


# Lecture Portfolio

	<b>SRIWIJAYA UNIVERSITY</b> <b>FACULTY OF AGRICULTURE</b> <b>DEPARTMENT OF SOIL SCIENCE</b> <b>SOIL SCIENCE STUDY PROGRAM</b>		
<b>Subject :</b> <b>Soil Physics</b>	<b>Code: PTN 23315</b>	<b>Semester : 3</b>	<b>Credits : 3 (2-1)</b>
<b>Lecturer</b>	Dr. Ir. Bakri, MP Dr. Momon S. Imanuddin, SP, M.Sc.		

## 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 Physics. Can know the physical properties of soil, soil fraction, structure and its manifestations in the soil, as well as processes that occur in the soil such as groundwater potential, groundwater flow, strength and compaction properties, soil plasticity, air and soil temperature as well as water balance and water availability and processes absorption of water by plant roots

## Intended Learning Outcomes - ILO and

Soil Physics course is taught to support the following *Intended Learning Outcomes* ( ILO ):

ILO - 1 : Mastering knowledge about soil formation processes and soil morphology (P-1)

ILO - 2 : Mastering knowledge about quality and sustainable use of land and land (P-3)

ILO - 3 : 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 - 4 : Able to be responsible for achieving the results of group work and supervising and evaluating the completion of work assigned to workers under their responsibility (KU-7)

## Course Learning Outcome - CLO

The learning outcomes from the Course ( *Course Learning Outcome - CLO* ) Soil Physics are:

CLO 1: Be able to explain the general physical properties of special soils related to the plane agriculture

CLO 2: Able to explain the influence of soil texture , the process of aggregate formation and how its effect on other soil properties

CLO 3: Able to explain and calculate potential, energy and groundwater retention , process of water flow in saturated and unsaturated soils , the process of evaporation, infiltration from the soil surface and know how to count

CLO 4 : Able to explain how to calculate water requirements for plants and water balance and energy on farms

CLO 5 : Able to explain about soil air and aeration, soil temperature

Each Course Learning Outcomes ( CLO ) provide support for Study Program Learning Outcomes ( ILO ) with a certain percentage, the details of which can be seen in the relationship matrix between CLO MK Soil Physics and the ILO , which is presented in Table 1.

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

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

### 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 physical characteristics that have been given in lectures
- Provide case exercises and calculation of soil physics characteristics 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 Physics 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:

- 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 the achievement , quizzes and assignments were given. 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. Introduction, general characteristics of soil physics
2. Soil as a dispersion system, phase properties and each component of soil material and particles (texture), properties and characteristics
3. Continued manifestation of soil texture
4. Soil structure, porosity, manifestation of soil structure h
5. Soil strength, compaction and plasticity
6. Potential, energy and groundwater retention, groundwater characteristics curve
7. Water flow in saturated and unsaturated soil
8. Water flow in saturated and unsaturated soil (Example discussion of problems and calculations)
9. Evaporation, infiltration from the ground surface
10. Groundwater extraction by plants (Water Availability and Amount of water absorbed by plants and their calculations)
11. Water and energy balance in farmland
12. ground air
13. Soil Aeration
14. Soil Temperature and General Conclusion

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 in before .

## Attendance Percentage

Lecturer attendance is 100% while student attendance is 99 % on average

## Evaluation System

- Evaluation in the form of quizzes and or assignments of 3 or 4 meetings are conducted after some lecture material , which is used to measure understanding.
- Evaluation of material up to the middle of the semester is carried out through the mid-semester exam ( UTS ) , which held on week 8 .
- Evaluation of material after the middle of the semester until the end of the semester is done through the final exam ( UAS ) , which is held on the 16th week .
- The evaluation results in the form of assignments/quizzes have a proportion of 20% which will then 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 practicum meetings .
- 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 *course learning outcomes ( CLO )* Soil Physics

Assessment	Subject		Weight (%) to Final value	Course Learning Outcome – CLO				
				CLO 1	CLO 2	CLO 3	CLO 4	CLO 5
Practice	P1	Texture Practicum	0.30	0.2	0.2	0.2	0.2	0.2
	P2	Soil structure and plasticity practicum						
	P3	Practicum Potential and groundwater retention						
	P4	Infiltration and evapotranspiration practicum						
	P5	Practicum Determination of water needs						
Evaluation I	Material 1 -7 (UAS, Assignments, Quiz)		0.35	0.33	0.33	0.33		
Evaluation II	Material 9 -15 (UAS, Assignments, Quiz)		0.35			0.33	0.33	0.33

### Learning outcomes

The learning outcomes of each student are reflected in the scores in each assessment. Values with their respective weights processed into the final value. Next, according to the conversion rules, the value is converted to the letter value printed on KHS/Transcript student. The final value of 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), is then processed using excel, so that the achievement value of each student in each CLO and ILO can be known.

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 achievement of 85.00 to 85.99 percent of students had scores above 71.
- All CLOs are in the high percentage category (HIGH), where students who have an achievement value above 71 by 88.37 percent.

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

	CLO1	CLO2	CLO3	CLO4	CLO5
Average	85.00	85.00	85.00	86.00	86.00
Achievement Category	Satisfactory	Satisfactory	Satisfactory	Excellent	Excellent
Number of students with CLO>71	38	38	38	38	38
Percentage of students with CLO>71	88.37	88.37	88.37	88.37	88.37
Category Percentage	HIGH	HIGH	HIGH	HIGH	HIGH

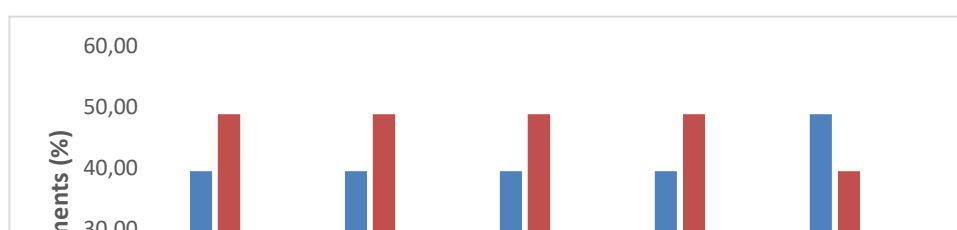


Figure 1. Graphics achievement category in each CLO at course Soil Physics

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 category of Excellent and Satisfactory achievement where 85.49 to 86.23 percent of students who take this course have an achievement score above 71 for all ILO.
- All I LOs are in the high percentage category (HIGH) , where students who are have an achievement value above 71 by 88.37 percent

Table 5. Description of Achievement Values and Categories for Each ILO supported by Soil Physic course

	ILO1	ILO2	ILO3	ILO4
Weighted average	8 6.23	8 6.23	8 6.23	85, 49
Achievement Category	Excellent	Excellent	Excellent	Satisfactory
The number of students with ILO>71	38	38	38	38
Percentage	88.37	88.37	88.37	88.37
Category	HIGH	HIGH	HIGH	HIGH

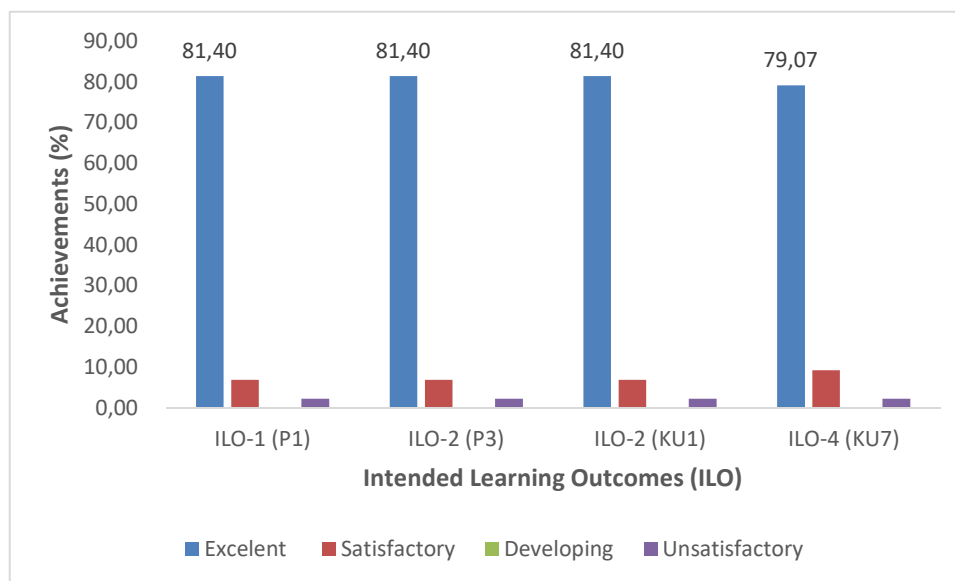


Figure 2. Graph of achievement index in each ILO supported by the course of Soil Physics

### Constraint

- Students ' understanding of course material is still not evenly distributed
- Students tend to be less active in asking questions, discussing, and submitting suggestions to lecturers and fellow students.

### 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	85.96
median	87.35
Standard Deviation	10.90
Min	20.00
Max	90.95

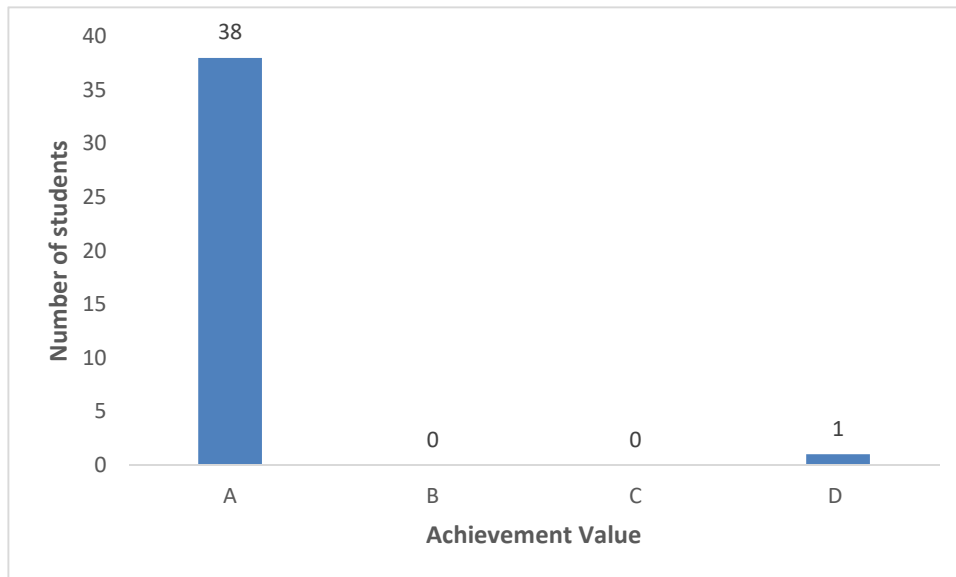


Figure 3. Distribution of final grades for Soil Physics Course

After being converted into letter grades according to the assessment conversion standard (Table 6), the distribution of letter grades can be seen in Figure 3. The figure shows that all students have A grades . There was one student who got an E score, because he often did not attend lectures and practicums and did not take midterm exam and final exam.

### Conclusion

With all the obstacles and basic abilities that students have, 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 and train students to be more and more daring in express opinion
- Giving more assignments and exercises to students that stimulate them to discuss and work together in teams .

## Appendix 1

Week	CLO	Sub-CLO	Subject	Learning methods and time	Assignment	Assessment	Weight (%)
(1)		(2)	(3)	(5)	(6)	(7)	(8)
1	Able to explain the general properties of soil physics specifically related to agriculture	Understand soil physics in general and specifically soil physics for agriculture	Study contract Introduction, general characteristics of soil physics	TM lecture , group discussion (2x50'')	Collection of references related to soil physics and its relationship to agriculture , regulations, and independent work (3x60'')	Clarity in understanding and Accuracy in explaining	
2	Able to explain the influence of soil texture , the process of aggregate formation and how it affects other soil properties	Can know what is meant by a three-phase system in soil, and understand about the formation of soil fractions and their properties and characteristics	Soil as a dispersion system, phase properties and each component of soil material and particles (texture), properties and characteristics	TM lecture (2x50'')	Independent task of finding sources of soil physical data related to water retention (3x60'')	Clarity in understanding and Accuracy in explaining	
3		Understand how soil texture affects soil physical properties	Continued manifestation of soil texture	TM lecture (2x50'') Texture Practicum (2x60'')	Solve problems and calculate soil fractions and use the texture triangle (3x60'')	Clarity in understanding and Accuracy in calculations.	
4		Understand how the process of forming the structure (soil aggregate), as well as its manifestations on other soil physical properties.	Soil structure, porosity, manifestation of soil structure	TM lecture (2x50'') Soil Structure Practicum (2x60'')	Establish the soil structure in the order described (3x60'')	Clarity in understanding and accuracy in analyzing soil structure.	
5		Understand about soil compaction, and soil plasticity and the factors that influence it and its manifestations in the soil	Soil strength, compaction and plasticity	TM lecture (2x50'') Plasticity Practicum (2x60'')	Determine soil plasticity using available equipment (3x60'')	Clarity in understanding and Accuracy in calculations	



6	Able to explain and calculate potential, energy and groundwater retention, process of water flow in saturated and unsaturated soil, process of evaporation, infiltration from the soil surface and know how to calculate it	Understand the meaning of Potential, Energy and Groundwater Retention and how to calculate and determine groundwater energy	Potential, energy and groundwater retention, groundwater characteristics curve	TM lecture (2x50") Practicum Potential and groundwater retention (2x60")	Making micro-scale experiments on equipment in the form of a pF meter (3x60")	Clarity in understanding and Accuracy in calculations	
7		Understand the process of water flow in saturated and unsaturated soil and understand how to calculate it	Water flow in saturated and unsaturated soil	TM lecture (2x50") TM lecture (2x50") Practicum Potential and groundwater retention (2x60")	Using a pF meter from water saturation to permanent wilting point Complete the calculation of the given problem (3x60")	Truth and clarity of questions and calculations	10
8	<b>UTS (2x50")</b>						
9		Understand the process of water flow in saturated and unsaturated soil and understand how to calculate it	Water flow in saturated and unsaturated soil (Example discussion of problems and calculations)	TM lecture (2x50")	Collecting factors that affect water flow (3x60")	Clarity in understanding and Accuracy in calculations	
10		Understand the process of evaporation, infiltration from the ground surface	Evaporation, infiltration, from ground level	TM lecture (2x50") TM lecture (2x50") Infiltration and evapotranspiration practicum (2x60")	Collect various methods of infiltration and evapotranspiration (3x60")	Clarity in understanding and Accuracy in calculations	
11	Able to explain how to calculate water requirements for plants and water and energy balance in agricultural land	Understand how to calculate water requirements for plants	Groundwater extraction by plants (Water Availability and Amount of water absorbed by plants and their calculations)	TM lecture (2x50") TM lecture (2x50") Practicum Determination of water needs (2x60")	Make a simulation of the calculation of water demand (3x60")	Truth and clarity of questions and answers	
12		Understanding about water and energy balance in agricultural land	Water and energy balance in farmland	TM lecture (2x50")	Simulation and calculation of groundwater energy balance (3x30")	Clarity in understanding and Accuracy in calculations	

13	Able to explain about soil air and aeration, soil temperature	Understand about soil air and aeration, soil temperature	Ground air d	TM lecture (2x50")	Make a calculation of the energy balance of groundwater (3x30")	Clarity in understanding and Accuracy in calculations		
14		Understand about soil air and aeration, soil temperature	Soil aeration	TM lecture (2x50")	Understand and can simulate aeration and soil temperature (3x30")	Clarity in understanding and Accuracy in calculations		
15		Understand the importance of soil air and aeration, soil temperature for roots	Soil Temperature and General Conclusion	TM lecture (2x50")	Able to perform calculations and explanations of aeration and soil temperature (3x30")	Clarity in understanding and Accuracy in calculations		
16	<b>UAS (2x50")</b>							
		<b>Total percentage for the lecture (Assignment (5%), Quiz (5%), Ev-1 (30%) and Ev-2 (30%))</b>						<b>70</b>
		<b>Percentage for Lab Practical</b>						<b>30</b>
		<b>Grand Total</b>						<b>100</b>

## Appendix 2. List of Value Details MK SOIL PHYSICS

STUDY PROGRAM :	GEOLOGY
ACADEMIC YEAR :	2021/2022 (EVEN SEMESTER)
COURSE NAME:	SOIL PHYSICS (3 Credit Points)
ROOM :	RK C1104
LECTURER :	DR. IR. BAKRI, MP / DR. IR. MUH. BAMBANG PRAYITNO, MAGR., SC.
TIMETABLE :	THURSDAY (07:30 - 09:10 WIB)

No	NIM	NAME	PRACTICUM (25%)	EV-1 (35%)	EV-2 (40%)	SCORE	LETTERS VALUE
1	05101182126001	SHOLEHA	85	86	90	87.35	A
2	05101182126002	M. PEBRIO EKO SUMANTRI	85	86	90	87.35	A
3	05101182126003	MUHAMMAD FATIH ABDILLAH	85	86	95	89.35	A
4	05101182126005	VERA DEWI CANDRA	85	86	95	89.35	A
5	05101182126006	ADINDA DWI ROSNITA	85	86	90	87.35	A
6	05101182126008	SAMAWI NUR USMAN	85	90	86	87.15	A
7	05101182126009	RINTAN	85	90	86	87.15	A
8	05101182126010	BINTANG ADHA PERDANA	85	86	90	87.35	A
9	05101182126012	JESSICA AMANDA	85	86	90	87.35	A
10	05101182126014	SENI APRILIANI	85	90	86	87.15	A
11	05101182126015	NOVITA ANGGRAINI	80	80	95	86.00	A
12	05101182126016	CINDE ASYA SERVIA	85	86	95	89.35	A
13	05101182126017	JULITA AMALIA WIJAYA	80	0	0	20.00	E
14	05101182126019	MELIKA NURJANAH	85	90	86	87.15	A
15	05101282126020	MUHAMMAD EFRIANSYAH SIREGAR	85	90	85	86.75	A
16	05101282126021	SUYULINDA FILDARI	85	90	86	87.15	A
17	05101282126022	NABILA PUTRI SAFANI	85	84	95	88.65	A
18	05101282126023	ATHALLAH ALFAREZI	85	86	95	89.35	A
19	05101282126024	ICHA KAROLIN	85	86	95	89.35	A
20	05101282126025	MOCH AZIS PRATAMA	85	90	86	87.15	A

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

21	05101282126026	AMBAR WANTI	85	86	95	89.35	A
22	05101282126027	M. FIRLY AULIA PERDANA	85	90	85	86.75	A
23	05101282126028	MEIGI MAESA	85	86	90	87.35	A
24	05101282126029	MICHAEL ARSYAD	85	90	85	86.75	A
25	05101282126030	SILVANA ENJELINA RAJAGUKGUK	85	86	90	87.35	A
26	05101282126032	ARTIKA ILMANELLA	85	85	95	89.00	A
27	05101282126033	MELANI INDAH PUTRI	85	90	86	87.15	A
28	05101282126034	SEKULA PERKASA RAJA RUMBEL	85	90	84	86.35	A
29	05101282126035	GLORIA FEBRIANI SINAGA	85	86	95	89.35	A
30	05101282126036	ZULFIAH KHOIRIYAH	85	87	86	86.10	A
31	05101282126037	ADI GUNAWAN	80	90	90	87.50	A
32	05101282126038	NURUL TRI ANISA	85	86	95	89.35	A
33	05101282126039	RESTA DILLA ANISKA	85	90	86	87.15	A
34	05101282126040	RIZKY HARIYANTO	86	90	83	86.20	A
35	05101282126041	MUHAMMAD NAUFAN MAROI	80	90	87	86.30	A
36	05101282126042	VERDI DIMAS SAPUTRA	86	90	86	87.40	A
37	05101282126043	BRIGITA STELLA BR TINDAON	85	85	90	87.00	A
38	05101282126044	TEGUH MARSUDI	85	90	86	87.15	A
39	05101282126045	MAUDY SELVIA ERWINDA	90	87	95	90.95	A

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

AVERAGE	84.67	85.33	87.31	85.96	38	Achieved	35	37	38	38
Achievements of CLO per class	achieved	achieved	achieved	achieved	0	Not Achieved	4	2	1	1
					0	% Achieved	85.37	90.24	92.68	92.68
					0	% not achieved	9.76	4.88	2.44	2.44
					1					

## ACHIEVEMENTS IN EVERY CLO IN THE SOIL PHYSIC COURSE

No	NIM	NAME	PRACTIC UM (25%)	EV-1 (35%)	EV-2 (40%)	CLO 1		CLO 2		CLO 3		CLO 4		CLO 5	
1	05101182126001	SHOLEHA	85	86	90	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	87.5	Excellent	87.5	Excellent
2	05101182126002	M. PEBRIO EKO SUMANTRI	85	86	90	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	87.5	Excellent	87.5	Excellent
3	05101182126003	MUHAMMAD FATIH ABDILLAH	85	86	95	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	90.0	Excellent	90.0	Excellent
4	05101182126005	VERA DEWI CANDRA	85	86	95	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	90.0	Excellent	90.0	Excellent
5	05101182126006	ADINDA DWI ROSNITA	85	86	90	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	87.5	Excellent	87.5	Excellent
6	05101182126008	SAMAWI NUR USMAN	85	90	86	87.5	Excellent	87.5	Excellent	87.5	Excellent	85.5	Satisfactory	85.5	Satisfactory
7	05101182126009	RINTAN	85	90	86	87.5	Excellent	87.5	Excellent	87.5	Excellent	85.5	Satisfactory	85.5	Satisfactory
8	05101182126010	BINTANG ADHA PERDANA	85	86	90	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	87.5	Excellent	87.5	Excellent
9	05101182126012	JESSICA AMANDA	85	86	90	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	87.5	Excellent	87.5	Excellent
10	05101182126014	SENI APRILIANI	85	90	86	87.5	Excellent	87.5	Excellent	87.5	Excellent	85.5	Satisfactory	85.5	Satisfactory
11	05101182126015	NOVITA ANGGRAINI	80	80	95	80.0	Satisfactory	80.0	Satisfactory	80.0	Satisfactory	87.5	Excellent	87.5	Excellent
12	05101182126016	CINDE ASYA SERVIA	85	86	95	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	90.0	Excellent	90.0	Excellent
13	05101182126017	JULITA AMALIA WIJAYA	80	0	0	40.0	Unsatisfactory	40.0	Unsatisfactory	40.0	Unsatisfactory	40.0	Unsatisfactory	40.0	Unsatisfactory
14	05101182126019	MELIKA NURJANAH	85	90	86	87.5	Excellent	87.5	Excellent	87.5	Excellent	85.5	Satisfactory	85.5	Satisfactory
15	05101282126020	MUHAMMAD EFRIANSYAH SIREGAR	85	90	85	87.5	Excellent	87.5	Excellent	87.5	Excellent	85.0	Satisfactory	85.0	Satisfactory
16	05101282126021	SUYULINDA FILDARI	85	90	86	87.5	Excellent	87.5	Excellent	87.5	Excellent	85.5	Satisfactory	85.5	Satisfactory
17	05101282126022	NABILA PUTRI SAFANI	85	84	95	84.5	Satisfactory	84.5	Satisfactory	84.5	Satisfactory	90.0	Excellent	90.0	Excellent
18	05101282126023	ATHALLAH ALFAREZI	85	86	95	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	90.0	Excellent	90.0	Excellent
19	05101282126024	ICHA KAROLIN	85	86	95	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	90.0	Excellent	90.0	Excellent
20	05101282126025	MOCH AZIS PRATAMA	85	90	86	87.5	Excellent	87.5	Excellent	87.5	Excellent	85.5	Satisfactory	85.5	Satisfactory
21	05101282126026	AMBAR WANTI	85	86	95	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	90.0	Excellent	90.0	Excellent
22	05101282126027	M. FIRLY AULIA PERDANA	85	90	85	87.5	Excellent	87.5	Excellent	87.5	Excellent	85.0	Satisfactory	85.0	Satisfactory
23	05101282126028	MEIGI MAESA	85	86	90	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	87.5	Excellent	87.5	Excellent
24	05101282126029	MICHAEL ARSYAD	85	90	85	87.5	Excellent	87.5	Excellent	87.5	Excellent	85.0	Satisfactory	85.0	Satisfactory
25	05101282126030	SILVANA ENJELINA RAJAGUKGUK	85	86	90	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	87.5	Excellent	87.5	Excellent
26	05101282126032	ARTIKA ILMANELLA	85	85	95	85.0	Satisfactory	85.0	Satisfactory	85.0	Satisfactory	90.0	Excellent	90.0	Excellent
27	05101282126033	MELANI INDAH PUTRI	85	90	86	87.5	Excellent	87.5	Excellent	87.5	Excellent	85.5	Satisfactory	85.5	Satisfactory
28	05101282126034	SEKULA PERKASA RAJA RUMBEL	85	90	84	87.5	Excellent	87.5	Excellent	87.5	Excellent	84.5	Satisfactory	84.5	Satisfactory

29	05101282126035	GLORIA FEBRIANI SINAGA	85	86	95	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	90.0	Excellent	90.0	Excellent	
30	05101282126036	ZULFIAH KHOIRIYAH	85	87	86	86.0	Excellent	86.0	Excellent	86.0	Excellent	85.5	Satisfactory	85.5	Satisfactory	
31	05101282126037	ADI GUNAWAN	80	90	90	85.0	Satisfactory	85.0	Satisfactory	85.0	Satisfactory	85.0	Satisfactory	85.0	Satisfactory	
32	05101282126038	NURUL TRI ANISA	85	86	95	85.5	Satisfactory	85.5	Satisfactory	85.5	Satisfactory	90.0	Excellent	90.0	Excellent	
33	05101282126039	RESTA DILLA ANISKA	85	90	86	87.5	Excellent	87.5	Excellent	87.5	Excellent	85.5	Satisfactory	85.5	Satisfactory	
34	05101282126040	RIZKY HARIYANTO	86	90	83	88.0	Excellent	88.0	Excellent	88.0	Excellent	84.5	Satisfactory	84.5	Satisfactory	
35	05101282126041	MUHAMMAD NAUFAN MAROI	80	90	87	85.0	Satisfactory	85.0	Satisfactory	85.0	Satisfactory	83.5	Satisfactory	83.5	Satisfactory	
36	05101282126042	VERDI DIMAS SAPUTRA	86	90	86	88.0	Excellent	88.0	Excellent	88.0	Excellent	86.0	Excellent	86.0	Excellent	
37	05101282126043	BRIGITA STELLA BR TINDAON	85	85	90	85.0	Satisfactory	85.0	Satisfactory	85.0	Satisfactory	87.5	Excellent	87.5	Excellent	
38	05101282126044	TEGUH MARSUDI	85	90	86	87.5	Excellent	87.5	Excellent	87.5	Excellent	85.5	Satisfactory	85.5	Satisfactory	
39	05101282126045	MAUDY SELVIA ERWINDA	90	87	95	88.5	Excellent	88.5	Excellent	88.5	Excellent	92.5	Excellent	92.5	Excellent	
						Average	85.0	85.0	85.0	86.0	86.0					
							Satisfactory	Satisfactory	Satisfactory	Excellent	Excellent					
							%	%	%	%	%					
						Excellent	17	39.5	17	39.5	21	48.8	21	48.8		
						Satisfactory	21	48.8	21	48.8	17	39.5	17	39.5		
						developing	0	0.0	0	0.0	0	0.0	0	0.0		
						Unsatisfactory	1	2.3	1	2.3	1	2.3	1	2.3		
							88.37	88.4	88.4	88.4	88.4					

## ACHIEVEMENTS FOR EVERY ILO SUPPORTED BY THE SOIL PHYSIC COURSE

NO	NIM	NAME	Intended Learning Outcomes (ILO)								Average CLO to PLO	Achievement CLO to PLO
			ILO1/P-1		ILO2/P-3		ILO3/ KU-1		ILO4/KU-7			
1	05101182126001	SHOLEHA	87.1	Excellent	87.1	Excellent	87.1	Excellent	86.5	Excellent	87.0	Excellent
2	05101182126002	M. PEBRIO EKO SUMANTRI	87.1	Excellent	87.1	Excellent	87.1	Excellent	86.5	Excellent	87.0	Excellent
3	05101182126003	MUHAMMAD FATIH ABDILLAH	88.1	Excellent	88.1	Excellent	88.1	Excellent	87.8	Excellent	88.0	Excellent
4	05101182126005	VERA DEWI CANDRA	88.1	Excellent	88.1	Excellent	88.1	Excellent	87.8	Excellent	88.0	Excellent
5	05101182126006	ADINDA DWI ROSNITA	87.1	Excellent	87.1	Excellent	87.1	Excellent	86.5	Excellent	87.0	Excellent
6	05101182126008	SAMAWI NUR USMAN	87.6	Excellent	87.6	Excellent	87.6	Excellent	86.5	Excellent	87.3	Excellent
7	05101182126009	RINTAN	87.6	Excellent	87.6	Excellent	87.6	Excellent	86.5	Excellent	87.3	Excellent
8	05101182126010	BINTANG ADHA PERDANA	87.1	Excellent	87.1	Excellent	87.1	Excellent	86.5	Excellent	87.0	Excellent
9	05101182126012	JESSICA AMANDA	87.1	Excellent	87.1	Excellent	87.1	Excellent	86.5	Excellent	87.0	Excellent
10	05101182126014	SENI APRILIANI	87.6	Excellent	87.6	Excellent	87.6	Excellent	86.5	Excellent	87.3	Excellent
11	05101182126015	NOVITA ANGGRAINI	83.7	Satisfactory	83.7	Satisfactory	83.7	Satisfactory	83.8	Satisfactory	83.7	Satisfactory
12	05101182126016	CINDE ASYA SERVIA	88.1	Excellent	88.1	Excellent	88.1	Excellent	87.8	Excellent	88.0	Excellent
13	05101182126017	JULITA AMALIA WIJAYA	40.4	Unsatisfactory	40.4	Unsatisfactory	40.4	Unsatisfactory	40.0	Unsatisfactory	40.3	Unsatisfactory
14	05101182126019	MELIKA NURJANAH	87.6	Excellent	87.6	Excellent	87.6	Excellent	86.5	Excellent	87.3	Excellent
15	05101282126020	MUHAMMAD EFRIANSYAH SIREGAR	87.4	Excellent	87.4	Excellent	87.4	Excellent	86.3	Excellent	87.1	Excellent
16	05101282126021	SUYULINDA FILDARI	87.6	Excellent	87.6	Excellent	87.6	Excellent	86.5	Excellent	87.3	Excellent
17	05101282126022	NABILA PUTRI SAFANI	87.4	Excellent	87.4	Excellent	87.4	Excellent	87.3	Excellent	87.4	Excellent
18	05101282126023	ATHALLAH ALFAREZI	88.1	Excellent	88.1	Excellent	88.1	Excellent	87.8	Excellent	88.0	Excellent
19	05101282126024	ICHA KAROLIN	88.1	Excellent	88.1	Excellent	88.1	Excellent	87.8	Excellent	88.0	Excellent
20	05101282126025	MOCH AZIS PRATAMA	87.6	Excellent	87.6	Excellent	87.6	Excellent	86.5	Excellent	87.3	Excellent
21	05101282126026	AMBAR WANTI	88.1	Excellent	88.1	Excellent	88.1	Excellent	87.8	Excellent	88.0	Excellent
22	05101282126027	M. FIRLY AULIA PERDANA	87.4	Excellent	87.4	Excellent	87.4	Excellent	86.3	Excellent	87.1	Excellent
23	05101282126028	MEIGI MAESA	87.1	Excellent	87.1	Excellent	87.1	Excellent	86.5	Excellent	87.0	Excellent
24	05101282126029	MICHAEL ARSYAD	87.4	Excellent	87.4	Excellent	87.4	Excellent	86.3	Excellent	87.1	Excellent
25	05101282126030	SILVANA ENJELINA RAJAGUKGUK	87.1	Excellent	87.1	Excellent	87.1	Excellent	86.5	Excellent	87.0	Excellent

26	05101282126032	ARTIKA ILMANELLA	87.8	Excellent	87.8	Excellent	87.8	Excellent	87.5	Excellent	87.7	Excellent
27	05101282126033	MELANI INDAH PUTRI	87.6	Excellent	87.6	Excellent	87.6	Excellent	86.5	Excellent	87.3	Excellent
28	05101282126034	SEKULA PERKASA RAJA RUMBEL	87.2	Excellent	87.2	Excellent	87.2	Excellent	86.0	Excellent	86.9	Excellent
29	05101282126035	GLORIA FEBRIANI SINAGA	88.1	Excellent	88.1	Excellent	88.1	Excellent	87.8	Excellent	88.0	Excellent
30	05101282126036	ZULFIAH KHOIRIYAH	86.7	Excellent	86.7	Excellent	86.7	Excellent	85.8	Satisfactory	86.4	Excellent
31	05101282126037	ADI GUNAWAN	85.9	Satisfactory	85.9	Satisfactory	85.9	Satisfactory	85.0	Satisfactory	85.6	Satisfactory
32	05101282126038	NURUL TRI ANISA	88.1	Excellent	88.1	Excellent	88.1	Excellent	87.8	Excellent	88.0	Excellent
33	05101282126039	RESTA DILLA ANISKA	87.6	Excellent	87.6	Excellent	87.6	Excellent	86.5	Excellent	87.3	Excellent
34	05101282126040	RIZKY HARIYANTO	87.6	Excellent	87.6	Excellent	87.6	Excellent	86.3	Excellent	87.2	Excellent
35	05101282126041	MUHAMMAD NAUFAN MAROI	85.3	Satisfactory	85.3	Satisfactory	85.3	Satisfactory	84.3	Satisfactory	85.0	Satisfactory
36	05101282126042	VERDI DIMAS SAPUTRA	88.1	Excellent	88.1	Excellent	88.1	Excellent	87.0	Excellent	87.8	Excellent
37	05101282126043	BRIGITA STELLA BR TINDAON	86.8	Excellent	86.8	Excellent	86.8	Excellent	86.3	Excellent	86.7	Excellent
38	05101282126044	TEGUH MARSUDI	87.6	Excellent	87.6	Excellent	87.6	Excellent	86.5	Excellent	87.3	Excellent
39	05101282126045	MAUDY SELVIA ERWINDA	90.9	Excellent	90.9	Excellent	90.9	Excellent	90.5	Excellent	90.8	Excellent
			86.23		86.23		86.23		85.49		86.04	
			Excellent		Excellent		Excellent		Satisfactory		Excellent	
				%		%		%		%		%
		Excellent	35	81.4	35	81.4	35	81.4	34	79.1	35	81.4
		Satisfactory	3	7.0	3	7.0	3	7.0	4	9.3	3	7.0
		developing	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
		Unsatisfactory	1	2.3	1	2.3	1	2.3	1	2.3	1	2.3
			88.37		88.37		88.37		88.37		88.37	



