



Universitas Negeri Surabaya
Faculty of Engineering,
Building Engineering Education Undergraduate Study Program

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date																																			
Soil Tension and Practical	8320503224		T=3	P=0	ECTS=4.77	4	July 18, 2024																																			
AUTHORIZATION		SP Developer		Course Cluster Coordinator		Study Program Coordinator																																				
			Dr. Gde Agus Yudha Prawira Adistana, 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																																								
Short Course Description	This course provides an understanding of soil compaction techniques using laboratory tests using a Standard Proctor, and field compaction techniques using Sand Cone 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 the soil compression coefficient (Cc in the field), swelling coefficient (Cs) as well as carrying out practical consolidation tests, carrying out Sondir tests in the Field and CBR																																									
	<table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td rowspan="2" style="width: 10%; text-align: center;">P.O</td> <td colspan="16" style="text-align: center;">Week</td> </tr> <tr> <td style="width: 3%;">1</td> <td style="width: 3%;">2</td> <td style="width: 3%;">3</td> <td style="width: 3%;">4</td> <td style="width: 3%;">5</td> <td style="width: 3%;">6</td> <td style="width: 3%;">7</td> <td style="width: 3%;">8</td> <td style="width: 3%;">9</td> <td style="width: 3%;">10</td> <td style="width: 3%;">11</td> <td style="width: 3%;">12</td> <td style="width: 3%;">13</td> <td style="width: 3%;">14</td> <td style="width: 3%;">15</td> <td style="width: 3%;">16</td> </tr> </table>							P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
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Supporting lecturer	Dra. Nur Andajani, M.T. Prof. Dr. Agus Wiyono, S.Pd., 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							0%
3							0%
4	Able to understand field soil compaction.	-Able to explain the meaning of compaction in the field. - Can determine the price of field density. - Determine the relative density, dry set and wet set water content.	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							0%
6	Able to understand the shear strength of soil.	- can determine the voltage. shear & normal stress analytically. - Can determine voltage. shear & tension. graphically normal with Mohr's Circle & Polar Method.	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 laboratory			0%
7							0%
8	Mid-semester exam	Mid-semester exam	Criteria: Full marks are obtained if you do all the questions correctly, correct analysis of practical results, completeness of report	2 X 50			0%
9	Students are able to understand soil compression	- can explain the compression that occurs in the soil. - 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 as well as practical demonstrations in the 2 X 50 laboratory			0%
10	Students are able to explain NC and OC clay soils	- can explain the difference between NC clay & OC Soil. - can determine the voltage. maximum effective overburden of soil. - can determine soil preconsolidation stress.	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%
11	Students are able to understand NC Soil clay soil	- can determine. preconsolidation stress, Cc field and Cs from e Vs log s graph for NC Soil soil. - can determine the decline 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 determine. preconsolidation stress, Cc lap and Cs from the e Vs log s graph for OC Soil soil. - can determine the decline 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 the calculation time for the process of soil compression	- Students can determine. 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 determine. consolidation time through t90.	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 2 X 50			0%
15	Able to understand sondir and boring tests [- 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

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- Forms of assessment:** test and non-test.
- 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.
- 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.
- Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- 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%.
- TM=Face to face, PT=Structured assignments, BM=Independent study.

