

FI503 Geomechanics of Soil and Rock

Module name:	Geomechanics of Soil and Rock	
Module level, if applicable:	Undergraduate	
Code:	FI503	
Sub-heading, if applicable:	-	
Classes, if applicable:	-	
Semester:	6 th	
Module coordinator:	Selly Feranie	
Lecturer(s):	Selly Feranie	
Language:	Bahasa Indonesia	
Classification within the curriculum:	Elective course	
Type of Teaching	Contact hours per week during the semester	Class Size
<ol style="list-style-type: none"> 1. Lecture (conceptual, contextual, and problem-solving approaches through expository, discussions and practical methods). 2. Structured activities (assignments based on conceptual, contextual, and problem-solving approaches, Presentation) 3. Self-study (reading literature and project) 	1 hour 40 minutes	25
Workload:	The total workload is 91 hours/5440 minutes (3.2 ECTS) per semester, consisting of 25 hour 20 minutes/1400 minutes lectures (0.82 ECTS), 28 hours/1680 minutes structured activities (0.98 ECTS) and 28 hours/1680 minutes self-study (0.98 ECTS) per week for 14 weeks, 11 hour 54 minutes/714 minutes for three exams (0.42 ECTS).	
Credit points:	3.2 ECTS	
Pre-requisites course(s):	-	
Course Learning Outcomes (CLO):	<p>After taking this course the students have ability to:</p> <p>CLO1. Apply procedural knowledge and mathematics and computational skills in analyzing landslide data in various condition to predict runout distance, safety factor and failure surface.</p> <p>CLO2. Apply procedural knowledge and mathematics and computational skills in analyzing cone penetration and standard penetration data to predict liquefaction potential.</p>	

	CLO3. Apply procedural knowledge and mathematics and computational skills to construct, characterize and model 3D rock structure using image analysis.																																			
Content:	Soil Mechanics (Landslide, Liquefaction), Rock physics (construct, characterize, model 3D structure rock physics using image analysis)																																			
Study/exam achievements:	The final mark will be weight as follow:																																			
	<table border="1"> <thead> <tr> <th>No</th> <th>CLO</th> <th>Assessment Object</th> <th>Assessment Techniques</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CLO1 - 3</td> <td>Subject specific competences: a. Individual assignments b. Exam</td> <td>Written</td> <td>10%</td> </tr> <tr> <td></td> <td>CLO1</td> <td>- Exam 1</td> <td>Written Test</td> <td>15%</td> </tr> <tr> <td></td> <td>CLO2</td> <td>- Exam 2</td> <td>Written Test</td> <td>15%</td> </tr> <tr> <td></td> <td>CLO3</td> <td>- Exam 3</td> <td>Written Test</td> <td>20%</td> </tr> <tr> <td></td> <td>CLO1 - 3</td> <td>c. Project Performance</td> <td>Performance</td> <td>40%</td> </tr> <tr> <td colspan="4">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CLO	Assessment Object	Assessment Techniques	Weight	1	CLO1 - 3	Subject specific competences: a. Individual assignments b. Exam	Written	10%		CLO1	- Exam 1	Written Test	15%		CLO2	- Exam 2	Written Test	15%		CLO3	- Exam 3	Written Test	20%		CLO1 - 3	c. Project Performance	Performance	40%	Total				100%
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Total				100%																																
Forms of media:	Board, LCD Projector, Laptop/Computer,																																			
Literature:	<ol style="list-style-type: none"> 1. Feranie, S. (2020). <i>Analisis potensi likuifaksi berdasarkan data Cone Penetration Test (CPT) dan Standard Penetration Test (SPT)</i>. 2. Darwis. (2018). <i>Dasar-dasar Mekanika Tanah</i>. Yogyakarta, Pena Indis. 3. Montoya-Araque, E. A., & Suarez-Burgoa, L. O. (2018). <i>Application Software for 2D Slope Stability Analysis of Block-in-matrix and Homogeneous Materials</i>. Exploration Software X, 383-387. 4. Latief, FSE., Fauzi, U., Feranie, S. (2012). <i>Digital Isolation Technique for Reconstruction and Visualization of Cracks in Micro-CT Images of Geothermal Reservoir Rock</i>. Microscopy and Analysis. 																																			

PLO and CLO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CLO1			√		√							
CLO2			√		√							
CLO3			√		√							