	Universitas Negeri Surabaya Faculty of Engineering Civil Engineering Undergraduate Study Program	Document Code

SEMESTER LEARNING PLAN

Courses		CODE		Course Family		Credit Weight			SEMESTER	Compilation Date
Soil Mechanics II and Practical		2220103052				T=3	P=0	ECTS=4.77	4	July 18, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	....	....	Yogie Risdianto, S.T., M.T.

Learning model	Case Studies

Program Learning Outcomes (PLO)	PLO study program that is charged to the course
	Program Objectives (PO)
	PLO-PO Matrix

	P.O

PO Matrix at the end of each learning stage (Sub-PO)

P.O	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Short Course Description	This course provides an understanding of soil compaction techniques using laboratory tests using the Proctor Standard, and field compaction techniques using Sand Cone and CBR laboratory tests. Determining soil shear strength parameters, calculating analytically and graphically using the Mohr's Circle method and polar method as well as carrying out direct shear tests and compressive strength tests. Soil compression regarding pre-consolidation stress, overburden stress, determining the parameters of soil compression coefficient (Cc in the field), swelling coefficient (Cs) as well as carrying out practical consolidation tests, conducting Sondir tests in the field

References	Main :
	1. Das Braja. 2013. Mekanika Tanah I (Prinsip-prinsip Rekayasa Geoteknis). Jakarta: Erlangga University Press 2. M. Das Braja, terjemahan B. Mochtar Indrasurya. 2013. Mekanika Tanah II (Prinsip-prinsip Rekayasa Geoteknis). Jakarta: Erlangga University Press 3. Hardiyatmo Hary Christady. 2012. Mekanika Tanah I . Yogjakarta: Gadjah Mada University Press
	Supporters:

Supporting lecturer	MACHFUD RIDWAN Dra. Nur Andajani, M.T.

Week-	Final abilities of each learning stage (Sub-PO)	Evaluation		Help Learning, Learning methods, Student Assignments, [Estimated time]		Learning materials [References]	Assessment Weight (%)
		Indicator	Criteria & Form	Offline (offline)	Online (online)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

1	Able to understand laboratory soil compaction	Able to explain the meaning & function of soil compaction - Able to draw. proctor compaction graph. - Can specify. price of max soil density (gdmax) & optimum water content (wcopt). - Able to calculate and draw the gdZAV curve.	**Criteria:** Full marks are obtained if you do all the questions correctly, correct analysis of practical results, completeness of report	Lectures, discussions, and questions and answers as well as demonstrations in the 6 X 50 laboratory			0%
2	Able to understand laboratory soil compaction	Able to explain the meaning & function of soil compaction - Able to draw. proctor compaction graph. - Can specify. price of max soil density (gdmax) & optimum water content (wcopt). - Able to calculate and draw the gdZAV curve.	**Criteria:** Full marks are obtained if you do all the questions correctly, correct analysis of practical results, completeness of report	Lectures, discussions, and questions and answers as well as demonstrations in the 6 X 50 laboratory			0%
3	Able to understand laboratory soil compaction	Able to explain the meaning & function of soil compaction - Able to draw. proctor compaction graph. - Can specify. price of max soil density (gdmax) & optimum water content (wcopt). - Able to calculate and draw the gdZAV curve.	**Criteria:** Full marks are obtained if you do all the questions correctly, correct analysis of practical results, completeness of report	Lectures, discussions, and questions and answers as well as demonstrations in the 6 X 50 laboratory			0%
4	Able to understand field soil compaction and CBR	-Able to explain the meaning of compaction in the field. - Can determine the price of lap density. - Determine the relative density, dry set and wet set water content. - Can calculate the CBR value of a land sec. laboratory.	**Criteria:** Full marks are obtained if you do all the questions correctly, correct analysis of practical results, completeness of report	Lectures, discussions and questions and answers as well as practical demonstrations in the 4 X 50 field			0%

5	Able to understand field soil compaction and CBR	-Able to explain the meaning of compaction in the field. - Can determine the price of lap density. - Determine the relative density, dry set and wet set water content. - Can calculate the CBR value of a land sec. laboratory.	**Criteria:** Full marks are obtained if you do all the questions correctly, correct analysis of practical results, completeness of report	Lectures, discussions and questions and answers as well as practical demonstrations in the 4 X 50 field			0%
6	Able to understand the shear strength of soil	- can determine tags. swipe & tag. normal sec. analytical. - can determine sliding & normal sec graphical tiles with Mohr's Circle & Pole Method. - can determine soil shear parameters	**Criteria:** 1.Full marks are obtained if you do all the questions correctly 2.Writing system, correct analysis of practicum results, completeness of report	Lectures, discussions and questions and answers as well as practical demonstrations in the lab. 4 X 50			0%
7	Able to understand the shear strength of soil	- can determine tags. swipe & tag. normal sec. analytical. - can determine sliding & normal sec graphical tiles with Mohr's Circle & Pole Method. - can determine soil shear parameters	**Criteria:** 1.Full marks are obtained if you do all the questions correctly 2.Writing system, correct analysis of practicum results, completeness of report	Lectures, discussions and questions and answers as well as practical demonstrations in the lab. 4 X 50			0%
8	Midterm exam	Midterm exam	**Criteria:** Full marks are obtained if you do all the questions correctly	Provides 2 X 50 exam questions			0%
9	Students are able to understand soil compression	- can explain about the compression that occurred in the year. - Explanation of the consolidated practicum results analysis table	**Criteria:** Full marks are obtained if you do all the questions correctly, correct analysis of practical results, completeness of report	Lectures, discussions and questions and answers 2 X 50			0%
10	Students are able to explain NC and OC clay soils	- can explain things. NC clay & OC Soil. - can be decisive. land overburden. - can determine land pre-consolidation teg.	**Criteria:** Full marks are obtained if you do all the questions correctly, correct analysis of practical results, completeness of report	Lectures, discussions and questions and answers as well as practical demonstrations in the 2 X 50 laboratory			0%

No	Sub-PO	Indicators	Assessment Criteria	Forms of learning			Percentage
11	Students are able to understand NC Soil clay soil	- can be determined. pre-consolidation tag, Cc lap and Cs from e Vs log s graph for tnh NC Soil. - can determine the decrease that occurs in NC Soil clay	**Criteria:** Full marks are obtained if you do all the questions correctly, correct analysis of practical results, completeness of report	Lectures, discussions and questions and answers as well as practical demonstrations in the 2 X 50 laboratory			0%
12	Students are able to understand OC Soil clay.	- can be determined. pre-consolidation tag, Cc lap and Cs from the graph e Vs log s for tnh OC Soil. - can determine the decrease that occurs in OC Soil clay	**Criteria:** Full marks are obtained if you do all the questions correctly, correct analysis of practical results, completeness of report	Lectures, discussions and questions and answers as well as practical demonstrations in the 2 X 50 laboratory			0%
13	Students are able to understand perhit. Soil compression time	- Students can register. consolidation time through t50. - Students can determine the consolidation coefficient	**Criteria:** Full marks are obtained if you do all the questions correctly, correct analysis of practical results, completeness of report	Lectures, discussions and questions and answers 2 X 50			0%
14	Students are able to understand perhit. Soil compression time	- Students can register. consolidation time through t90.	**Criteria:** Full marks are obtained if you do all the questions correctly.	Lectures, discussions and questions and answers 2 X 50			0%
15	Able to understand test sondir	Students can explain Sondir & boring in the field.	**Criteria:** Full marks are obtained if you do all the questions correctly, correct analysis of practical results, completeness of report	Lectures, discussions and questions and answers 2 X 50			0%
16							0%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
		0%

Notes

1. **Learning Outcomes of Study Program Graduates (PLO - Study Program)** are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.
2. **The PLO imposed on courses** are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
3. **Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
4. **Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
5. **Indicators for assessing** ability in the process and student learning outcomes are specific and measurable statements that identify the ability or performance of student learning outcomes accompanied by evidence.
6. **Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
7. **Forms of assessment:** test and non-test.
8. **Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.

9. **Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
10. **Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
11. **The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
12. TM=Face to face, PT=Structured assignments, BM=Independent study.