATISTA CAHYANI WAZMIR	88,2	84,8	100,0	91,1	A
27	05101282025040	LILIK AGUSTINA	88,8	90,0	80,0	86,1	A
28	05101282025041	RAHMAT OKTADI AZ	89,0	76,8	66,0	76,7	B
29	05101282025042	FEBBY AYU AZWARY	90,4	88,7	86,0	88,3	A
30	05101282025043	FEBRIANSYAH	88,6	72,0	70,0	76,3	B
31	05101282025047	NOVA ANJLEYANI	91,4	84,7	92,0	89,2	A
32	05101282025049	ALDI RIZKI FERNANDO	82,2	72,9	60,0	71,2	B
33	05101282025055	BUNGA LUTHFIYANI	90,0	87,3	84,0	86,9	A
34	05101282025056	RUTH OCTORA CETRIN BR. SINAGA	88,6	88,0	62,0	79,1	B
35	05101382025057	NABILLA RIZKA HANNAN	88,6	84,4	100,0	91,1	A
36	05101382025062	ADE DWIHERYANI	82,2	82,9	58,0	74,0	B
37	05101382025063	DANNY AJI PRAJOSA	92,0	86,8	100,0	93,0	A
38	05101382025068	TIARA	90,8	81,5	76,0	82,4	B
39	05101382025069	BERLIANA FEBRINA	91,8	89,5	78,0	86,2	A
40	05101382025075	AMALIA PUTRI	94,0	92,6	94,0	93,5	A
41	05101382025078	RIZKY NUGRAHA	87,8	86,9	84,0	86,2	A
42	05101382025080	MUHAMMAD DANU PRAKOSO	87,0	78,4	74,0	79,4	B
43	05101382025082	M AKBAR RIZQULLAH	82,4	72,0	68,0	73,7	B

achieved	not achieved	not achieved	achieved
achieved	achieved	not achieved	achieved
achieved	achieved	achieved	achieved
achieved	achieved	achieved	achieved
achieved	not achieved	achieved	not achieved
achieved	achieved	achieved	achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	achieved	achieved
achieved	achieved	not achieved	not achieved
achieved	achieved	achieved	achieved
achieved	achieved	not achieved	not achieved
achieved	achieved	not achieved	achieved
achieved	achieved	not achieved	achieved
achieved	achieved	achieved	achieved
achieved	achieved	achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	not achieved	not achieved	not achieved

AVERAGE	87,66	84,47	82,60	84,77	25	Achieved	41	33	25	30
					17	Not Achieved	2	10	18	13
					1	% Achieved	100,00	80,49	60,98	73,17
						% not achieved	4,88	24,39	43,90	31,71

No	NIM	NAMA	PRACTICUM (30%)	EV-1 (35%)	EV-2 (35%)	CLO 1		CLO 2		CLO 3		CLO 4		CLO 5		CLO 6		CLO 7		Achievement of CLO	
1	05101182025001	HADINA FADHILAH	88,8	95,1	100,0	91,9	Excelent	91,9	Excelent	91,9	Excelent	94,4	Excelent	94,4	Excelent	100,0	Excelent	100,0	Excelent	94,9	Excelent
2	05101182025002	PUTRI RAHAYU	85,4	87,8	62,0	86,6	Excelent	86,6	Excelent	86,6	Excelent	73,7	Satisfactory	73,7	Satisfactory	62,0	Satisfactory	62,0	Satisfactory	75,9	Satisfactory
3	05101182025003	DILA ANDINI	90,8	93,4	100,0	92,1	Excelent	92,1	Excelent	92,1	Excelent	95,4	Excelent	95,4	Excelent	100,0	Excelent	100,0	Excelent	95,3	Excelent
4	05101182025005	JESIKA PUTRI KURNLANI	88,4	88,9	98,0	88,7	Excelent	88,7	Excelent	88,7	Excelent	93,2	Excelent	93,2	Excelent	98,0	Excelent	98,0	Excelent	92,6	Excelent
5	05101182025008	MEYLA FERLIANA	86,6	91,2	82,0	88,9	Excelent	88,9	Excelent	88,9	Excelent	84,3	Satisfactory	84,3	Satisfactory	82,0	Satisfactory	82,0	Satisfactory	85,6	Satisfactory
6	05101182025009	INE AMALIA PUTRI	89,0	84,4	96,0	86,7	Excelent	86,7	Excelent	86,7	Excelent	92,5	Excelent	92,5	Excelent	96,0	Excelent	96,0	Excelent	91,0	Excelent
7	05101182025010	NESSA REGITHA MAGHZARINI	85,8	94,4	100,0	90,1	Excelent	90,1	Excelent	90,1	Excelent	92,9	Excelent	92,9	Excelent	100,0	Excelent	100,0	Excelent	93,7	Excelent
8	05101182025011	SEFTA ADI SAPUTRA	89,6	92,6	100,0	91,1	Excelent	91,1	Excelent	91,1	Excelent	94,8	Excelent	94,8	Excelent	100,0	Excelent	100,0	Excelent	94,7	Excelent
9	05101182025012	SILVA AYUNITA	89,8	93,8	100,0	91,8	Excelent	91,8	Excelent	91,8	Excelent	94,9	Excelent	94,9	Excelent	100,0	Excelent	100,0	Excelent	95,0	Excelent
10	05101182025015	SEPTI ULAN DARI	82,0	85,6	60,0	83,8	Satisfactory	83,8	Satisfactory	83,8	Satisfactory	71,0	Satisfactory	71,0	Satisfactory	60,0	Satisfactory	60,0	Satisfactory	73,3	Satisfactory
11	05101182025016	LILI	87,8	88,0	84,0	87,9	Excelent	87,9	Excelent	87,9	Excelent	85,9	Satisfactory	85,9	Satisfactory	84,0	Satisfactory	84,0	Satisfactory	86,2	Excelent
12	05101281722018	HENDRA WIJAYA	61,5	60,0	50,0	60,8	Developing	60,8	Developing	60,8	Developing	55,8	Unsatisfactory	55,8	Unsatisfactory	50,0	Unsatisfactory	50,0	Unsatisfactory	56,3	Unsatisfactory
13	05101282025019	SAFIRA ZAHRA APRIANTI	88,8	91,9	100,0	90,3	Excelent	90,3	Excelent	90,3	Excelent	94,4	Excelent	94,4	Excelent	100,0	Excelent	100,0	Excelent	94,3	Excelent
14	05101282025020	FRANSISKA	88,8	89,2	74,0	89,0	Excelent	89,0	Excelent	89,0	Excelent	81,4	Satisfactory	81,4	Satisfactory	74,0	Satisfactory	74,0	Satisfactory	82,5	Satisfactory
15	05101282025021	RAHMAT APRIANSYAH	77,4	81,2	82,0	79,3	Satisfactory	79,3	Satisfactory	79,3	Satisfactory	79,7	Satisfactory	79,7	Satisfactory	82,0	Satisfactory	82,0	Satisfactory	80,2	Satisfactory
16	05101282025023	MUHAMAD YAZID	89,4	85,8	84,0	87,6	Excelent	87,6	Excelent	87,6	Excelent	86,7	Excelent	86,7	Excelent	84,0	Satisfactory	84,0	Satisfactory	86,3	Excelent
17	05101282025024	ERWIN VALENTIN	91,6	75,6	60,0	83,6	Satisfactory	83,6	Satisfactory	83,6	Satisfactory	75,8	Satisfactory	75,8	Satisfactory	60,0	Developing	60,0	Developing	74,6	Satisfactory
18	05101282025026	TRESIA NATASYAH	90,2	92,3	92,0	91,3	Excelent	91,3	Excelent	91,3	Excelent	91,1	Excelent	91,1	Excelent	92,0	Excelent	92,0	Excelent	91,4	Excelent
19	05101282025028	DWI AULIA HERNANDA	88,4	71,8	60,0	80,1	Satisfactory	80,1	Satisfactory	80,1	Satisfactory	74,2	Satisfactory	74,2	Satisfactory	60,0	Developing	60,0	Developing	72,7	Satisfactory
20	05101282025029	RAMDAN FIRMANSYAH	88,4	87,5	100,0	87,9	Excelent	87,9	Excelent	87,9	Excelent	94,2	Excelent	94,2	Excelent	100,0	Excelent	100,0	Excelent	93,2	Excelent
21	05101282025030	AAN NUGGROHO	87,4	77,7	80,0	82,5	Satisfactory	82,5	Satisfactory	82,5	Satisfactory	83,7	Satisfactory	83,7	Satisfactory	80,0	Satisfactory	80,0	Satisfactory	82,1	Satisfactory
22	05101282025032	RINDA LESTIANI	88,0	86,9	74,0	87,5	Excelent	87,5	Excelent	87,5	Excelent	81,0	Satisfactory	81,0	Satisfactory	74,0	Satisfactory	74,0	Satisfactory	81,8	Satisfactory
23	05101282025033	BAHENSKI SALMAIKA	92,6	91,6	100,0	92,1	Excelent	92,1	Excelent	92,1	Excelent	96,3	Excelent	96,3	Excelent	100,0	Excelent	100,0	Excelent	95,6	Excelent
24	05101282025034	FADHLAN AL DHAFIN	89,6	85,8	100,0	87,7	Excelent	87,7	Excelent	87,7	Excelent	94,8	Excelent	94,8	Excelent	100,0	Excelent	100,0	Excelent	93,2	Excelent
25	05101282025035	NABILA UL'YA WULANDARI	89,4	62,8	82,0	76,1	Satisfactory	76,1	Satisfactory	76,1	Satisfactory	85,7	Satisfactory	85,7	Satisfactory	82,0	Satisfactory	82,0	Satisfactory	80,5	Satisfactory
26	05101282025038	ANINDYA PRATISTA CAHYANI WAZMIR	88,2	84,8	100,0	86,5	Excelent	86,5	Excelent	86,5	Excelent	94,1	Excelent	94,1	Excelent	100,0	Excelent	100,0	Excelent	92,5	Excelent
27	05101282025040	LILIK AGUSTINA	88,8	90,0	80,0	89,4	Excelent	89,4	Excelent	89,4	Excelent	84,4	Satisfactory	84,4	Satisfactory	80,0	Satisfactory	80,0	Satisfactory	85,3	Satisfactory

28	05101282025041	RAHMAT OKTADI AZ	89,0	76,8	66,0	82,9	Satisfactory	82,9	Satisfactory	82,9	Satisfactory	77,5	Satisfactory	77,5	Satisfactory	66,0	Developing	66,0	Developing	76,5	Satisfactory
29	05101282025042	FEBBY AYU AZWARY	90,4	88,7	86,0	89,6	Excellent	89,6	Excellent	89,6	Excellent	88,2	Excellent	88,2	Excellent	86,0	Excellent	86,0	Excellent	88,2	Excellent
30	05101282025043	FEBRIANSYAH	88,6	72,0	70,0	80,3	Satisfactory	80,3	Satisfactory	80,3	Satisfactory	79,3	Satisfactory	79,3	Satisfactory	70,0	Satisfactory	70,0	Satisfactory	77,1	Satisfactory
31	05101282025047	NOVA ANJLEYANI	91,4	84,7	92,0	88,0	Excellent	88,0	Excellent	88,0	Excellent	91,7	Excellent	91,7	Excellent	92,0	Excellent	92,0	Excellent	90,2	Excellent
32	05101282025049	ALDI RIZKI FERNANDO	82,2	72,9	60,0	77,5	Satisfactory	77,5	Satisfactory	77,5	Satisfactory	71,1	Developing	71,1	Developing	60,0	Developing	60,0	Satisfactory	70,7	Developing
33	05101282025055	BUNGA LUTHFIYANI	90,0	87,3	84,0	88,6	Excellent	88,6	Excellent	88,6	Excellent	87,0	Excellent	87,0	Excellent	84,0	Satisfactory	84,0	Satisfactory	86,8	Excellent
34	05101282025056	RUTH OCTORA CETRIN BR. SINAGA	88,6	88,0	62,0	88,3	Excellent	88,3	Excellent	88,3	Excellent	75,3	Satisfactory	75,3	Satisfactory	62,0	Developing	62,0	Developing	77,1	Satisfactory
35	05101382025057	NABILLA RIZKA HANNAN	88,6	84,4	100,0	86,5	Excellent	86,5	Excellent	86,5	Excellent	94,3	Excellent	94,3	Excellent	100,0	Excellent	100,0	Excellent	92,6	Excellent
36	05101382025062	ADE DWIHERYANI	82,2	82,9	58,0	82,6	Satisfactory	82,6	Satisfactory	82,6	Satisfactory	70,1	Developing	70,1	Developing	58,0	Developing	58,0	Satisfactory	72,0	Satisfactory
37	05101382025063	DANNY AJI PRAJOSA	92,0	86,8	100,0	89,4	Excellent	89,4	Excellent	89,4	Excellent	96,0	Excellent	96,0	Excellent	100,0	Excellent	100,0	Excellent	94,3	Excellent
38	05101382025068	TIARA	90,8	81,5	76,0	86,2	Excellent	86,2	Excellent	86,2	Excellent	83,4	Satisfactory	83,4	Satisfactory	76,0	Satisfactory	76,0	Satisfactory	82,5	Satisfactory
39	05101382025069	BERLIANA FEBRINA	91,8	89,5	78,0	90,7	Excellent	90,7	Excellent	90,7	Excellent	84,9	Satisfactory	84,9	Satisfactory	78,0	Satisfactory	78,0	Satisfactory	85,4	Satisfactory
40	05101382025075	AMALIA PUTRI	94,0	92,6	94,0	93,3	Excellent	93,3	Excellent	93,3	Excellent	94,0	Excellent	94,0	Excellent	94,0	Excellent	94,0	Excellent	93,7	Excellent
41	05101382025078	RIZKY NUGRAHA	87,8	86,9	84,0	87,4	Excellent	87,4	Excellent	87,4	Excellent	85,9	Satisfactory	85,9	Satisfactory	84,0	Satisfactory	84,0	Satisfactory	86,0	Excellent
42	05101382025080	MUHAMMAD DANU PRAKOSO	87,0	78,4	74,0	82,7	Satisfactory	82,7	Satisfactory	82,7	Satisfactory	80,5	Satisfactory	80,5	Satisfactory	74,0	Satisfactory	74,0	Satisfactory	79,6	Satisfactory
43	05101382025082	M AKBAR RIZQULLAH	82,4	72,0	68,0	77,2	Satisfactory	77,2	Satisfactory	77,2	Satisfactory	75,2	Satisfactory	75,2	Satisfactory	68,0	Developing	68,0	Developing	74,0	Satisfactory
		Rerata	86,1			86,1		86,1		86,1		85,1		85,1		82,6		82,6		84,8	
							Excellent		Excellent		Excellent		Satisfactory		Satisfactory					Satisfactory	
							%		%		%		%		%		%		%		%
		Excellent	30	69,8	30	69,8	30	69,8	30	69,8	20	46,5	20	46,5	18	41,9	18	41,9	22	51,2	
		Satisfactory	12	27,9	12	27,9	12	27,9	12	27,9	20	46,5	20	46,5	17	39,5	19	44,2	19	44,2	
		Developing	1	2,3	1	2,3	1	2,3	1	2,3	2	4,7	2	4,7	7	16,3	5	11,6	1	2,3	
		Unsatisfactory	0	0,0	0	0,0	0	0,0	0	0,0	1	2,3	1	2,3	1	2,3	1	2,3	1	2,3	

NO.	NIM	NAMA	Intended Learning Outcomes (ILO)								Average CLO to PLO	Achievment CLO to PLO
			ILO1/P-1		ILO2/P-3		ILO3/ KU-1		ILO4/KU-7			
1	05101182025001	HADINA FADHILAH	95,7	Excelent	95,7	Excelent	95,7	Excelent	93,2	Excelent	95,1	Excelent
2	05101182025002	PUTRI RAHAYU	75,5	Satisfactory	75,5	Satisfactory	75,5	Satisfactory	80,1	Satisfactory	76,7	Satisfactory
3	05101182025003	DILA ANDINI	96,0	Excelent	96,0	Excelent	96,0	Excelent	93,7	Excelent	95,5	Excelent
4	05101182025005	JESIKA PUTRI KURNIANI	93,4	Excelent	93,4	Excelent	93,4	Excelent	90,9	Excelent	92,8	Excelent
5	05101182025008	MEYLA FERLIANA	85,9	Satisfactory	85,9	Satisfactory	85,9	Satisfactory	86,6	Excelent	86,1	Excelent
6	05101182025009	INE AMALIA PUTRI	91,7	Excelent	91,7	Excelent	91,7	Excelent	89,6	Excelent	91,2	Excelent
7	05101182025010	NESSA REGITHA MAGHZARINI	94,6	Excelent	94,6	Excelent	94,6	Excelent	91,5	Excelent	93,8	Excelent
8	05101182025011	SEFTA ADI SAPUTRA	95,5	Excelent	95,5	Excelent	95,5	Excelent	93,0	Excelent	94,8	Excelent
9	05101182025012	SILVA AYUNITA	95,8	Excelent	95,8	Excelent	95,8	Excelent	93,3	Excelent	95,2	Excelent
10	05101182025015	SEPTI ULAN DARI	73,0	Satisfactory	73,0	Satisfactory	73,0	Satisfactory	77,4	Satisfactory	74,1	Satisfactory
11	05101182025016	LILI	86,5	Excelent	86,5	Excelent	86,5	Excelent	86,9	Excelent	86,6	Excelent
12	05101281722018	HENDRA WIJAYA	56,2	Unsatisfactory	56,2	Unsatisfactory	56,2	Unsatisfactory	58,3	Unsatisfactory	56,7	Unsatisfactory
13	05101282025019	SAFIRA ZAHRA APRIANTI	95,0	Excelent	95,0	Excelent	95,0	Excelent	92,4	Excelent	94,4	Excelent
14	05101282025020	FRANSISKA	82,5	Satisfactory	82,5	Satisfactory	82,5	Satisfactory	85,2	Satisfactory	83,2	Satisfactory
15	05101282025021	RAHMAT APRIANSYAH	80,7	Satisfactory	80,7	Satisfactory	80,7	Satisfactory	79,5	Satisfactory	80,4	Satisfactory
16	05101282025023	MUHAMAD YAZID	86,6	Excelent	86,6	Excelent	86,6	Excelent	87,1	Excelent	86,7	Excelent
17	05101282025024	ERWIN VALENTIN	74,2	Satisfactory	74,2	Satisfactory	74,2	Satisfactory	79,7	Satisfactory	75,5	Satisfactory
18	05101282025026	TRESIA NATASYAH	91,9	Excelent	91,9	Excelent	91,9	Excelent	91,2	Excelent	91,7	Excelent
19	05101282025028	DWI AULIA HERNANDA	72,3	Satisfactory	72,3	Satisfactory	72,3	Satisfactory	77,1	Satisfactory	73,5	Satisfactory
20	05101282025029	RAMDAN FIRMANSYAH	94,0	Excelent	94,0	Excelent	94,0	Excelent	91,1	Excelent	93,3	Excelent
21	05101282025030	AAN NUGGROHO	82,4	Satisfactory	82,4	Satisfactory	82,4	Satisfactory	83,1	Satisfactory	82,6	Satisfactory
22	05101282025032	RINDA LESTIANI	81,8	Satisfactory	81,8	Satisfactory	81,8	Satisfactory	84,2	Satisfactory	82,4	Satisfactory
23	05101282025033	BAHENSKI SALMAIKA	96,3	Excelent	96,3	Excelent	96,3	Excelent	94,2	Excelent	95,7	Excelent
24	05101282025034	FADHLAN AL DHAFIN	94,0	Excelent	94,0	Excelent	94,0	Excelent	91,3	Excelent	93,3	Excelent

25	05101282025035	NABILA UL'YA WULANDARI	80,9	Satisfactory	80,9	Satisfactory	80,9	Satisfactory	80,9	Satisfactory	80,9	Satisfactory
26	05101282025038	ANINDYA P CAHYANI WAZMIR	93,4	Excelent	93,4	Excelent	93,4	Excelent	90,3	Excelent	92,6	Excelent
27	05101282025040	LILIK AGUSTINA	85,4	Satisfactory	85,4	Satisfactory	85,4	Satisfactory	86,9	Excelent	85,8	Satisfactory
28	05101282025041	RAHMAT OKTADI AZ	76,3	Satisfactory	76,3	Satisfactory	76,3	Satisfactory	80,2	Satisfactory	77,3	Satisfactory
29	05101282025042	FEBBY AYU AZWARY	88,5	Excelent	88,5	Excelent	88,5	Excelent	88,9	Excelent	88,6	Excelent
30	05101282025043	FEBRIANSYAH	77,0	Satisfactory	77,0	Satisfactory	77,0	Satisfactory	79,8	Satisfactory	77,7	Satisfactory
31	05101282025047	NOVA ANJLEYANI	90,7	Excelent	90,7	Excelent	90,7	Excelent	89,9	Excelent	90,5	Excelent
32	05101282025049	ALDI RIZKI FERNANDO	70,4	Developing	70,4	Developing	70,4	Developing	74,3	Satisfactory	71,4	Satisfactory
33	05101282025055	BUNGA LUTHFIYANI	87,1	Excelent	87,1	Excelent	87,1	Excelent	87,8	Excelent	87,3	Excelent
34	05101282025056	RUTH O CETRIN BR. SINAGA	76,7	Satisfactory	76,7	Satisfactory	76,7	Satisfactory	81,8	Satisfactory	77,9	Satisfactory
35	05101382025057	NABILLA RIZKA HANNAN	93,4	Excelent	93,4	Excelent	93,4	Excelent	90,4	Excelent	92,7	Excelent
36	05101382025062	ADE DWIHERYANI	71,6	Satisfactory	71,6	Satisfactory	71,6	Satisfactory	76,3	Satisfactory	72,8	Satisfactory
37	05101382025063	DANNY AJI PRAJOSA	95,0	Excelent	95,0	Excelent	95,0	Excelent	92,7	Excelent	94,5	Excelent
38	05101382025068	TIARA	82,5	Satisfactory	82,5	Satisfactory	82,5	Satisfactory	84,8	Satisfactory	83,1	Satisfactory
39	05101382025069	BERLIANA FEBRINA	85,4	Satisfactory	85,4	Satisfactory	85,4	Satisfactory	87,8	Excelent	86,0	Excelent
40	05101382025075	AMALIA PUTRI	94,2	Excelent	94,2	Excelent	94,2	Excelent	93,6	Excelent	94,0	Excelent
41	05101382025078	RIZKY NUGRAHA	86,3	Excelent	86,3	Excelent	86,3	Excelent	86,6	Excelent	86,4	Excelent
42	05101382025080	MUHAMMAD DANU PRAKOSO	79,6	Satisfactory	79,6	Satisfactory	79,6	Satisfactory	81,6	Satisfactory	80,1	Satisfactory
43	05101382025082	M AKBAR RIZQULLAH	74,0	Satisfactory	74,0	Satisfactory	74,0	Satisfactory	76,2	Satisfactory	74,6	Satisfactory

85,1		85,1		85,1		85,6		85,2			
Satisfactory			Satisfactory			Satisfactory			Satisfactory		

		%		%		%		%		%
Excelent	22	51,16	22	51,2	22	51,2	25	58,1	24	55,8
Satisfactory	19	44,2	19	44,2	19	44,2	17	39,5	18	41,9
Developing	1	2,3	1	2,3	1	2,3	0	0,0	0	0,0
Unsatisfactory	1	2,3	1	2,3	1	2,3	1	2,3	1	2,3

95,35

95,35

95,35

97,67

