

COURSE		SOIL MECHANICS		
LECTURER		Assoc. Prof. Samir Dolarević Ph.D.		
STUDY	STATUS	SEMESTER	NUMBER OF LESSONS L+E	ECTS
B - CE	Compulsory	4	3+2	5.5
OBJECTIVES				
<ul style="list-style-type: none"> ☛ Explain basic concepts of soil mechanics and main geomechanical parameters which describe soil behaviour. Show and explain experimental methods of determination geomechanical parameters in situ and in laboratory. 				
LEARNING OUTCOMES				
<ul style="list-style-type: none"> ☛ Understand main characteristics of soil behaviour under loading and unloading. ☛ Understand relationships between standard geomechanical parameters and soil behaviour. 				
COURSE CONTENT				
<ul style="list-style-type: none"> ☛ Soil mechanics in engineering practice. Soil and rock. Types of soil and rocks, classification systems (unified system classification for soil, unified classification Bieniawsky for rock). Water flow through the soil and rock (flow grid, hydraulic stability, impact on soil stresses). Soil/ rock stresses (initial stress conditions, stresses from surface loads). Principle of effective stress. Strength of soil and rock (Mohr-Coulomb, Hoek-Brown). Deformability of soil and rock (experiments, correlations and procedures). Soil compaction (standard Proctor test). Mining of the rock. Stresses and deformations in the semi-space under surface loading. At-rest, active and passive earth pressure. Soil consolidation (Terzaghi one-dimensional theory of consolidation). Stability of the slope in the soil and rock (basic concepts, methods of ultimate equilibrium, groundwater impact on the slope stability, impact of the earthquake). Permissible contact stresses on the soil and rock under shallow foundations (Terzaghi and Brinch-Hansen for soil, rock approximations). 				
RECOMMENDED LITERATURE				
<ul style="list-style-type: none"> ☛ Mehanika tla i stijene, Dž. Sarač, Građevinski fakultet, Sarajevo ☛ Mehanika tla i temeljenje, M.Selimović, Građevinski fakultet, Mostar 				
Examination:				
<p>During the semester, two partial exams in written form are organised. Each part is awarded with 25 points. At the final exam, complex tasks are covered, which include complete course content. The final exam is scored with 50 points. The grade is formed according to the scale prescribed by the Law on Higher Education on the basis of the total score.</p>				