

Universitas Negeri Surabaya Vocational Faculty, D4 Transportation Study Program

Document Code

UNES		D4 Transportation Study Program																			
					SE	EME	ES	ΓEF	R L	ΕA	RN	INC	P	LAI	N						
Courses				CODE		Course Family		C	Credit Weight			SE	MESTER		mpilati ate	on					
Soil Mecl	hanic	es I		9999	39401	03032	2					T=3 P=0 ECTS=4.77		·	2	Ju	ly 17, 20)24			
AUTHORIZATION		SP D	evelo	per						Cour	se C	luster	Coord	inator	Stu	Study Program Coordinator					
												Dr. Anita Susanti, S.Pd., M.T.									
Learning model		Case Studies																			
Program Learning		PLO study program that is charged to the course																			
Outcome (PLO)		Program Objectives (PO)																			
(FLO)		PLO-PO Matrix																			
				ı	P.O																
		PO Matrix at the end of each learning stage (Sub-PO)																			
				P.O							<u> </u>	Wee	/eek								
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	I
Short Course Descript	tion	Study of the o classification at the concept of	ccord	ding to	AASH	rocks, ITO ar	rock nd US	cycle CS, v	e, soil vater	comp flow in	oositio the g	n, rela round,	ations , flow	hip be net, lif	tween t force	soil para calculati	mete ons, s	rs, soil o safety ag	onsi: ainst	stency, s heave a	soil and
Reference	ces	Main :																			
		 Braja M. Das. 1995.Mekanika Tanah Jilid I(Alih Bahasa Noor Endah dan Indrasurya). Jakarta: Erlangga. Braja M. Das. 1998.Advanced Soil Mechanics. Singapore: McGraw-Hill. Joseph E. Bowles. 1996.Sifat-sifat Fisis dan Geoteknis Tanah(Alih Bahasa Johan Kelanaputra H.). Jakarta: Erlangga. 																			
		Supporters:																			
Supporti lecturer		Dra. Nur Andaj Arik Triarso, S.																			
		nal abilities of Evaluation ch learning					Help Learning, Learning methods, Student Assignments, [Estimated time] References				W	ssessm Veight (

lecturer		Alik Illaiso, S.	ı u., ıvı. ı .						
Week-		al abilities of h learning ge	Evaluation		Learn Studen	p Learning, ing methods, t Assignments, timated time]	Learning materials	Assessment Weight (%)	
	(Sub-PO)		Indicator	Criteria & Form	Offline (offline)	Online (online)	References]		
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
1		lle to derstand the nd	Explain the meaning of soil, the origin of soil, soil particles and the behavior of clay minerals	Criteria: Full marks are obtained if you do all the questions correctly and the completeness of the report is correct	Lectures, discussions and questions and answers 2 X 50			0%	

2	able to	Explain the	Criteria:	Looturas		0%
2	understand the land	meaning of soil, the origin of soil, types of soil, soil particles and the behavior of clay minerals	Full marks are obtained if you do all the questions correctly and the completeness of the report is correct	Lectures, discussions and questions and answers 2 X 50		U%0
3	able to understand soil composition, analyze soil parameters, the relationship between soil parameters and relative soil density	Determine volumetric gravimetric soil parameters from theoretical and empirical data	Criteria: Full marks are obtained if you do all the questions correctly and the completeness of the report is correct	Lectures, discussions, questions and answers, demonstrations and practicums in the 2 X 50 laboratory		0%
4	able to understand soil composition, analyze soil parameters, the relationship between soil parameters and relative soil density	Determine volumetric gravimetric soil parameters from theoretical and empirical data	Criteria: Full marks are obtained if you do all the questions correctly and the completeness of the report is correct	Lectures, discussions, questions and answers, demonstrations and practicums in the 2 X 50 laboratory		Ο%
5	able to understand soil composition, analyze soil parameters, the relationship between soil parameters and relative soil density	Determine volumetric gravimetric soil parameters from theoretical and empirical data	Criteria: Full marks are obtained if you do all the questions correctly and the completeness of the report is correct	Lectures, discussions, questions and answers, demonstrations and practicums in the 2 X 50 laboratory		Ο%
6	able to analyze soil consistency	Determine the liquid limit, plastic limit, plastic index and shrinkage limit values from theoretical and empirical data	Criteria: Full marks are obtained if you do all the questions correctly and the completeness of the report is correct	Lectures, discussions, questions and answers, demonstrations and practicums in the 2 X 50 laboratory		0%
7	able to analyze soil consistency	Determine the liquid limit, plastic limit, plastic index and shrinkage limit values from theoretical and empirical data	Criteria: Full marks are obtained if you do all the questions correctly and the completeness of the report is correct	Lectures, discussions, questions and answers, demonstrations and practicums in the 2 X 50 laboratory		0%
8	UTS	UTS	Criteria: Full marks are obtained if you do all the questions correctly and the completeness of the report is correct	2 X 50		0%
9	able to classify soil	Able to create grain size distribution curves, able to classify USCS and AASHTO soil systems from theoretical and empirical data	Criteria: Full marks are obtained if you do all the questions correctly and the completeness of the report is correct	Lectures, discussions, questions and answers, demonstrations and practicums in the 2 X 50 laboratory		0%

Able to analyze water seepage in the ground practical forms the ground water seepage coefficient process for the ground water seepage coefficient						1	
Soil		soil	create grain size distribution curves, able to classify USCS and AASHTO soil systems from theoretical and empirical data	Full marks are obtained if you do all the question correctly and the completeness of the report is correct	discussions, questions and answers, demonstrations and practicums in the 2 X 50		
water sepage in the ground water volume, elevation, lead, pressure labed. Determine the ground lead, total head, Determine geogrape coefficient from practical data 14 Able to analyze the lifting force under the dam, stress 15 Able to analyze the lifting force under the dam, stress 16 Able to analyze the lifting force under the dam, stress 17 Able to analyze the lifting force under the dam, stress 18 Able to analyze the lifting force under the dam, stress 19 Able to analyze the lifting force under the dam, stress 19 Able to analyze the lifting force under the dam, stress 19 Able to analyze the lifting force under the dam, stress 19 Able to analyze the lifting force under the dam, stress 20 Criteria: Full marks are obtained for you do all the questions correctly and the completeness of the report is correct 20 Able to analyze the lifting force under the dam, stress 21 Able to analyze the lifting force under the dam, stress 22 Able to analyze the lifting force under the dam, stress 31 Able to analyze the lifting force under the dam, stress 32 Able to analyze the lifting force under the dam, stress 33 Able to analyze the lifting force under the dam, stress 44 Able to analyze the lifting force under the dam, stress 45 Able to analyze the lifting force under the dam, stress 46 Able to analyze the lifting force under the dam, stress 47 Able to analyze the lifting force under the dam, stress 48 Able to analyze the lifting force under the dam, stress 49 Able to analyze the lifting force under the dam, stress 40 Able to analyze the lifting force under the dam, stress 40 Able to analyze the lifting force under the dam, stress the lifting force under the da	11		create grain size distribution curves, able to classify USCS and AASHTO soil systems from theoretical and empirical	Full marks are obtained if you do all the questions correctly and the completeness of the	discussions, questions and answers, demonstrations and practicums in the 2 X 50		0%
water seepage in the ground water volume, elevation head, pressure head total head. Determine the seepage coefficient from practical data and effective stress water, effective and effective stress. 14 Able to analyze the lifting force under the dam, and effective stress water and effective stress. Water effective and exit gradients and safety against heave 15 Able to analyze the lifting force under the dam, and effective stress water, effective and exit gradients and safety against heave 15 Able to analyze the lifting force under the dam, otal stress, water, effective and exit gradients and safety against heave 16 Able to analyze the lifting force under the dam, otal stress, water, effective and exit gradients and safety against heave 16 Able to analyze the lifting force under the dam, otal stress, water, effective and exit gradients and safety against heave 17 Able to analyze the lifting force under the dam, otal stress, water, effective and exit gradients and safety against heave 18 Able to analyze the lifting force under the dam, otal stress, water, effective and exit gradients and safety against heave 18 Able to analyze the lifting force under the dam, otal stress, water, effective and exit gradients and safety against heave 19 Able to analyze the lifting force under the dam, otal stress, water, effective and exit gradients and safety against heave 19 Able to analyze the lifting force under the dam, otal stress, water, effective and exit gradients and safety against heave 10 Able to analyze the lifting force under the dam, otal stress, water, effective and exit gradients and safety against heave 10 Able to analyze the lifting force under the dam, otal stress, water, effective and exit gradients and safety against heave 10 Able to analyze the lifting force under the dam, otal stress, water, effective and exit gradients and safety against heave 10 Able to analyze the lifting force under the dam, otal stress, water, effective and exit gradients and safety against heave 10 Able to a	12	water seepage in	water volume, elevation head, pressure head, total head. Determine the seepage coefficient from practical	Full marks are obtained if you do all the questions correctly and the completeness of the	discussions, questions and answers, demonstrations and practicums in the 2 X 50		0%
the lifting force under the dam and effective stress the lifting force under the dam, total stress, water, effective and safety against heave 15 Able to analyze the lifting force under the dam, total stress, water, effective stress **The dam total stress, water, effective and exit gradients and safety against heave* Determine the lifting force under the dam, total stress, water, effective and exit gradients and effective stress **The lifting force under the dam, total stress, water, effective and exit gradients and safety against heave* Determine the lifting force under the dam, total stress, water, effective and exit gradients and safety against heave* Determine the lifting force under the dam, total stress, water, effective and exit gradients and safety against heave* Determine the lifting force under the dam, total stress, water, effective and exit gradients and safety against heave* Determine the lifting force under the dam, total stress, water, effective and exit gradients and safety against heave* Determine the lifting force under the dam, total stress, water, effective and exit gradients and safety against heave* Determine the lifting force under the dam, total stress, water, effective and exit gradients and safety against heave* Determine the lifting force under the dam, total stress, water, effective and exit gradients and safety against heave* Determine the lifting force under the dam, total stress, water, effective and exit gradients and safety against heave* Determine the completeness of the report is correct water obtained gradients and safety against heave* Determine the completeness of the report is correct water obtained gradients and safety against heave* Determine the completeness of the report is correct water obtained gradients and safety against heave* Determine the completeness of the report is correct water obtained gradients and safety against heave* Determine the completeness of the report is correct water obtained gradients and safety against heave* Determine the co	13	water seepage in	water volume, elevation head, pressure head, total head. Determine the seepage coefficient from practical	Full marks are obtained if you do all the questions correctly and the completeness of the	discussions, questions and answers, demonstrations and practicums in the 2 X 50		0%
the lifting force under the dam and effective stress the lifting force under the dam, and effective stress total stress, water, effective and exit gradients and safety against heave the lifting force under the dam, total stress, water, effective and exit gradients and safety against heave ### Use In It is a possible of the lifting force under the dam, total stress of the report is correct if you do all the questions correctly and the completeness of the report is correct ### Use It is a possible of the lifting force under the dam, total stress, water, effective and exit gradients and safety against heave #### Use It is a possible of the lifting force under the dam, total stress, questions and answers, demonstrations and practicums in the 2 x 50 laboratory	14	the lifting force under the dam and effective	the lifting force under the dam, total stress, water, effective and exit gradients and safety against	Full marks are obtained if you do all the questions correctly and the completeness of the	discussions, questions and answers, demonstrations and practicums in the 2 X 50		0%
16 0%	15	the lifting force under the dam and effective	the lifting force under the dam, total stress, water, effective and exit gradients and safety against	Full marks are obtained if you do all the questions correctly and the completeness of the	discussions, questions and answers, demonstrations and practicums in the 2 X 50		0%
	16						0%

Evaluation Percentage Recap: Case Study

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No	Evaluation	Percentage						
		Λ%						

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.
- 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.
- 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.
- 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.