



**Universitas Negeri Surabaya
Vocational Faculty,
D4 Civil Engineering Study Program**

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
SOIL TENSION & PRACTICUM	2230503033		T=3	P=0	ECTS=4.77	4	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	Puguh Novi Prasetyono, S.Pd., M.T.

Learning model	Project Based Learning
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Program Learning Outcomes (PLO)	PLO study program that is charged to the course																																	
	Program Objectives (PO)																																	
	PLO-PO Matrix																																	
		P.O																																
Short Course Description	PO Matrix at the end of each learning stage (Sub-PO)																																	
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td rowspan="2" style="width: 5%;">P.O</td> <td colspan="16" style="text-align: center;">Week</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> </table>	P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
P.O	Week																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																		

This course provides an understanding of soil compaction techniques using laboratory tests using the Proctor Standard, and field compaction techniques using Sand Coned 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 practicals (Anconfined 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 :	
		<ol style="list-style-type: none"> 1. 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 RekayasaGeoteknis). Jakarta: Erlangga University Press 3. Hardiyatmo Hary Christady. 2012. Mekanika Tanah I. Yogyakarta: Gadjah Mada University Press
	Supporters:	

Supporting lecturer	Dra. Nur Andajani, M.T. Arik Triarso, S.Pd., M.T.
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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 menent. 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 the task analysis	Lectures, discussions, and questions and answers as well as 3 X 50 demonstrations			0%
2	Able to understand laboratory soil compaction	Able to explain the meaning & function of soil compaction - Able to draw. proctor compaction graph.- Can menent. 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 the task analysis	Lectures, discussions, and questions and answers as well as 3 X 50 demonstrations			0%
3	Able to understand field soil compaction	- 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.	Criteria: Full marks are obtained if you do all the questions correctly, correct the task analysis	Lectures, discussions, and questions and answers as well as 3 X 50 demonstrations			0%
4	Able to understand field soil compaction	- 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.	Criteria: Full marks are obtained if you do all the questions correctly, correct the task analysis	Lectures, discussions, and questions and answers as well as 3 X 50 demonstrations			0%
5	Able to understand the shear strength of soil	- can determine tags. swipe & tag. normal sec. analytical.- can determine shear teg & graphical sec normal teg with Mohr's Circle & Pole Method.	Criteria: perfect score if answered correctly and precisely	question and answer discussion lecture and 3 X 50 demonstration			0%

6	Able to understand the shear strength of soil	- can determine tags. swipe & tag. normal sec. analytical.- can determine shear teg & graphical sec normal teg with Mohr's Circle & Pole Method.	Criteria: perfect score if answered correctly and precisely	question and answer discussion lecture and 3 X 50 demonstration			0%
7	Able to understand the shear strength of soil	- can determine tags. swipe & tag. normal sec. analytical.- can determine shear teg & graphical sec normal teg with Mohr's Circle & Pole Method.	Criteria: perfect score if answered correctly and precisely	question and answer discussion lecture and 3 X 50 demonstration			0%
8	UTS			3 X 50			0%
9	Students are able to understand soil compression	- can explain about the compression that occurred in the year. - can explain the difference. NC clay & OC Soil.- can determine teg. land overburden.	Criteria: perfect score if answered correctly and precisely	Lectures, discussions, and questions and answers as well as 3 X 50 demonstrations			0%
10	Students are able to understand soil compression, NC Soil clay and OC Soil	- can be determined. pre-consolidation tag, Cc lap and Cs from the e Vs log s graph for NC and OC Soil. - can determine the settlement that occurs in NC clay and OC Soil	Criteria: perfect score if answered correctly and precisely	Lectures, discussions, and questions and answers as well as 3 X 50 demonstrations			0%
11	Students are able to understand soil compression, NC Soil clay and OC Soil	- can be determined. pre-consolidation tag, Cc lap and Cs from the e Vs log s graph for NC and OC Soil. - can determine the settlement that occurs in NC clay and OC Soil	Criteria: perfect score if answered correctly and precisely	Lectures, discussions, and questions and answers as well as 3 X 50 demonstrations			0%
12	Soil compression time	- can be determined. consolidation time through t50. - can determine the consolidation coefficient - can determine the consolidation time through t90.	Criteria: perfect score if answered correctly and precisely	Lectures, discussions, and questions and answers as well as 3 X 50 demonstrations			0%

13	Soil compression time	- can be determined. consolidation time through t50. - can determine the consolidation coefficient - can determine the consolidation time through t90.	Criteria: perfect score if answered correctly and precisely	Lectures, discussions, and questions and answers as well as 3 X 50 demonstrations			0%
14	Able to understand test sondir	Students can explain Sondir & boring in the field	Criteria: perfect score if answered correctly and precisely	lecture discussion question and answer 3 X 50			0%
15	Able to understand test sondir	Students can explain Sondir & boring in the field	Criteria: perfect score if answered correctly and precisely	lecture discussion question and answer 3 X 50			0%
16							0%

Evaluation Percentage Recap: Project Based Learning

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.