

Course Unit Descriptor

<b>Study Programme:</b> CIVIL ENGINEERING			
<b>Course Unit Title:</b> SOIL MECHANICS			
Course Unit Code: 028			
<b>Name of Lecturer(s):</b> PETAR SANTRAC̆			
<b>Type and Level of Studies:</b> Undergraduate academic studies			
<b>Course Status (compulsory/elective):</b> Compulsory			
<b>Semester (winter/summer):</b> Winter			
<b>Language of instruction:</b> Serbian			
<b>Mode of course unit delivery (face-to-face/distance learning):</b> face-to face			
<b>Number of ECTS Allocated:</b> 6			
<b>Prerequisites:</b> Math 1-2-3, Mechanics 1-2, Strength of Materials 1-2			
<b>Course Aims:</b> Method of soil identification and classification and the way of forming the geotechnical substrates. After that, through practical exercises, students master the basic knowledge about the impact of water on the ground, calculation of the stress and strains in the soil, bearing capacity and settlement of shallow and deep foundations, earth pressure on the retaining walls, stability of embankment, natural and artificial slopes and application computers in soil mechanics.			
<b>Learning Outcomes:</b> The realization of the planned objectives.			
<b>Syllabus:</b> <i>Theory</i> 1 <sup>st</sup> week Introduction, literature, legislation, soil formation and classification. 2 <sup>nd</sup> week Field investigations, the type and extent of exploration, geomechanical profile. 3 <sup>rd</sup> week Basic soil parameters, laboratory tests. 4 <sup>th</sup> week Stresses and strains, the principle of effective stresses. 5 <sup>th</sup> week Water in the soil, filtration, effective stresses, static and dynamic water pressure. 6 <sup>th</sup> week Soil strength, type of tests. 7 <sup>th</sup> week Soil deformability, type of tests. 8 <sup>th</sup> week Stress and strain calculation and soil settlements. 9 <sup>th</sup> week Stress and strain calculation and soil settlements. 10 <sup>th</sup> week Calculation of earth pressure on retaining structures. 11 <sup>th</sup> week Calculation of earth pressure on retaining structures. 12 <sup>th</sup> week Bearing capacity of shallow foundations. 13 <sup>th</sup> week Bearing capacity of shallow foundations 14 <sup>th</sup> week Bearing capacity of deep foundations. 15 <sup>th</sup> week Slope stability analysis. <i>Practice:</i> 15 Practical works			
<b>Required Reading:</b> 1. M. Maksimović: Soil Mechanics, "Građevinska knjiga", Belgrade, 2005. 2. Najdanović, Obradović: Soil mechanics in engineering practice, "Jaroslav Černi", Belgrade, 1981. 3. M. Maksimović, P. Santrač: Collection of solved examples in soil mechanics, "Grafoprodukt", Subotica, 2003. 4. E. Nonweiler: Soil mechanics and foundation construction, "Školska knjiga", Zagreb, 1990.			
<b>Weekly Contact Hours:</b> 5		<b>Lectures:</b> 3	
<b>Practical work:</b> 3			
<b>Teaching Methods:</b> Lectures, exercises, seminars, consultations			
<b>Knowledge Assessment (maximum of 100 points):</b>			
<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points
Active class participation	5	written exam or Colloquia(s)	25
Practical work	15	oral exam	55
Preliminary exam(s)		.....	
Seminar(s)			
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			